

SECTION 1
OVERVIEW OF THE PUBLIC COMMENT PROCESS

1.0 OVERVIEW OF THE PUBLIC COMMENT PROCESS

This section of the Comment Response Document (CRD) describes the public comment process for the *Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (Revised Draft EIS)*, as well as the procedures used to respond to those comments. Section 1.1 describes the public comment process and the ways in which comments on the Revised Draft EIS were received. This section also identifies the comment period and the locations and dates of the public hearings on the Revised Draft EIS. Section 1.2 describes the public hearing format. Section 1.3 explains the organization of this document, including how the comments were identified and addressed. This section also includes indices of organizations and public officials that commented on the Revised Draft EIS. Section 1.4 summarizes the major changes made to the EIS including those that resulted from the public comment process. Section 1.5 summarizes the steps the Department of Energy (DOE) and the New York State Energy Research and Development Authority (NYSERDA) will take after publication of the Final EIS.

Comment Document – A communication in the form of a transcript or written comment from a public hearing, a letter, or an electronic communication (e-mail, fax) that contains comments from a sovereign nation, government agency, organization, or member of the public regarding the Revised Draft EIS.

Comment – A statement or question regarding the Revised Draft EIS content that conveys approval or disapproval of proposed actions, recommends changes in the Final EIS, raises a concern or issue, or seeks additional information.

1.1 Public Comment Process

DOE and NYSERDA prepared the Revised Draft EIS in accordance with the National Environmental Policy Act of 1969 (NEPA) and the New York State Environmental Quality Review Act (SEQR) to examine the environmental impacts associated with three alternatives for the decommissioning and long-term stewardship of the West Valley Demonstration Project (WVDP) and the Western New York Nuclear Service Center (WNYNSC), and the No Action Alternative. An important part of the NEPA process is solicitation of public comments on a draft environmental impact statement (EIS) and consideration of those comments in preparing a final EIS. DOE issued the Revised Draft EIS in November 2008 for review and comment by other Federal agencies, the State of New York, American Indian Tribal Governments, local governments, and the public. Copies of the Revised Draft EIS were distributed to those organizations and government officials who were known to have an interest in WVDP and WNYNSC, as well as those organizations and individuals who requested a copy. Copies were also made available on the Internet and in regional DOE public document reading rooms and public libraries.

DOE and NYSERDA solicited comments on the Revised Draft EIS during a 9-month public comment period, which began on December 5, 2008 when DOE and the Environmental Protection Agency published Notices of Availability in the *Federal Register* (73 FR 74160; 73 FR 74170). A Notice of Completion of the Revised Draft EIS and Public Hearings was also published on December 10, 2008 in the *New York State Environmental Notice Bulletin* in accordance with SEQR requirements. DOE's December 5, 2008 Notice of Availability announced a 6-month public comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), through June 8, 2009. In response to stakeholder requests, the public comment period was extended another 90 days, until September 8, 2009.

During the public comment period, DOE and NYSERDA jointly held four public hearings to provide interested members of the public with opportunities to learn more about the content of the Revised Draft EIS from exhibits, factsheets, and other materials; to hear DOE and NYSERDA representatives present the results of the EIS analyses; to ask clarifying questions; and to provide oral or written comments. A website (<http://www.westvalleyeis.com>) was established to further inform the public about the Revised Draft EIS, how

to submit comments, the public hearings, and other pertinent information. Comment submission mechanisms and public hearing dates, times, and locations were announced in the *Federal Register* and *New York State Environmental Notice Bulletin* notices, in local newspapers, and on the website. Members of the public who expressed interest and are on the DOE and NYSERDA mailing list for the *Revised Draft EIS* were notified by U.S. mail regarding hearing dates, times, and locations.

Public hearings were held in Albany, Irving (on the Seneca Nation of Indians Reservation), Ashford, and Buffalo, New York on March 30 and 31, and April 1 and 2, 2009, respectively. The December 5, 2008 *Federal Register* notice announced the times and locations for three public hearings. However, in response to stakeholder requests, another meeting was added in Albany, and the Buffalo meeting was moved from the original Blasdell location to a more central downtown Buffalo location. These changes to the hearing schedule were announced in the *Federal Register* on March 17, 2009 (74 FR 11364), and advertised in local newspapers. A court reporter recorded the oral comments made at each hearing and prepared a transcript for each.

In response to public concerns about some of the alternatives in the Revised Draft EIS, especially after the August 9 and 10, 2009, heavy rainfall events, the DOE Assistant Secretary for Environmental Management and the President of NYSERDA initiated planning for a videoconference to discuss those concerns. The videoconference was held on September 4, 2009, with participation by the Assistant Secretary and the President of NYSERDA and various stakeholders. This ‘meeting’ was also transcribed by a court reporter and the comments are included in the *Comment Response Document*.

In addition, Federal, state and local governmental agencies; American Indian Tribal Governments, and the general public were encouraged to submit comments by U.S. mail, e-mail, a toll-free fax line, and the DOE website. DOE and NYSERDA received approximately 420 submittals containing approximately 1,900 comments addressing a wide range of issues. **Table 1–1** lists the numbers of submittals received by method of submission.

Table 1–1 Comment Submission Method

<i>Method</i>	<i>Number of Submittals</i>
Hearings (written and oral)	60
U.S. Mail	113
E-mail	43
Website	117
Toll-Free Fax Line	87
Total	420

DOE and NYSERDA considered all comments, including those received after the comment period ended, in its evaluation of the accuracy and adequacy of the Revised Draft EIS to determine whether corrections, clarifications, or other revisions were required. Spoken and written comments were considered equally. Upon receipt, all written comment documents were date-stamped and assigned a document number for tracking during the comment response process. Each message left on the website and each speaker at the public hearings was assigned a document number. All comment documents were then processed through the comment analysis and response sequence. The text of each comment document was delineated into individual, sequentially numbered comments. The comments were re-evaluated throughout the course of the response process as new information became available. Comments were reviewed and responded to by policy experts, subject matter experts, and NEPA specialists, as appropriate. The originally submitted comment documents and public hearing comments are preserved as part of the Administrative Record. **Figure 1–1** illustrates the process used to collect, track, and respond to the comments.

Section 1
Overview of the Public Comment Process

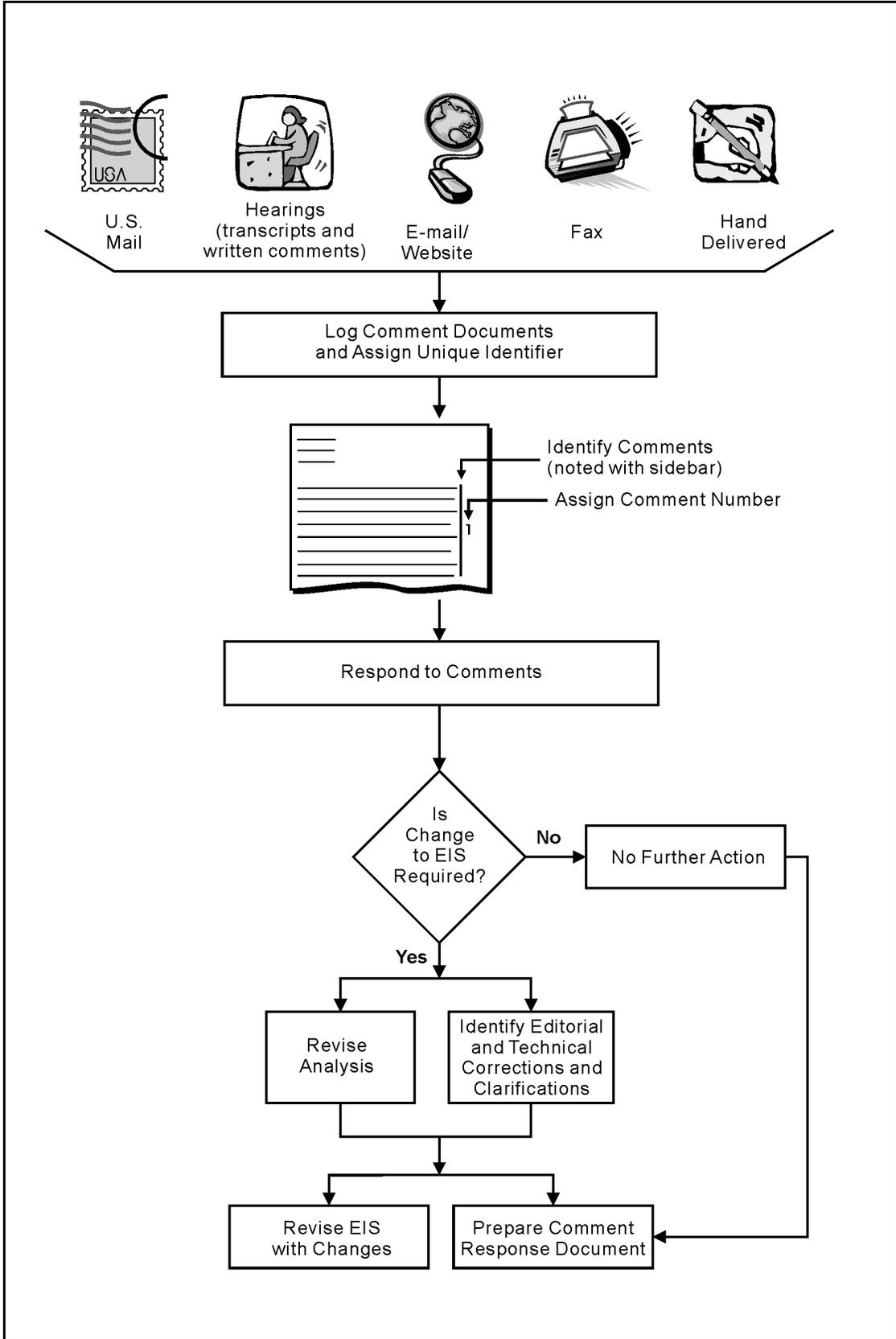


Figure 1-1 Comment Response Process

The comments and DOE/NYSERDA responses have been compiled in a side-by-side format, with each delineated comment receiving a separate response. Each was scanned as it was received. All comments and responses are numbered with a comment identification number to facilitate matching a comment with its response. Topics of broad public interest or concern that may require a more detailed response were characterized as major issues and addressed in Section 2 of this CRD.

The comment response process was integral to preparation of the Final EIS because it was used to focus revision efforts and to ensure consistency throughout the final document. For example, comments were evaluated to determine whether the analyses presented in the Draft EIS should be modified or augmented; whether information presented in the Draft EIS was incorrect or out of date; and whether additional or revised text would clarify or facilitate better understanding of certain issues. Vertical bars alongside the text in the Final EIS indicate where such changes were made.

1.2 Public Hearing Format

The public hearings were organized to encourage public comments on the Revised Draft EIS and to provide members of the public information about the NEPA process and the proposed actions. A court reporter was present at each hearing to record and prepare a transcript of the comments spoken publicly at the hearing. These transcripts are included in Section 3 of this CRD. Written comments were also collected at the hearings. Comment forms were available at the hearings for anyone wishing to use them.

At each of the public hearings, there were poster displays staffed by DOE and NYSERDA subject matter experts. Members of the public were invited to view the displays and ask questions of the subject matter experts either before or after the formal hearings were conducted. The displays addressed the NEPA process and the alternatives included in the EIS.

Management representatives from the DOE WVDP Site Office and NYSERDA opened the hearings with welcoming remarks. The DOE EIS Document Manager and the NYSERDA West Valley Program Director then provided an overview of the Revised Draft EIS and the NEPA process. Following the overview presentation, a meeting facilitator opened the public comment session. To ensure that everyone interested in speaking had the opportunity, a time limit was established based on the number of people who had indicated a desire to speak. As part of the comment response process, the transcripts and written comments collected at the hearings were reviewed for comments on the EIS, as described in Section 1.1 of this CRD.

1.3 Organization of this Comment Response Document

This CRD is organized into the following sections:

- Section 1 describes the public comment process, the public hearing format, the organization of this document, and the changes made to the Revised Draft EIS.
- Section 2 presents summaries of major issues raised in the comments and responses from DOE and NYSERDA. These major issues include comment topics that appeared frequently in the comments or may have required lengthy or detailed responses.
- Section 3 presents transcripts of the oral comments and scanned copies of the comment documents received during the four public hearings, as well as by U.S. mail, e-mail, the Internet website, and a

toll-free fax line during the public comment period. The comments are presented side-by-side with DOE's and NYSERDA's responses.¹

- Section 4 lists the references cited in this volume.

1.4 Changes from the Revised Draft Environmental Impact Statement

In preparing this Final EIS, DOE and NYSERDA made revisions to the Revised Draft EIS in response to comments received during the comment period from Federal and state legislators, other Federal agencies, state and local government entities, American Indian Tribal governments, and the public. In addition, this EIS was revised to provide additional and updated environmental baseline information, to include the results of additional analyses, to correct editorial errors, and to clarify text. This EIS was also updated to reflect events that occurred, notifications that were made for other NEPA documents, and changes in applicable regulatory requirements or guidance since the Revised Draft EIS was issued for public comment in December 2008. The following paragraphs summarize the more important changes made to this EIS.

1.4.1 Incorporation of Updated Environmental and Site-specific Information

This EIS was updated to include another year of environmental monitoring data for WNYNSC, primarily as provided in the *West Valley Demonstration Project Annual Site Environmental Report for Calendar Year 2007* (WVES and URS 2008) and from revisions in the Site Technical Reports (WSMS 2009a, 2009b, 2009c, 2009d, 2009e), including reassessment of the amount of certain wastes that would be exhumed under the Site Removal Alternative and reclassification of other waste from low specific activity radioactive waste to demolition and debris waste. The updated environmental monitoring data was used to update the environmental baseline in Chapter 3. The revised engineering data is reflected in the descriptions of alternatives in Chapter 2 and used in the impact analyses presented in Chapter 4 and the various supporting appendices.

The near-field hydrologic analysis was revised to reflect the current understanding of the structure of the North Plateau slack-water sequence and Lavery till-sand unit and updated to incorporate design parameters for the as-installed NDA slurry wall and geomembrane cover. These changes and the results of the analysis are described in detail in Appendix E of this Final EIS. The results are used in the revised transport and dose analyses in Appendix H, Sections H.2.2.2 and H.2.2.3, and Chapter 4, Sections 4.1.10.3.1 and 4.1.10.3.2.

1.4.2 Changes Made in Response to the NYSERDA View in the Revised Draft EIS

Changes were made in this EIS in response to the NYSERDA View, which appeared as the Foreword to the Revised Draft EIS. The View has been revised for this Final EIS, but additional analyses were performed by DOE between the Revised Draft and this Final EIS to address some of the issues raised in the initial View. In addition to revising the text in this EIS to incorporate new analyses and clarify certain discussions, text boxes have been added at the beginning of the applicable sections of this EIS to indicate NYSERDA's View and DOE's response. Specifically, NYSERDA identified eight issues, five of which (issue numbers 1, 2, 3, 4,

¹ By a letter dated December 27, 2008, Ms. Barbara Warren, Executive Director of the Citizens' Environmental Coalition, requested that *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* be included in the public comment record for this EIS. This report has been addressed in accordance with Council on Environmental Quality NEPA regulations (40 CFR 1503.4[b]) in Issue Summary 5, "Conclusions of the Synapse Report," in Section 2.5 of this CRD. This issue summary is divided into three major portions: a high-level overview of the information contained in the report and its appendices; a section in which DOE presents perceived shortcomings in the report; and the final section which identifies comments relevant to the 2008 Revised Draft EIS that were inferred by DOE and NYSERDA from the information presented in the report and its appendices, and provides responses to those comments.

and 8 in the View) relate to the nature and use of the long-term performance assessment information. These issues present NYSERDA's opinions that:

- **Issue 1.** The erosion analysis in the Revised Draft EIS is not scientifically defensible and the predictions do not show gully penetration into the Main Plant Process Building or Waste Tank Farm, nor is gully advancement on the North Plateau at a rate or in a direction acceptable to NYSERDA.

Change in EIS: The erosion analysis was modified by calibrating the erosion code using the Monte Carlo method. These updated results were then used for unmitigated erosion scenario predictions. These changes to the erosion analysis are described in detail in Appendix F of the Final EIS. The results are used in the revised dose analysis in Appendix H, Section H.2.2.4; and Chapter 4, Section 4.1.10.3.3. A text box has been added to Section 4.1.10.3.3, to address this issue.

- **Issue 2.** The analysis of contaminant transport by groundwater in the Revised Draft EIS, while sound, needs improvement. In particular, NYSERDA questioned why the one-dimensional transport model was used for environmental consequence analysis rather than the three-dimensional model.

Change in EIS: The one-dimensional model was used for contaminant transport analysis in the EIS because test runs showed that the one-dimension model predictions of strontium-90 concentrations at various locations in the North Plateau Groundwater Plume centerline are comparable to the three-dimensional model (STOMP) prediction, both of which are similar to field observations. In addition, the one-dimensional model has a much shorter run time than the STOMP model when analyzing site-specific transport and is easier to integrate with both the release models and the dose consequence models. The hydrologic parameters used in the one-dimensional transport analysis are drawn from the three dimensional hydrologic analysis discussed in Appendix E, Section E.4 of this EIS. The use of the one-dimensional model also introduces an element of conservatism because it does not allow for lateral dispersion, which would lower the plume centerline concentrations. A more detailed discussion of the rationale for the use of the one-dimensional model for transport analysis is provided in Appendix E, Section E.4.1.1. A text box has been added to Chapter 4, Section 4.1.10.3, to address this issue.

- **Issue 3.** The assumptions used in the Revised Draft EIS for the performance of engineered barriers such as caps, slurry walls, reducing grout, and other engineered materials intended to keep contamination physically and chemically bound in place have not been substantiated and may be overly optimistic.

Change in EIS: The discussion of assumptions used for the performance of engineered barriers in Appendix H, Section H.2.2.1 of this Final EIS has been expanded. A text box has been added to Chapter 4, Section 4.1.10.2, to address this issue.

- **Issue 4.** The Revised Draft EIS does not address uncertainty in a manner that provides decisionmakers with information about the critical contributors to uncertainty or the importance of uncertainty in site cleanup decisions. In particular, NYSERDA is of the opinion that assertions of conservatism in analyses and assumptions in the Revised Draft EIS are not adequately supported, and that the long-term analysis is not presented in enough detail or with enough clarity to be properly understood or independently replicated.

Change in EIS: Appendix H, Section H.2.2.1, of this Final EIS has been expanded to provide a detailed discussion of assumptions used in the long-term performance analysis and how the assumptions relate to the conservatism of the analysis. This section has been expanded and revised to clarify how uncertainty is considered in the long-term performance assessment. A text box has been added to Chapter 4, Section 4.3, to address this issue.

- **Issue 8.** The long-term performance assessment is not adequate to support a decision for in-place closure of the Waste Tank Farm or any other facilities.

Change in EIS: This last issue in the View is a summation of four other issues related to the long-term performance assessment effort presented in the Revised Draft EIS: erosion, hydrologic contaminant transport, performance of engineered barriers, and the presentation of information about the uncertainty of the long-term performance assessment and the use of this information in decisionmaking. A text box has been added to Chapter 1, Section 1.5, of this Final EIS to discuss this issue.

Issues 5, 6, and 7 of the NYSERDA View pertain to other, individual topics:

- **Issue 5** indicates that the connection between the Revised Draft EIS analyses and the applicable regulatory framework must be strengthened. In this issue, NYSERDA discusses its position that the Nuclear Regulatory Commission’s low-level radioactive waste disposal regulations (10 CFR Part 61) were used to guide the long-term performance assessment rather than NRC’s License Termination Rule and implementing guidance (NUREG-1757). NYSERDA further states that 10 CFR Part 61 should generally not be used as part of the analytical framework for the EIS.

Change in EIS: The long-term performance assessment in this *Decommissioning and/or Long-Term Stewardship EIS* meets DOE NEPA guidance and precedent. The analysis also uses the requirements of NRC’s License Termination Rule (10 CFR Part 20, Subpart E) and Policy Statement for the WVDP (which prescribes the License Termination Rule as the decommissioning criteria for WVDP) and the implementing guidance for the WVDP Policy Statement in NUREG-1757 for the long-term performance analysis for this EIS. A text box discussing this issue has been added to Chapter 1, Section 1.3, of this Final EIS.

- **Issue 6** of the initial View indicates that the approach for exhumation of the SDA, NDA, and Waste Tank Farm described in the Revised Draft EIS may be overly conservative and based on extreme conditions rather than those that are more likely to be encountered during exhumation. This issue is primarily in the context of how this approach affects the estimated cost of the Sitewide Removal Alternative. NYSERDA also suggests that the disposal costs, in particular those for Greater-Than-Class C waste, should be reevaluated.

Change in EIS: The pre-conceptual engineering approach to implementing the Sitewide Removal Alternative was reviewed and revisions were made to reduce the conservatism in some of the assumptions. Costs were recalculated consistent with the revised approach and also using two different cost estimates for disposal of Greater-Than-Class C waste as described in Chapter 4, Section 4.2, of this Final EIS. A text box has been added to Section 4.2.1, to address this issue.

- **Issue 7** suggests that nonradiological fatalities from waste transportation rail accidents appear to be over-estimated because the analysis in the Revised Draft EIS uses “railcar-kilometers” to assess the number of expected accident fatalities.

Change in EIS: Chapter 4, Section 4.1.12, and Appendix J of this Final EIS have been revised to reduce conservatism in the transportation analysis. However, the only acceptable reference for railcar accident data reports the data in railcar-kilometers. Therefore, no change in the transportation analysis was made to specifically address this issue. Other changes were made in the transportation analysis to reduce conservatism. Chapter 4, Section 4.1.12, and Appendix J of this EIS have been revised to incorporate the new analyses. A text box was also added to Section 4.1.12, to explain this issue and the changes made to the analysis.

Revised Description of Alternatives

The description of the Interim End State, the starting point for analyses in this EIS, has been updated to reflect new information about when activities to achieve the Interim End State are expected to be completed.

The descriptions of the proposed alternatives have been revised to reflect the current plan for implementing each of the alternatives. For example, the discussion of monitoring and maintenance during decommissioning and for any post-decommissioning activities was expanded for each of the alternatives.

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the Record of Decision (ROD), if that alternative were selected. In response to public comments that expressed concern over the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered the timeframe for making Phase 2 decisions. As a result, the Phased Decisionmaking Alternative presented in the Final EIS specifies that Phase 2 decisions would be made no later than 10 years after issuance of the initial DOE ROD and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected. The overall effect on the potential impacts associated with the Phased Decisionmaking Alternative of this change in the timeframe for making Phase 2 decisions is to eliminate the impacts associated with years 11 through 30 of Phase 1. The specific changes in the impacts are discussed qualitatively for each resource area in Chapter 2, Section 2.6 of this EIS, which summarizes and compares the impacts among the evaluated alternatives. The near-term impacts of the modified Phased Decisionmaking Alternative would generally be less than the impacts identified in Chapter 4 of this EIS, which are based on a decision 30 years after the initial DOE ROD and NYSERDA Findings Statement documenting selection of the Phased Decisionmaking Alternative. The long-term impacts of the modified Phased Decisionmaking Alternative would generally be bounded by the long-term impacts of either the Sitewide Removal or Sitewide Close-In-Place Alternatives, depending on the Phase 2 decisions. If the Phase 2 decision for the State-Licensed Disposal Area (SDA) is continued active management, the impacts for some activities are expected to be bounded by the No Action Alternative.

1.5 Next Steps

One or more DOE RODs may be published for this Final EIS, but no ROD will be published sooner than 30 days after the Notice of Availability is issued. The RODs will explain all factors considered by DOE in reaching its decisions, including environmental impacts, and identify the environmentally preferred alternative or alternatives. If mitigation measures, monitoring, or other conditions are adopted as part of DOE's decisions, these will be summarized in the RODs and included in Mitigation Action Plans that will be prepared and issued with the DOE RODs. The Mitigation Action Plans will explain how and when any mitigation measures will be implemented and how DOE will monitor the effectiveness of these measures over time.

In accordance with SEQR requirements, NYSERDA will issue a separate Findings Statement no sooner than 10 days after issuance of the Notice of Availability for the Final EIS. This Findings Statement will certify that SEQR requirements have been met; demonstrate that the action chosen avoids or minimizes any adverse environmental impacts presented in the Final EIS; and weigh and balance the impacts with social, economic, and other essential considerations.

SECTION 2
MAJOR ISSUES

2.0 MAJOR ISSUES

Six topics identified in the public comments on the *Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center* (Revised Draft EIS) are of broad interest or concern, and may require a more detailed response than could be effectively presented in the side-by-side format in Section 3 of this Comment Response Document (CRD). These topics have been characterized as major issues and are addressed in this section. These issues are:

- Modified Phased Decisionmaking Alternative
- Support for Sitewide Removal of All Radioactive and Hazardous Wastes
- Concerns about Potential Contamination of Water
- Questions about Long-term Erosion Modeling
- Questions about Cost-Benefit Analysis
- Conclusions of the *Synapse Report (The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site prepared by Synapse Energy Economics, Inc.)*

2.1 Modified Phased Decisionmaking Alternative

Issue:

A variety of comments revealed a need to clarify the nature of the Phase 2 actions and associated impacts. A specific comment requested clarification that Phase 2 of the Phased Decisionmaking Alternative would involve only removal or in-place closure for those facilities remaining after completion of the Phase 1 decommissioning actions.

Several commentors also expressed concerns about the delay in the timing of the Phase 2 decisionmaking. Some expressed a concern that the Phase 2 decision would not be made. Others pointed out the loss in technical expertise and socioeconomic impact that would occur if there were many years between the completion of the Phase 1 decommissioning actions and the initiation of the Phase 2 decommissioning actions.

Response:

Under the Phased Decisionmaking Alternative, decommissioning would be completed in two phases. This alternative involves substantial removal actions in the first phase. In addition, during this first phase, this alternative provides for additional site characterization and scientific studies to facilitate consensus decisionmaking for the remaining facilities or areas.

The intention behind the Phased Decisionmaking Alternative, as presented in the Revised Draft EIS, was to make the Phase 2 decision as soon as possible, but no later than 30 years after issuance of the initial U.S. Department of Energy (DOE) Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative were selected. The 30-year timeframe was selected in part because it is a common

duration for permits/licenses and it was the timeframe anticipated (at the time of publication of the Revised Draft EIS) in which the canisters of vitrified waste would be shipped to a repository.

During the period between the issuance of the Draft and Final EIS, NYSERDA and DOE considered the input received during the nine-month public comment period. A number of stakeholders (including members of the West Valley Citizen Task Force and local community leaders) voiced concerns over the potential length of time required to make the Phase 2 decision. In response to these concerns, DOE and NYSERDA have reconsidered the timeframe for making the Phase 2 decision. The Preferred Alternative in this Final EIS now specifies that Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

In reevaluating their position on the timeframe, NYSERDA and DOE also considered the current schedule to complete Phase 1 actions. The schedule calls for an 8- to 10-year time period to complete major decommissioning activities (e.g. demolition of the main plant, removal of plume source area, lagoon removal) under Phase 1. In order to allow the cleanup work to move directly from the Phase 1 activities to the Phase 2 activities, and ensure that work interruptions at the site would be minimized, project momentum (including funding) would be maintained, and to avoid the loss of the highly-trained workforce, DOE and NYSERDA have now agreed to make the Phase 2 decision within a 10-year timeframe, if the Phased Decisionmaking Alternative is selected.

To that effect, both agencies have clarified their intention in this Final EIS for their Phase 2 decisionmaking, if the Preferred Alternative is selected. DOE has affirmed that it intends to complete its decommissioning decisionmaking with its Phase 2 decision and, therefore, would select either removal or in-place closure or a combination of the two for those portions of the site for which it has decommissioning responsibility. Specifically, Phase 2 would complete the decommissioning or long-term management decisionmaking process for the WVDP, implementing the approach determined through review of the currently existing information and any additional studies to be the most appropriate. As such, the impacts of Phase 2 are bounded by those of the Sitewide Removal and Sitewide Close-In-Place Alternatives.

NYSERDA has clarified that alternatives that would be considered for the Phase 2 decision on the State-Licensed Disposal Area (SDA) would range from complete exhumation to close-in-place to continued active management consistent with SDA permit and license requirements. For the balance of Western New York Nuclear Service Company (WNYNSC), the Phase 2 decision would range from license termination with unrestricted use to continued management under the U.S. Nuclear Regulatory Commission (NRC) license.

Phase 1 activities would make use of proven technologies and available waste disposal sites to reduce potential near-term health and safety risks from residual radioactivity and hazardous contaminants at the site. In order to facilitate interagency consensus, additional studies would be conducted to possibly reduce technical uncertainties related to the decision on final decommissioning and long-term management of the site, particularly the uncertainty associated with long-term performance models, viability and cost of exhuming buried waste and tanks, and availability of waste disposal sites. During Phase 1, DOE and NYSERDA would seek and evaluate information about improved technologies for in-place containment and for exhuming the tanks and burial areas for use in decisionmaking for Phase 2. NYSERDA believes that an 8 to 10 year period is reasonable for conducting additional studies on the technical issues discussed in the "Foreword" to this Final EIS. See Chapter 2, Section 2.4.3.1, of the Final EIS for more information regarding the process and types of studies that could be used to facilitate consensus on the Phase 2 approach.

The description of the Phased Decisionmaking Alternative was modified in the Final EIS to state that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

The Chapter 4 analysis of environmental consequences of the Phased Decisionmaking Alternative still presents the environmental consequences for a 30-year maximum duration for Phase 1 as was done for the Revised Draft EIS. Chapter 2, Section 2.6, discusses the changes in Phase 1 environmental consequences from making the Phase 2 decision within 10 years after the Phase 1 Record of Decision and Findings Statement, in context with the impacts of making the Phase 2 decision within the original bounding time limit of 30 years.

2.2 Support for Sitewide Removal of All Radioactive and Hazardous Wastes

Issue:

A majority of commentors stated a preference for sitewide removal of all radioactive and hazardous wastes from the WNYNSC as soon as possible. In many cases, these commentors expressed specific support for the Sitewide Removal Alternative over other alternatives. Reasons for this preference generally centered on concerns about contamination migrating from WNYNSC to groundwater and surface water in the region due to erosion or earthquakes. Some commentors also stated that the Sitewide Removal Alternative is more cost-effective than the other alternatives, citing information published in *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, by Synapse Energy Economics, Inc.

Response:

The U.S. Department of Energy (DOE) and New York State Energy Research and Development Authority (NYSERDA) acknowledge the commentors' preference for sitewide removal of all radioactive and hazardous materials from WNYNSC.

The health and safety of populations in nearby communities and workers on site would be protected under all of the alternatives analyzed in this environmental impact statement (EIS), assuming that institutional controls remain in place. However, each of the alternatives would result in risks and benefits that DOE and NYSERDA will consider in making their respective decisions. Projected short-term and long-term impacts for each alternative are presented in detail for each environmental resource area (e.g., human health and safety, ecological resources, water resources) in Chapter 4, Section 4.1, and summarized in a comparative presentation in Chapter 2, Section 2.6, of this EIS.

In general, the Sitewide Removal and Sitewide Close-In-Place Alternatives represent bounds in possible decommissioning options, i.e., either removing the remaining waste and contamination, or largely stabilizing the remaining radioactive and hazardous waste in place. Comparing the two alternatives, the Sitewide Removal Alternative would incur larger radiological doses and risks to the public and workers from onsite and transportation activities (including accidents), as well as higher costs, during decommissioning activities. The Sitewide Removal Alternative would also incur smaller long-term doses and risks to the public in the vicinity of WNYNSC. Phase 1 of the Phased Decisionmaking Alternative has short-term radiological doses and risks that are less than those for the Sitewide Removal Alternative, but larger than those for the Sitewide Close-In-Place Alternative. Phase 2 impacts are expected to be generally bounded by those identified for the Sitewide Removal and Sitewide Close-In-Place Alternatives. If the Phase 2 decision for the SDA is continued active management, Phase 2 impacts for some resource areas are expected to be bounded by those for the No Action Alternative. Therefore, a qualitative statement can be made about the range of impacts for the Phased Decisionmaking Alternative.

DOE and NYSERDA have identified the Phased Decisionmaking Alternative as the Preferred Alternative in this EIS. Implementation of Phase 1 of the Phased Decisionmaking Alternative would result in substantial cleanup of the site within approximately 8 years. The cleanup that would take place during Phase 1, as explained in Chapter 2, Section 2.7, of this EIS, would reduce or eliminate the sources of much of the potential health or environmental impacts by removing major facilities (such as the Main Plant Process Building and

lagoons). In addition, the source area for the North Plateau Groundwater Plume would be removed, thereby reducing the source of radionuclides that are a potential contributor to human health and environmental impacts. DOE and NYSERDA agree that, under Phase 1 of this alternative, a variety of studies would be performed to aid consensus decisionmaking for the Phase 2 actions. Phase 2 actions could include removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives.

DOE and NYSERDA acknowledge that erosion is a concern at WNYNSC. Each of the “Surface Water Flow and Quality” subsections of Chapter 4, Sections 4.1.4.1, 4.1.4.2, and 4.1.4.3 includes a discussion of the erosion anticipated while decommissioning actions are being performed under each of the proposed action alternatives. This EIS also evaluates the potential long-term human health impacts from a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS.

As stated in this EIS, some erosion could be expected to result under all of the proposed alternatives. A comparison of the Sitewide Removal Alternative and Phase 1 of the Phased Decisionmaking Alternative demonstrates that both would have a short-term potential for material movement due to erosion as areas are excavated and filled before re-establishment of ground cover. Natural erosion would also occur after area restoration is complete. The nature of any longer-term erosion under Phase 2 of the Phased Decisionmaking Alternative would range between that anticipated under the Sitewide Removal and the Sitewide Close-In-Place Alternatives, depending on the decisions made. Whichever alternative is selected in DOE’s Record of Decision and NYSERDA’s Findings Statement, potential short-term and longer-term erosion would be minimized by the erosion control measures described in Chapter 6, Section 6.2, of this EIS.

The seismology of WNYNSC is discussed in Chapter 3, Section 3.5, of this EIS. The consequences of potential accidents, including earthquakes, are discussed in Chapter 4, Section 4.1.9.2. Table 4–20 presents the consequences and annual risks for the dominant accident scenarios associated with each of the alternatives. For the Phased Decisionmaking Alternative, it should be noted that only Phase 1 accident consequences and risks were analyzed. Accident consequences and risks for Phase 2 of this alternative could be greater than those for Phase 1, depending on the decision about further actions. However, the Phase 2 accident consequences and risks would be no greater than those for the Sitewide Removal Alternative. The absolute magnitude of accident consequences and risks for all alternatives is estimated to be very small and is not expected to present a major health risk to the general population. Table 4–22 compares the relative risks of the decommissioning alternatives. As indicated in this table, the Sitewide Removal Alternative poses the highest annual risk to both the population and the maximally exposed individual on site during decommissioning activities. The annual risks under the Phased Decisionmaking and Close-In-Place Alternatives would be comparatively low.

As stated in Chapter 4, Section 4.1.4, water resource impacts would result from some of the proposed decommissioning actions. The impacts of each alternative on water resources are presented in Chapter 4, Table 4–6. The “Concerns about Potential Contamination of Water” Issue Summary below provides a discussion of radiological impacts to regional and Lake Erie water users.

Chapter 4, Section 4.2, of this EIS presents a discussion of the costs associated with each alternative. In addition, DOE and NYSERDA have reviewed the report cited in many of the comments, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* (Synapse Energy Economics 2008). The Conclusions of the *Synapse Report* Issue Summary in this Major Issue Summaries section provides a discussion of the information presented and inconsistencies identified in the *Synapse Report*, as well as responses from DOE and NYSERDA to comments received.

It should be noted that costs are not normally required in DOE EISs. If costs are an important consideration in the decisionmaking process, the agencies will disclose this and discuss it as part of their selection rationale in DOE's Record of Decision and NYSERDA's Findings Statement.

2.3 Concerns about Potential Contamination of Water

Issue:

Commentors expressed concerns that, because streams nearby WNYNSC eventually discharge into Lake Erie, contaminated liquid effluents resulting from WNYNSC could enter the streams and adversely affect regional water users in Western New York and the Great Lakes region. Concerns were also expressed about the use of water from nearby streams. In addition, some commentors were specifically concerned about the potential effects of erosion on water quality.

Response:

DOE and NYSERDA recognize that potential radiological releases resulting in water contamination are a major concern in the region of WNYNSC. The potential impacts of the proposed actions on water resources are addressed in this EIS in Chapter 4, Section 4.1.4 (Water Resources); Section 4.1.9 and Appendix I (Human Health and Safety During Decommissioning Activities); Section 4.1.10 (Long-term Human Health); and Appendix H (Long-term Performance Assessment Results). These impacts represent conservative estimates of potential impacts to receptors that include members of the general population and hypothetical individuals who are assumed to be in locations and conduct activities that result in conservatively large impacts. For example, all receptors are assumed to use untreated water, that is, no reduction in contaminants is assumed as a result of water treatment prior to use by the receptors. Receptors addressed in this EIS include:

- *Cattaraugus Creek receptor*—an individual assumed to drink untreated water from Cattaraugus Creek, eat local fish, and, for the long-term impacts analysis, consume produce from gardens irrigated with water from the Creek. (DOE and NYSERDA are not aware of any actual persons who currently use Cattaraugus Creek as a source of drinking water.)
- *Seneca Nation of Indians receptor*—an individual assumed to drink untreated water from the lower reaches of Cattaraugus Creek on the Seneca Nation of Indians Cattaraugus Reservation, eat local fish (in larger quantities than the Cattaraugus Creek receptor), and, for the long-term impacts analysis, consume produce from gardens irrigated with water from the Creek. (DOE and NYSERDA are not aware of any actual persons who currently use Cattaraugus Creek as a source of drinking water.)
- *Lake Erie and Niagara River receptors*—a large population assumed to drink untreated water from Lake Erie or the Niagara River, to eat fish from Lake Erie, and, for the long-term impacts analysis, to consume produce from gardens irrigated with this water.

This EIS analysis accounts for contaminants that are assumed to flow into Cattaraugus Creek, Lake Erie, and the Niagara River and quantitatively assesses impacts to receptors at these locations. Contaminated water that flows through the Niagara River would mix with the waters of Lake Ontario. This mixing and the large volume of water would result in dilution of the contaminants well below the concentrations that would occur at the Lake Erie and Niagara River water treatment plants. As a result, the impacts to receptors farther away, such as at Lake Ontario and St. Lawrence River locations would be less and therefore bounded by the impacts presented in this EIS for the closer, upstream locations.

During decommissioning activities, erosion is not expected to have a significant effect on the quality of the water in site streams or in water taken from Lake Erie or other regional water bodies because appropriate control measures would be taken by onsite personnel to minimize erosion.

To estimate the potential environmental impacts of the proposed actions, assumptions were made about daily water and local fish consumption, as well as about sedimentation and dilution rates as postulated contaminants pass from local streams to Great Lakes water treatment plants. Doses to receptors were calculated based on estimated peak annual liquid releases from the site. It was assumed that the calculated radionuclide concentration in Cattaraugus Creek as it enters Lake Erie would not be diluted by Lake Erie water before the contaminated water would be drawn by the Sturgeon Point Water Treatment Plant, located downstream on the Lake. Dilution of contaminants in water drawn by water treatment plants on the Niagara River was based solely on the east channel flow rate without accounting for the dilution effects of Lake Erie. During radionuclide transport from WNYNSC through Buttermilk Creek and Cattaraugus Creek, it was assumed that no deposition of radionuclides would occur during the 64 kilometers (40 miles) of travel to Lake Erie. All of these conservative assumptions were designed to provide conservatively high estimates of radiological impacts from liquid releases to the environment during decommissioning operations at WNYNSC.

Further, during decommissioning activities, Lake Erie or Niagara River receptors were assumed to consume untreated water from the drinking water system (no credit was taken for any treatment that would occur before water distribution) and to consume an average of 0.1 kilograms (0.22 pounds) per year of contaminated fish taken from Lake Erie. The peak annual total effective dose equivalent (TEDE) to an average member of the population (derived from Appendix I, Table I-9, of this EIS, data for the Lake Erie water treatment plant) was estimated to be about 0.0044 millirem for the Sitewide Removal Alternative, 0.046 millirem for the Sitewide Close-In-Place Alternative, 1.6×10^{-5} millirem for Phase 1 of the Phased Decisionmaking Alternative and 0.025 millirem for the No Action Alternative.¹

The Cattaraugus Creek and Seneca Nation of Indians receptors were assumed to consume untreated water from the creek, as well as larger quantities of fish from the creek (9.0 kilograms [20 pounds] per year for the Cattaraugus Creek receptor and 62 kilograms [137 pounds] per year for the Seneca Nation of Indians receptor). These receptors would receive higher peak annual doses, primarily from the assumed fish consumption (see Appendix I, Section I.4.3.5, of this EIS). The largest peak annual TEDE from liquid releases for any receptor and decommissioning action alternative was 0.12 millirem for the Seneca Nation of Indians receptor for the Sitewide Close-in-Place Alternative.

After decommissioning activities are completed, contaminant migration could result in contamination of regional waters. The potential effect of contaminant migration, including erosion-related contaminant movement, on offsite receptors was modeled for time frames up to 100,000 years for the No Action and Sitewide Close-In-Place Alternatives (see Appendix H of this EIS). Under the Sitewide Removal Alternative, removal of onsite contamination during the decommissioning operations would preclude any long-term dose effects of migration on water users. The same receptors were used for the long-term analysis as for the short-term analysis, with the exception that, because of uncertainties about future societal conditions and customs, the daily water consumption rate was slightly increased for all receptors. In addition, all receptors were assumed to consume crops taken from a garden irrigated with untreated water.

If institutional controls were continued indefinitely as planned, the average annual potential dose received by a Lake Erie or Niagara River water user in the year of peak impact would not exceed about 0.2 millirem TEDE. As noted above, these doses include contributions from other exposure pathways in addition to drinking water received through the water distribution systems.

¹ For the Sitewide Removal and Close-In-Place Alternatives, the bulk of the potential decommissioning population dose through the water pathway would result from the assumed discharge of hydrogen-3 (tritium), which has a half-life of 12.3 years, from the Leachate Treatment Facility through a permitted outfall. The same quantity of tritium would be discharged under both alternatives, but the discharge would occur over 60 years under the Sitewide Removal Alternative and 7 years under the Sitewide Close-In-Place Alternative, resulting in a larger dose under the latter alternative. Tritium discharge during Phase 1 decommissioning activities under the Phased Decisionmaking Alternative is projected to be much smaller than that under either of the other two decommissioning alternatives.

If it were assumed that institutional controls were lost for hundreds of years, leading to unmitigated erosion, receptors using water from the Sturgeon Point Water Treatment Plant on Lake Erie would receive a peak annual TEDE of approximately 0.4 millirem under the Sitewide Close-In-Place Alternative and approximately 2.7 millirem under the No Action Alternative. These doses would be respectively received about 860 years and 200 years after loss of institutional controls. It should be understood that these doses are very conservative. Institutional controls are anticipated to be maintained as long as necessary and implementation of the mitigation measures as described in Chapter 6 of this EIS would greatly limit actual erosion under all alternatives. In addition, the analysis does not take credit for processing at water treatment plants to meet drinking water standards.

Doses to receptors that could use Cattaraugus Creek as a source of water over the long term were also calculated (see Section 4, Section 4.1.10.3.3, of this EIS). The highest dose would be received by the postulated Seneca Nation of Indians receptor under the unmitigated erosion scenario. Under the Sitewide Close-In-Place Alternative, this receptor would receive a maximum annual TEDE of 4 millirem about 490 years after loss of institutional controls; under the No Action Alternative, this receptor would receive a maximum annual TEDE of 34 millirem after about 200 years following loss of institutional controls.

For perspective, these doses can be compared to the average radiation dose in the U.S. and to dose limits. The average annual radiation dose in the U.S. is 620 millirem from ubiquitous background and other sources of radiation unrelated to WNYNSC operations (see Chapter 3, Section 3.11.1.2, of this EIS). The DOE all-pathways dose limit to a member of the public is 100 millirem per year (DOE Order 5400.5). The NRC License Termination Rule dose standards for license termination with restrictions are 25 millirem per year assuming institutional controls and in the event of loss of institutional controls, 100 millirem per year (500 millirem per year if certain conditions are met) (10 CFR 20.1403). The NRC License Termination Rule also provides for a dose standard for license termination using alternate criteria of 100 millirem per year from all man-made sources other than medical (10 CFR 20.1404).

2.4 Questions about Long-term Erosion Modeling

Issue:

Some commentors, referring to statements in the NYSERDA Foreword to the 2008 Revised Draft EIS, expressed their opinion that the long-term erosion analysis presented in the Revised Draft EIS is not scientifically defensible. Others questioned some of the assumptions used to calibrate the erosion model and expressed concerns about predictions of gully advance rates. Several commentors pointed out the erosion that occurred in the region following the heavy rainfall events of August 9 and 10, 2009, as an illustration of the potential for sudden and dramatic topography changes in the region. Commentors also expressed views regarding the Revised Draft EIS's lack of predictions regarding the timing of the Buttermilk Creek capture of Franks Creek. Many commentors asked questions concerning the erosion modeling and analysis conducted for the Revised Draft EIS, including:

- Is the Channel-Hillslope Integrated Landscape Development (CHILD) model a reasonable tool for making erosion predictions?
- Are the methods used to calibrate the CHILD model, including the use of the optically stimulated luminescence (OSL) measurements, reasonable?
- What were the climate assumptions used during calibration?
- What were the criteria used to judge the success of calibration?

Response:

Erosion is an important process to consider when estimating environmental consequences at WNYNSC. It is recognized that future erosion can be either accelerated or slowed by human actions. It was considered reasonable and informative for this EIS to analyze two erosion-related cases. The first case assumed that human actions mitigate erosion so there are no erosion-related releases of radioactive or hazardous material, consistent with the agencies' objective. The second case addressed unmitigated erosion under the assumption that no specific future human actions to address the problem were taken. The results of these analyses, coupled with proper explanations, are considered informative to the agency decisionmakers.

DOE is of the opinion that the methods used for developing estimates of long-term unmitigated erosion for this EIS are scientifically defensible, as well as consistent with the requirements of the National Environmental Policy Act (NEPA). These methods use analytical tools that are based on a theoretical approach to evaluating long-term erosion that is generally accepted in the scientific community.

The CHILD landscape evolution model is the analytical tool used for erosion prediction in this EIS and is considered a state-of-the-art landscape evolution model. The CHILD model uses a limited number of algorithms that have been found to reasonably represent the multiple processes involved in erosion. While some scientists advocate the reductionist approach for geomorphology modeling (dissection and understanding of erosion processes on the smallest scale), such an approach demands the development of smaller-scale models, some of which exist, the integration of these smaller-scale models into larger-scale models, and much more data than is currently available to support site-specific calibration of the models. Landscape evolution models have, of necessity, used simpler relationships when analyzing erosion over long time frames.

The CHILD analysis presented in this Final EIS presents a refined analysis that updates the CHILD analysis in the 2008 Revised Draft EIS. This refined analysis involves model recalibration that uses available site data in conjunction with probabilistic methods (Monte Carlo method) and more detailed calibration criteria to determine the sets of calibration parameters that most accurately reproduce the current topography. The calibration criteria include matching with exposure time for the two well-dated stream terraces (see Appendix F, Section F.2.2.1, for a discussion of OSL dating efforts); longitudinal profile matching; and development of an aggregate score that reflects the degree of matching between the model predictions and measurements of key existing conditions (i.e. long profile, hypsometry, slope-area index, width function, and area index). The calibration used climatological parameters that reflect current storm frequencies and severities and includes the effects of storms comparable to, as well as more severe than, the one that occurred in the region in August 2009. The calibration used current storm data because there is no long-term geo-historical record of precipitation statistics for the region over the calibration timeframe. As a result, the effects of weather variability over the calibration period are captured in the parameters determined by the calibration process. The calibration process also captures the indirect effects of any historical earthquakes on erosion in the Buttermilk Creek watershed. Direct effects (e.g., peak ground acceleration strong enough and frequent enough to measure an increase in the rate of hill-slope sediment transport) are considered to be insignificant. The calibration effort produced 5 parameter sets out of 1,000 runs that produced topography predictions that resemble current conditions.

After calibration of the CHILD model using probabilistic methods, the model was used to develop topography predictions for the erosion scenario for both the Sitewide Close-In-Place Alternative and No Action Alternative using a smaller grid scale around the areas containing waste or contamination. Topography predictions were developed using the parameter sets that were determined by the calibration process to most accurately reproduce the current site topography. Topography projections were developed for both current climatic conditions as well as wetter climatic conditions that might occur as a result of climate change. The short-term predictions of gully advance rates were consistent with historical measurements at the site (see Appendix F,

Section F.3.1.6.10). Short-term sheet and rill erosion predictions were comparable to other near-term studies (see Section F.3.2.1).

The predicted topography changes for the unmitigated erosion analysis showed channel widening, as well as the development and advance of gullies. Overall, however, the erosion estimates presented in this Final EIS for the North Plateau are similar to those in the Revised Draft EIS. The Final EIS erosion estimates for the South Plateau are slightly lower than those shown in the Revised Draft EIS. The higher Final EIS erosion rate predictions, including faster gully advance rate predictions that are associated with wetter conditions, were used in the estimate of dose consequences to onsite and offsite receptors, including downstream water users.

This Final EIS acknowledges the uncertainty in the unmitigated long-term erosion predictions and in the erosion-driven human health consequences (see Chapter 4, Section 4.3.5), consistent with NEPA and the New York State Environmental Quality Review Act (SEQR) requirements. Section 4.3.5 also points out that conservative estimates for many of the factors were used in estimating the erosion-driven human health consequences.

2.5 Questions about Cost-Benefit Analysis

Issue:

Several commentors stated that the cost information presented in Chapter 4, Section 4.2, of the Revised Draft EIS does not accurately represent the total costs of the alternatives or that the cost-benefit information (also presented in Section 4.2) is misleading. Some commentors expressed their opinion that there could be large releases of hazardous constituents that would require expensive mitigation actions if waste remained on site. Some commentors were also critical of the assumptions in the cost-benefit methodology, stating that discounting was not appropriate when evaluating long-term costs.

Response:

Chapter 4, Section 4.2, of this EIS presents cost and cost-benefit information in response to an NRC request for the inclusion of cost-benefit information, which is included in NRC EISs. (DOE does not require cost or cost-benefit information in its EISs, although it may consider cost as a factor in its decisionmaking.) The specific analysis uses the information available in this EIS to evaluate cost-effectiveness in a manner that is generally consistent with NRC guidance for conducting as low as is reasonably achievable (ALARA) analyses, which is an element of compliance with the License Termination Rule (NRC 2006a). The NRC guidance calls for discounted costs to be used in the ALARA analysis. The analysis in Section 4.2 was developed and included in this EIS so that NRC could use more of this EIS for its NEPA needs.

The decisions of the lead agencies are not dictated by or limited by the cost or cost-benefit information presented in Chapter 4, Section 4.2. The agencies can select any alternative that would allow the respective agency to best meet its mission. Consistent with NEPA and SEQR requirements, DOE's Record of Decision and NYSERDA's Findings Statement will identify and discuss the factors that were balanced in the agencies' decisionmaking process.

Chapter 4, Section 4.2, of this Final EIS was revised to clarify that the purpose of the section is to provide a preliminary cost-benefit analysis consistent with the guidelines of NRC's license termination ALARA analysis. This Final EIS uses a range of discount rates in its analysis.

2.6 Conclusions of the *Synapse Report*

Issue:

Several commentors specifically cited or alluded to the conclusions of a report titled, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)*, which was prepared by Synapse Energy Economics, Inc., and issued on December 2, 2008. Reflecting statements made and conclusions drawn in the *Synapse Report*, these commentors expressed a preference for the Sitewide Removal Alternative, stating that it is the most cost-effective alternative or represents the least risk and lowest cost. In addition, some commentors stated that the *Synapse Report* analysis was supported by NYSERDA. This latter assertion is not totally accurate according to NYSERDA's comments on the report (see the following discussion). The report and its appendices are posted on several websites including http://westvalleyctf.org/Full_Cost_Study.html and <http://www.besafenet.com/campaigns/wvreport.shtml>.

The *Synapse Report* presents the results of a study funded by a grant from the New York State Legislature and administered by the New York State Department of Environmental Conservation to four groups: the Citizens' Environmental Coalition; the Coalition on West Valley Nuclear Wastes; the Center for Health, Environment & Justice; and the Nuclear Information and Resource Service. The study draws on information from the 1996 *Draft Environmental Impact Statement for Completion of the West Valley Demonstration Project and Closure or Long-Term Management of Facilities at the Western New York Nuclear Service Center (Cleanup and Closure Draft EIS)* and a September 2005 Multiagency Review Draft of the *Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (Multiagency Review Draft)*, along with its supporting engineering studies. The Multiagency Review Draft and supporting engineering studies were prepared for DOE, NYSERDA, and cooperating agencies (the U.S. Environmental Protection Agency, U.S. Nuclear Regulatory Commission, New York State Department of Environmental Conservation, and New York State Department of Health) to help the agencies understand the environmental consequences of the alternatives presented in that document and to facilitate lead agency selection of a preferred alternative. As noted in Chapter 1, Section 1.2, of this EIS, the agency discussions on the 2005 Multiagency Review Draft shaped the content of the Revised Draft EIS that was prepared and issued for public review. The Multiagency Review Draft was never issued for public review.

There are three major sections in this issue summary. The first section, "*Synapse Report Summary*," presents a high-level overview of the information contained in the report and its appendices, as well as a summary of the major conclusions of the report. The second section, "*Agency Discussion of the Synapse Report*," identifies DOE's perceived shortcomings in the report, including instances where its authors misread information in the Multiagency Review Draft or its supporting engineering studies. This discussion also notes major comments developed by DOE and NYSERDA following their review of the report. The third section, "*Inferred Comments*," identifies comments relevant to the 2008 Revised Draft EIS that were inferred from the information presented in the *Synapse Report* and its appendices and presents DOE's and NYSERDA's responses to those comments. It was necessary to infer comments because the *Synapse Report* was not based on the 2008 Revised Draft EIS that was made available for public review and comment on December 5, 2008 (the *Synapse Report* was issued on December 2, 2008).

Synapse Report Summary

The *Synapse Report* comprises nine chapters and three appendices, which are summarized below. Summary information is presented in greater detail for those sections that address population dose and risk, erosion, and full cost estimates, because this information is related to the analysis in the Revised Draft EIS and is cited in the comments that mention the *Synapse Report*.

Executive Summary – Summarizes the information in the *Synapse Report*, including findings and recommendations.

The major conclusion presented in the Executive Summary of the *Synapse Report* is that the Waste Excavation Alternative presents the least risk to a large population and has the lowest economic, social, and project cost. The report recommends removal of all waste and contamination to another site where it would be stored (rather than disposed of) in monitored, aboveground storage facilities.²

Chapter 1 – Presents a brief discussion of site history and setting.

Chapter 2 – Presents a discussion of the legal framework and agency responsibilities.

Chapter 3 – Presents information on various WNYNSC facilities and their inventories and summarizes the alternatives presented and analyzed in the 2005 Multiagency Review Draft.

The two alternatives addressed in detail in the *Synapse Report* are the Waste Excavation Alternative (called the Entire Site Unrestricted Release/Clean Closure Alternative in the Multiagency Review Draft) and the Buried Waste Alternative (called the North Plateau Unrestricted Release/Clean Closure Alternative in the Multiagency Review Draft). The Waste Excavation Alternative is similar to the Sitewide Removal Alternative in the November 2008 Revised Draft EIS. The Buried Waste Alternative involves removal of major sources on the North Plateau along with decay of the non-source area of the North Plateau Groundwater Plume, coupled with a close-in-place strategy for the NRC-Licensed Disposal Area (NDA) and State-Licensed Disposal Area (SDA).

Chapter 4 – Presents an estimate of doses and risks to the public from assumed catastrophic releases from the WNYNSC. (Additional information is presented in Appendix B of the *Synapse Report*.)

The *Synapse Report* reviewed and compared dose estimates presented in the 1996 *Cleanup and Closure Draft EIS* and 2005 Multiagency Review Draft and presented the results of its own calculations of drinking water dose and risk for members of the public (Section 4.5 and Appendix B of the *Synapse Report*). The *Synapse Report* evaluates two scenarios: the first assumes a 1 percent inventory release at specific intervals and the second assumes that 1 percent of the remaining inventory is released each year for a series of years. The analysis considers releases from the Waste Tank Farm, NDA, and SDA. It should be noted that, although the analysis considers the consequences of releases from the Waste Tank Farm, the Buried Waste Alternative identified in previous *Synapse Report* chapters assumes that the waste tanks are removed (see Chapter 3, Section 3.2.2, of the *Synapse Report*). A more detailed description of the analysis is presented in Appendix B of the *Synapse Report*, which presents probabilistic estimates of doses; however, the variables used in the analysis and the distribution of these variables are not identified.

Chapter 5 – Provides information on the evolution of language and a discussion of cost discounting when dealing with transgenerational issues.

Chapter 6 – Discusses erosion at WNYNSC. (Additional information is presented in Appendix A of the *Synapse Report*).

Chapter 6 reviews various erosion measurements at the site and other locations the authors of the *Synapse Report* considered relevant. The chapter states that the authors expect 20 percent of the plateau surfaces that are currently not gullied to erode within 10,000 years based on a bench-scale experiment. The chapter

² Particular attention was paid to the Findings and Recommendations of the *Synapse Report* when inferred comments were developed in the third part of this issue summary.

concludes that the disposal areas could be breached in as quickly as 150 years if there were no erosion controls. The chapter also provides independent estimates of erosion control features and associated costs for protection of the site for 1,000 years.

Chapter 7 – Discusses the devaluation of properties near the WNYNSC site and the potential costs for providing replacement drinking water.

Chapter 8 – Presents an evaluation of the full cost for two decommissioning alternatives addressed in detail in the report. (Additional information is presented in Appendix C of the *Synapse Report*.)

As analyzed in Chapter 8 of the *Synapse Report*, the total cost for the Waste Excavation Alternative, which is similar to the Sitewide Removal Alternative in the November 2008 Revised Draft EIS, would be \$9.9 billion, which is slightly lower than the \$10 billion reported in the 2005 Multiagency Review Draft. The *Synapse Report* assumes lower cost contingency factors than those assumed for the Multiagency Review Draft and accounts for the loss of revenue over 1,000 years due to temporary unavailability of some WNYNSC land for productive use. (The second *Synapse Report* alternative, Buried Waste, is not similar to any alternative analyzed in the November 2008 Revised Draft EIS.)

The *Synapse Report* provides two cost estimates for the Buried Waste Alternative. The first estimate is \$27 billion over 1,000 years, assuming larger costs than those estimated in the Multiagency Review Draft for the expanded initial removal actions; construction and maintenance of erosion control features; and installation, maintenance and operation of security systems. In addition, \$14 billion is assumed for replacing contaminated water supplies for Lake Erie water users and for an assumed loss of revenue over 1,000 years because of the assumed permanent unavailability of WNYNSC land for productive use. The second estimate is \$13 billion over 1,000 years, subtracting the cost of replacing contaminated water supplies for Lake Erie water users.

Agency Discussion of the *Synapse Report*

DOE reviewed the *Synapse Report* to determine whether it provided: (1) information that would help DOE more accurately represent the environmental consequences of the alternatives analyzed in the 2008 Revised Draft EIS or (2) insight into the cost comparison of the alternatives.

The only environmental consequence information presented in the *Synapse Report* is long-term radiation dose and risk to downstream water users. DOE does not believe the methods used in the *Synapse Report* would be useful in improving the understanding of environmental consequences for alternatives that leave the waste on site (the Sitewide Close-In-Place Alternative and the No Action Alternative). The *Synapse Report* dose analysis uses what DOE considers to be simplistic and overly conservative (high) release rate assumptions for its analysis. The release estimates are not based on actual current tank and waste conditions or the physical performance of the additional engineered barriers that would be installed if the Waste Tank Farm or the burial areas were closed in place. These engineered barriers would retard the migration of radionuclides through the environment, thereby allowing more decay to occur. For these reasons, DOE believes that the *Synapse Report's* analytical methods provide overly conservative dose estimates and the methods do not appear to be suited to discriminating between the consequences of the Sitewide Close-In-Place Alternative and the No Action Alternative.

NYSERDA's review of the *Synapse Report* concluded that several assumptions used in the report (concerning the Buried Waste Alternative) could lead to an overestimate of health impacts.³

³ March 25, 2009, letter from Paul J. Bembia of NYSERDA to Anne Rabe of the Center for Health & Environmental Justice, Subject: NYSERDA Comments on The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (NYSERDA 2009).

DOE reviewed the cost information presented in the *Synapse Report*. DOE considers the *Synapse Report's* adjustment of waste disposal costs for the Waste Excavation Alternative to be incorrect. The adjustment ignores the differences in low-level radioactive waste disposal costs for different waste classifications (e.g., Class A low-level radioactive waste, Class B low-level radioactive waste). The *Synapse Report's* adjustment of contingency factors so that all contingency factors for the Waste Excavation Alternative are the same reflects a different costing philosophy than that used by DOE, where more uncertain (i.e., higher-risk) activities such as waste exhumation were assigned a higher contingency factor. DOE acknowledges that an argument could be made for lost revenue (opportunity cost) if all or large portions of WNYNSC were not available for other uses. DOE notes, however, that the assumption concerning alternative economic use of the site may not be valid. Further, DOE notes that the report does not consider the issue of opportunity cost for any site to which waste from WNYNSC would be taken. In any event, DOE notes that these opportunity costs make small contributions to the overall estimated cost, and their inclusion or omission does not substantially change the cost estimate for a specific alternative. Overall, DOE notes that the changes in estimated cost for the Waste Excavation Alternative as presented in the *Synapse Report* are relatively minor (less than a 7 percent change) with most of the difference resulting from unsupported adjustments in unit waste disposal costs.

DOE also reviewed the *Synapse Report* cost estimate for the Buried Waste Alternative. Chapter 8, Section 8.4, of the *Synapse Report* identified five major cost adjustments for their Buried Waste Alternative. These are reviewed and discussed here:⁴

1. Expansion of the removal phase of the alternative to remove the entire North Plateau Plume rather than just the source area (*Synapse Report*, Chapter 8, Section 8.4.1). These additional removal costs added almost \$1.5 billion to the *Synapse Report* estimate. This change is not the result of any error that the *Synapse Report* authors identified, but results from changing the definition of the Buried Waste Alternative to remove more contamination.
2. Increase in the estimated cost for installation and maintenance of erosion control features (*Synapse Report*, Chapter 8, Section 8.4.2). The *Synapse Report* authors proposed very extensive erosion control measures and estimated a high annual cost for maintaining these features for 1,000 years. The DOE cost estimate for installing its proposed erosion control features is about \$29 million, with an average annual maintenance cost of about \$170,000. The *Synapse Report* cost estimate for installing erosion control features is about \$360 million, with an average annual maintenance cost of about \$7.8 million. The erosion control measures proposed in the *Synapse Report* appear to be designed to reduce erosion across the entire site and include multiple erosion control features along Buttermilk Creek, as well as some on a creek on the east side of Buttermilk Creek. This represents a much larger objective than the DOE erosion control design, which is intended to reduce erosion in those areas of the site where the waste would be managed. DOE notes that, when the *Synapse Report* authors compared their cost estimate to the 2005 DOE cost estimate, they failed to recognize the long-term erosion control costs estimated by DOE and, therefore, under-reported the DOE estimate.⁵
3. Site security costs (*Synapse Report*, Chapter 8, Section 8.4.3). The DOE estimate for security costs is based on three security personnel on site 24 hours per day, 7 days a week, as long as the vitrified waste canisters remain on site. After the canisters are removed, the security staffing would be reduced to three security personnel for 8 hours per day, 5 days a week, until the multi-layered caps are installed. After the

⁴ This discussion includes numbers extracted from the *Synapse Report*. It is noted that there is inconsistency in some of the numbers presented in different sections of the *Synapse Report*. As a result, a reviewer focusing on one section or table may identify a number different from a reviewer focusing on a different section or table.

⁵ It may also be noted that, despite the assumptions that extensive erosion control features would be installed at a cost of \$360 million and that \$7.8 million would be spent maintaining these features over 1,000 years (at a cost of \$7.8 billion), the *Synapse Report* takes no credit for these features in its catastrophic dose analysis.

caps are installed, security inspections would be reduced to 2 hours per day, 5 days a week, with routine inspection support from local law enforcement officials. The estimate in the *Synapse Report* assumes three security personnel on site 24 hours per day, 7 days a week, in perpetuity. The *Synapse Report* estimate also does not reduce the security effort as the inventory decreases or the physical isolation of the waste increases.⁶

4. Addition of costs because the land is unavailable for use (*Synapse Report*, Chapter 8, Section 8.4.4). As noted in the review of the Waste Excavation Alternative, the validity of these estimated opportunity costs is uncertain. Regardless of the validity of the assumption, the value estimated in the *Synapse Report* is a very small part of the total cost.
5. Addition of cost for the replacement of water, assumed to be a purchase of bottled water followed by development of alternative systems for supplying water to the Erie County Water Authority and the Buffalo Water Authority (*Synapse Report*, Chapter 8, Section 8.4.5). This estimated cost is over \$14 billion. DOE considers this cost to be extremely high, and there is no adjustment or qualification of the cost estimate for what is considered to be a very low-probability event. While DOE has no quantitative estimate of the probability of the scenario linked to the cost estimate, it does consider the probability to be very low, particularly if all of the erosion management actions and security staffing assumed in the *Synapse Report* were in place. DOE also notes that the *Synapse Report* added this cost element to the Buried Waste Alternative without considering or even acknowledging the potential for some conceptually comparable costs at sites that would receive WNYNSC waste under the Waste Excavation Alternative. This is not consistent with a balanced comparison of decommissioning costs.

A general bias in the development of cost comparison information in the *Synapse Report* is the failure to recognize the DOE estimates for long-term monitoring, maintenance, and security for the Buried Waste Alternative. The *Synapse Report* authors only used the cost information presented in Section 4 of the Closure Engineering Report, i.e., the cost of reconfiguring the site over about 200 years in preparation for long-term monitoring and maintenance. They ignored the annual monitoring, maintenance, and security cost information presented in Section 5 of the Closure Engineering Report. As a result, the *Synapse Report* compares DOE's cost estimate for a period of about 200 years with its own estimate for a period of 1,000 years.

Ultimately, DOE does not find the *Synapse Report* conclusions about the relative cost of exhumation versus onsite management convincing. The *Synapse Report* cost estimates for the Buried Waste Alternative are inflated by exhuming a large volume of short-lived contamination (about \$1.5 billion more), adding and maintaining extensive sitewide erosion control features (about \$8 billion more over 1,000 years), making overly conservative assumptions about security requirements (about \$800 million more over 100 years), and making some extreme assumptions about the need to replace water supplies as a result of what appears to be a highly unlikely event (about \$14 billion more).⁷ In addition, the inconsistency in the analysis (i.e., addition of cost for a catastrophic release under the Buried Waste Alternative, but not under the Exhumation Alternative) further undermines the validity of the *Synapse Report* cost comparison. DOE's assessment includes points made by NYSERDA, whose review of the report concluded that there were elements of the analysis that both overestimated and underestimated long-term costs for the buried waste option.

DOE believes that the *Synapse Report* conclusion that removal is the most appropriate management option is based on (1) an overestimate of long-term dose and risk, (2) an overestimate of the costs of long-term

⁶ The *Synapse Report* assumes the costs for three security personnel assumed to be on site at all times, over a 1,000-year period. Despite the assumed presence of these onsite personnel, however, the *Synapse Report* assumes that catastrophic erosion would continue unnoticed and unchecked at the site for hundreds of years.

⁷ The *Synapse Report* assumes that unmitigated erosion, leading to extensive release of radioactivity offsite, would continue unnoticed and unchecked; yet, simultaneously, officials in affected jurisdictions would take action to provide alternative water supplies to many thousands of individuals.

management of waste on site, and (3) no recognition of the environmental impacts of waste removal, packaging and shipment or the limited availability of disposal sites for some of the waste.

Inferred Comments and Responses:

In its review of the *Synapse Report*, DOE identified the following comments that could be inferred as applicable to the 2008 Revised Draft EIS:

Comment: Alternatives that leave waste on site (i.e., the Sitewide Close-In-Place Alternative) pose an unacceptable risk to residents and the downstream public if institutional and erosion controls fail while dangerous radionuclides are buried at WNYNSC.

Response: DOE and NYSERDA acknowledge that the Sitewide Close-In-Place Alternative may pose risks to downstream individuals and populations, as discussed in detail in this EIS. DOE and NYSERDA note, however, that the estimate of risk reported in the *Synapse Report* is overly conservative and does not provide meaningful insight into the long-term risks to the downstream public. DOE believes that its more realistic, mechanistically based, yet conservative analysis of concentrations of radionuclides in downstream and Lake Erie water supplies indicates that the concentrations of radionuclides in drinking water, assuming a loss of institutional controls and resulting unmitigated erosion, would be far lower than that predicted by the “worst case analysis” scenario presented in the *Synapse Report*. DOE and NYSERDA believe that the *Synapse Report* analysis uses multiple conservative parameters that lead to overly conservative results that do not represent estimates of reasonably foreseeable consequences, contrary to the objectives of NEPA.

Comment: The *Synapse Report* states a preference for an alternative that removes the waste from the site. It further states that, while this would pose a risk to onsite workers during the relatively short period of time for remediation activities and does not solve the problem of WNYNSC nuclear waste disposal, it would prevent further contamination, as well as what the *Synapse Report* calls a catastrophic release that could cause severe damage to populations in the Great Lakes region, and mitigate the problem by transferring the waste to a less risk-prone site.

Response: DOE and NYSERDA acknowledge the preference for the removal of the waste from WNYNSC. This EIS analyzes the consequences of releases from WNYNSC using models that account for the effect of engineered barriers. The results are considered to be moderately conservative estimates of reasonably foreseeable consequences and are not as “catastrophic” as those reported in the *Synapse Report*.

Comment: This EIS should consider alternatives that remove the waste from WNYNSC and place it in retrievable, monitored, aboveground storage at a more suitable site.

Response: As addressed in Chapter 2, Section 2.5.1, of this EIS, DOE and NYSERDA did consider retrievable storage of all the waste at WNYNSC, but decided not to analyze this alternative because it was considered inconsistent with NRC decommissioning requirements. In addition, DOE has made programmatic decisions to dispose of waste at sites that have disposal capabilities. For these reasons, removal of the WNYNSC waste for retrievable storage at another site would not be a reasonable alternative. In addition, removal of Class B, C, and Greater-Than-Class C waste that was buried prior to the start of WVDP activities by DOE is not currently practical because there are no sites offering disposal services for these wastes from New York. DOE and NYSERDA do not consider such alternatives to be reasonable because they do not meet the agencies’ stated purpose and need.

Comment: The waste should be excavated and removed while the lead agencies still know what is in the ground, how to handle it, and have some chain of responsibility still available.

Response: It is the intent of DOE and NYSERDA to make decisions about decommissioning and/or long-term stewardship in the near term. The agencies have knowledge of what is in the ground and, if exhumation is selected, additional characterization would occur as part of exhumation to characterize the waste for offsite disposal or onsite storage. The agencies intend to fully discharge their responsibilities for protection of human health and safety and the environment.

Comment: The long-term performance assessment should be more of a risk analysis that considers the probability of scenarios that include loss of institutional controls and loss of erosion controls.

Response: Comprehensive probabilistic risk assessments for long-term performance are not considered to be a credible method for estimating risk for this EIS because there are elements of the analysis, including the nature and timing of future human actions, for which reliable probabilities are not available. Use of multiple scenarios, a spectrum of receptors, and conservative parameters for the long-term performance assessment is considered to be a more reasonable and appropriate method for providing insight to the agency decisionmakers about the long-term impacts of the various alternatives. The impacts of loss of institutional controls and unmitigated erosion are addressed in Chapter 4, Section 4.1.10, of this EIS.

Comment: This EIS should address the cost of managing contaminated Lake Erie drinking water and the lost opportunity cost of site development for those alternatives where waste remains on site.

Response: DOE NEPA documents do not usually include detailed cost information or analysis of the type suggested by the *Synapse Report*. However, Chapter 4, Section 4.2, of this EIS does include estimates of the costs of implementing decommissioning actions as well as estimates of the annual costs of long-term management of any remaining waste or residual contamination. These estimates are used as part of a preliminary cost-benefit consideration. The estimates and analyses were included in this EIS to accommodate NRC requests for such information.

This Final EIS indicates that, even with loss of institutional controls and conservative, unmitigated erosion conditions, long-term drinking water contamination levels for Lake Erie water users would be low and the types of mitigation measures proposed in the *Synapse Report* would not be warranted. Recognizing there is a limited potential for the need for such future mitigating measures, DOE revised the discussion in Chapter 4, Section 4.2, of this Final EIS to acknowledge that there could be some additional future costs of mitigating contamination releases if natural and engineered barriers and administrative actions are not as effective as expected, but specific dollar estimates are not presented.

Any cost considerations that enter into DOE and NYSERDA decisionmaking, including the potential for future mitigating costs or lost opportunity costs, will be acknowledged in DOE's Record of Decision and NYSERDA's Findings Statement, respectively. On the specific issue of lost opportunity cost, the analysis in the *Synapse Report* indicates that lost opportunity costs are small contributors to total cost. In addition, there would be lost opportunity costs at any sites used for waste management, which would appear to further reduce the importance of this cost element.

Comment: The EIS erosion analysis is questionable and disposal areas could be breached more quickly than reported in the Revised Draft EIS. This could occur as soon as in 150 years if there are no institutional controls and in less than 1,000 years if there are institutional controls.

Response: The erosion analysis in this Final EIS is considered to be consistent with state-of-the-art analytical capabilities. The uncertainties in the erosion analysis are acknowledged in the discussions on erosion (see the Erosion Modeling discussion in Section 2.3 of this CRD and in Appendix F of this EIS).

Comment: The site cannot rely on long-term institutional controls. The risk of losing institutional controls at the site sometime after closure must be considered.

Response: This EIS includes an analysis that assumes that institutional controls fail, although it is not possible to quantify the likelihood of failure. This analysis provides the decisionmakers with insight into the environmental consequences that could result from a loss of institutional controls.

Comment: It is not reasonable to expect erosion control structures to last more than 10 to 20 years.

Response: This comment is based on the design life of culverts that are not typically designed to accommodate severe storms. The erosion control systems identified in this EIS would be designed to accommodate severe storms, including a Probable Maximum Precipitation rain event, and would therefore be expected to last for many decades with minimal maintenance.

SECTION 3
PUBLIC COMMENTS AND DOE AND NYSERDA
RESPONSES

3.0 PUBLIC COMMENTS AND DOE AND NYSERDA RESPONSES

This section presents a side-by-side display of the comments received by the U.S. Department of Energy (DOE) during the public comment period on the *Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (Decommissioning and/or Long-Term Stewardship EIS)* and the DOE and NYSERDA response to each comment. Letters have been reproduced as they were received. To find a specific commentator or comment in the following pages, search **Table 3–1**, Index of Public Officials or the List of Commentors that follows the Table of Contents, to identify the page numbers on which the appropriate comments and DOE and NYSERDA responses appear.

If a commentator provided comments through a postcard or form letter campaign, that commentator is referred to a copy of that postcard or form letter. This section only contains one copy of each unique postcard or form letter.

Table 3–1 Index of Public Officials

<i>Public Agency</i>	<i>Person</i>	<i>Page Number(s)</i>
Allegany County Board of Legislators	Brenda Rigby Riehle, Clerk of the Board	3-95
Cattaraugus County Legislature	Lori A. Pangborn, Deputy Clerk	3-85
City of Buffalo, Common Council	Jacqueline E. Rushton	3-334
City of Lackawanna	Chuck Jaworski, Council President	3-572
City of Tonawanda	Janice R. Bodie, Clerk	3-326
County of Erie	Chris Collins, County Executive	3-632
East Aurora	Elizabeth B. Weberg, Deputy Mayor	3-27
Members of Congress of the United States	Senators: Charles Schumer, Kirsten Gillibrand Representatives: Brian Higgins, Maurice Hinchey, Steve Israel, Christopher Lee, Eric Massa, Jose Serrano, Nita Lowey, Daniel Maffei, John Hall, Charles Rangel, Eliot Engel, Timothy Bishop, Jerrold Nadler, Carolyn Maloney, Joseph Crowley, Paul Tonko	3-348
Staff of Congressman Brian Higgins	Jonathan Weston	3-351
New York State Department of Environmental Conservation	Edward Dassatti	3-483
New York State Legislature	Senators: John A. DeFrancisco, John Flanagan, Ruth Hassell-Thompson, Kenneth P. LaValle, George D. Maziarz, Michael F. Nozzolio, George Onorato, Frank Padvan, Bill Perkins, Michael Ranzenhofer, William T. Stachowski, Antoine Thompson, Dale M. Volker, Catherine M. Young Assemblymen/women: James G. Bacalles, Philip Boyle, Dan Burling, William Colton, Jane Corwin, Adriano Espaillat, Timothy Gordon, James P. Hayes, Sam Hoyt, Ellen Jaffee, David R. Koon, David G. McDonough, Crystal D. Peoples, Jack Quinn, Peter M. Rivera, Mark Schroeder, Louis R. Tobacco, David R. Townsend, Jr.	3-343
Staff of Senator Thompson	Bill Nowak	3-803
Niagara County Legislature	Cathie Synor, Assistant Clerk	3-89

*Final Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley
Demonstration Project and Western New York Nuclear Service Center*

<i>Public Agency</i>	<i>Person</i>	<i>Page Number(s)</i>
Seneca Nation of Indians	Todd Gates	3-696
	Adrian Stevens	3-630
	Raymond Turner, Jr.	3-298
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State of New York, Legislature of Erie County	Robert M. Graber	3-194
Town of Amherst	Deborah Bruch Bucki, Town Clerk	3-339
Town of Ashford	Patricia R. Dashnow, Registrar, Town Clerk	3-147
Town of Aurora (Erie County)	—	3-323
Town of Concord	Mary E. Bolt, Town Clerk	3-76
Town of Evans	Carol A. Meissner, Town Clerk	3-128
Town of Lancaster	Johana M. Coleman, Town Clerk	3-353
Town of Tonawanda	Melissa Brinson, Town Clerk	3-575
Town of Wales	Sharon Marfurt	3-633
U.S. Department of the Interior	Andrew L. Raddant, Regional Environmental Officer	3-277
U.S. Environmental Protection Agency	John Filippelli, Chief	3-187
U.S. Nuclear Regulatory Commission	Keith McConnell	3-292
Village of East Aurora	Kimberly D. Reichert, RMC, Village Administrator, Clerk-Treasurer	3-72

Commentor No. 1: James R. White

December 12, 2008

James R White

J. R. White Consulting

300-5 El Capitan Drive

Islamorada, FL 33036-4146

The “No Action” consequences seem so small as it makes me wonder why taxpayer money is being considered on more expensive alternatives. It was stated in section 4.1.10.1.that “ Assuming indefinite continuous institutional controls, the peak annual dose to reasonably foreseeable offsite individuals who are postulated to use the contaminated water of Cattaraugus Creek just outside the site boundary for drinking, irrigation, and a source of contaminated fish would be about 0.22 millirem for both the No Action and Sitewide Close-In-Place Alternatives.” 0.22 millirem represents a negligible risk. A chest X-ray gets you about 10 millirem . . . a CT scan can get you about 580 millirem. You get about 0.5 millirem for every hour you fly in a commercial jet. If the government used a risk-based approach for allocation of resources for cleanup of hazardous waste sites, West Valley would probably be so far down on the list as to be not even under consideration. There are plenty of other toxic places to clean up, including government military bases and the like.

I-1

1-1

As explained in Chapter 1, Section 1.3, of this Final EIS, DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe. The No Action Alternative would not meet this requirement for DOE action. NYSERDA needs to determine how it will manage or decommission the facilities and property for which it is responsible in accordance with applicable Federal and state requirements. The decision on a selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement.

Commentor No. 2: Diane D'Arrigo

January 28, 2009

Diane D'Arrigo

NIRS

6930 Carroll Ave Suite 340

Takoma Park, MD 20912

Request for extension of comment period until October 30, 2009 and Request for additional hearings in Buffalo, Rochester and Albany on revised DEIS and on the DOE Decommissioning Plan for West Valley.

2-1

2-1

In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009. An additional public hearing was held in Albany, New York, and the hearing originally scheduled for Blasdell, New York, was moved to a more central downtown Buffalo, New York, location.

Commentor No. 3: Barbara Warren, Executive Director
Citizens' Environmental Coalition

Center for Health, Environment and Justice www.besafenet.com
Citizens' Environmental Coalition www.cectoxic.org
Coalition on West Valley Nuclear Wastes www.digitup.org
Nuclear Information and Resource Service www.nirs.org

Bryan Bower, West Valley Project Director
Catherine Bohan, EIS Document Manager
Ben Underwood, Atty., Office of Gen. Counsel
Department of Energy
West Valley Demonstration Project
P.O. Box 2368
Germantown, MD 20874

December 27, 2008

RE: Comment on Draft Decommissioning and/or Long-Term Stewardship EIS
→ Thank you for 12/2/08 meeting re West Valley Full Cost Accounting Study
→ Confirming inclusion of the West Valley Full Cost Accounting Study with appendices
as **Comment on Draft Decommissioning and/or Long-Term Stewardship EIS**
→ **Request for Additional NYS hearings + Comments Period extension to 10/30/09**

Dear Mr. Bower, Ms. Bohan and Mr. Underwood,

Thank you for meeting with us on December 2nd, 2008 to discuss the findings of the report titled "*The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site.*" We officially request that this report and the report's three Appendices be included in the public comment record on the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (DOE/EIS-0226D Revised). We had provided you with copies of the report and a CD with the appendices at our December 2nd meeting.

The final resolution of the West Valley cleanup plan is an extremely important issue which will have a major impact on the future of the Great Lakes and Western New York's environment, public health and economic vitality. We respectfully request two amendments to the Department's public comment plan to ensure there is adequate and comprehensive public participation on this critical issue.

First, the clean up of the West Valley site has been a statewide issue and of interest to groups, citizens and policymakers throughout the state for many years. Therefore, we request that public hearings also be held in Buffalo, Rochester and Albany, New York, in addition to Irving, West Valley and Blasdell, NY.

Second, the Revised DEIS is voluminous and highly technical and citizens and groups will need time to adequately review it and consult with experts and their membership, before formulating comments. Therefore, we request an extension on the public comment period to Friday, October 30, 2008.

3-1

3-2

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3-2

The report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for discussion of the report's issues and DOE's and NYSERDA's response.

In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009. An additional public hearing was held in Albany, New York, on March 30, 2009, and the hearing originally scheduled for Blasdell, New York, was moved to a more central downtown Buffalo, New York, location.

**Commentor No. 3 (cont'd): Barbara Warren, Executive Director
Citizens' Environmental Coalition**

Thank you for considering our requests. You can contact us through Barbara Warren, CEC, 33 Central Avenue, Albany, NY 12210, and she will share the response with all of us. Or you can email us each at warrenba@msn.com , annerabe@msn.com , jeinach@yahoo.com and dianed@nirs.org.

Sincerely,

BW (dd)

Barbara Warren
Citizens' Environmental Coalition
warrenba@msn.com
518-462-5527

JE JH (dd)

Judith Etnach and JoAnne Hameister
Coalition on West Valley Nuclear Wastes
jeinach@yahoo.com
716-316-5839

AR (dd)

Anne Rabe
Center for Health, Environment & Justice
annerabe@msn.com
518-732-4538

Diane D'Arrigo

Diane D'Arrigo
Nuclear Information and Resource Service
dianed@nirs.org
301 270 6477 x 16

Response side of this page intentionally left blank.

Commentor No. 4: Tim Mayerat

From: Tim Mayerat [mailto:mayerat@winsmith.com]
Sent: Thursday, February 12, 2009 4:37 PM
To: Bohan, Catherine
Subject: Extension of comment period

Ms. Bohan, this will be short and to the point. As usual the government takes their good old time about preparing a report on West Valley and then limits the comment period. Please extend the comment period to October 30th .

from June.

Thank you,
Tim Mayerat

4-1

4-1

In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009.

Commentor No. 5: Robert M. Ciesielski,
Sierra Club, Niagara Group

From: Robert Ciesielski [mailto:rmciesie@yahoo.com]
Sent: Friday, January 30, 2009 2:42 PM
To: Bohan, Catherine
Subject: West Valley clean-up hearings

Dear Ms.Bohan:

I am Chair of the Sierra Club, Niagara Group which represents Western New York. At our Executive Committee meeting of January 27, 2009 our Board adopted a resolution requesting the Department of Energy and the New York State Energy Research and Development Authority to extend the deadline for public comments concerning the clean-up of the West Valley nuclear waste site from June 8, 2009 to October 30, 2009. We are also requesting that additional public hearings be scheduled in other venues affected by the outcome of the review process, including Buffalo and Rochester, New York.

Thank you.
Robert M. Ciesielski
Sierra Club, Niagara Group, Chair

5-1

5-1

In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009. An additional hearing was held in Albany, New York, on March 30, 2009, and the hearing originally scheduled for Blasdell, New York, was moved to a more central downtown Buffalo, New York, location.

Commentor No. 6: Candace Head-Dylla,
Bluewater Valley Downstream Alliance

From: CANDACE HEAD-DYLLA [mailto:cuh148@psu.edu]
Sent: Saturday, March 21, 2009 11:54 PM
To: the.secretary@hq.doe.gov; Bohan, Catherine
Cc: annerabe@msn.com
Subject: West Valley cleanup

Dear Dr. Chu and Ms. Bohan,

I am writing on behalf of the Bluewater Valley Downstream Alliance, a community organization located near Grants, New Mexico, organized to fight against further damage to our communities by the Homestake/Barrick Gold uranium mill tailings Superfund site. As people who live with the effects of uranium mining and milling, we have come to understand the substantial problems associated with nuclear waste. We are writing in support of other community organizations working to bring about a cleanup of the West Valley Nuclear Waste Site in the Western New York Great Lakes region.

We understand this is a complex problem at a complicated site. However, we have read the DEIS and support a full cleanup decision, which would mean full waste excavation and removal. This appears to us to be the only real alternative since it is the only one that is permanent and safe given the problems with erosion that have been identified. In the long run, it also seems like the most cost effective solution since it takes into consideration the future health and safety of the community.

We watched your confirmation hearing with great interest Dr. Chu. You are obviously very knowledgeable and you seem to have the country's best interests at heart. However, unless you have lived near one of these sites and have been forced to deal with related health issues, worrying constantly what the future holds for you and your children, it is difficult to understand the real costs of the nuclear industry. The risks are enormous. In the case of West Valley, you have an opportunity to minimize those risks and even though we cannot travel from New Mexico to New York to testify on behalf of these communities, we are with them in spirit because we understand the psychological and physical toll these sites have taken.

Please turn over a new leaf for the Department of Energy and begin by implementing full waste excavation and removal at West Valley.

Sincerely,

Candace Head-Dylla

Bluewater Valley Downstream Alliance
bvdownstreamalliance.org
#6 Ridgerunner Rd.
Grants, NM 87020

6-1

6-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

The principal purpose of preparing this EIS is to evaluate the environmental impacts of the alternatives, which are presented in Chapter 4. Section 4.1.10 presents the long-term radiological doses and risks to the population and hypothetical individuals living near the site. In addition, Section 4.2 provides a cost-benefit comparison of the alternatives including analysis of the cost-effectiveness of each alternative. If cost-benefit considerations are part of DOE's and NYSERDA's rationale for decisionmaking, this will be acknowledged and discussed in DOE's Record of Decision and NYSERDA's Findings Statement.

6-1
cont'd

Commentor No. 7: Ann Eberle

March 31, 2009

Ann Eberle

494 New Salem Rd.

Voorheesville, NY 12186

The dangers from nuclear waste and/or spent uranium have long been known. I know that the US uses spent uranium to harden missiles etc. but the dangers from even that endanger our own troops and civilians unlucky enough to encounter the material, which vaporizes in an explosion. Since the govt. has long known the inherent dangers of these materials, it is long past time to eliminate them from our landscape and cease producing them. Cancer is a growing health concern and may well be one of the “by-products” of nuclear production and waste. We need to clean it up now - not leave it to infiltrate our ground water and reservoirs and poison our natural resources.

7-1

7-1

DOE and NYSERDA acknowledge the commentor’s support for cleanup now. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 8: Amy Harlib

March 31, 2009

Amy Harlib

212 West 22nd St. #2N

New York, NY 10011-2707

1) Support Sitewide Removal Alternative

The Sitewide Removal is the only Alternative that achieves the following objectives.

- Provides a complete and comprehensive cleanup of the entire site through excavation of radioactive and toxic waste,.
- Provides a permanent and safer solution that removes radioactive waste from a site with serious erosion problems, earthquake hazards, and a sole source aquifer.
- Prevents any catastrophic releases which could cause polluting of community drinking water supplies, Lakes Erie and Ontario, harm public health and cost billions of dollars.
- Significantly lowers health risks to nearby communities, with all waste removed after 64 years
- Provides the most cost-effective approach over the long term according to a recent study. An independent, state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, revealed leaving buried waste at the site is both high risk and expensive while a waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion (new DEIS estimates 9.7 billion) while leaving onsite buried waste costs \$13 billion, and \$27 billion if a catastrophic release occurred.

2) Oppose Leaving Buried Waste On Site: It is Expensive and a Serious Environmental and Public Health Risk.

- Erosion is a powerful and fast moving force at the West Valley site as it sits on a geologically young landscape which is undergoing a relatively rapid rate of erosion. Michael P. Wilson, Ph.D., SUNY Fredonia Professor of Geosciences found in the FCA study that “Nuclear wastes, radioactive for tens of thousands of years, will be consumed by erosion and discharged downstream to Lakes Erie and Ontario in less than 3,000 years and may be dangerously exposed in less than 200 or 300 years.”

8-1 DOE and NYSEKDA acknowledge the commentor’s preference for the Sitewide Removal Alternative, as well as opposition to leaving waste on site and to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSEKDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes,” “Concerns about Potential Contamination of Water,” and “Conclusions of the *Synapse Report*” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSEKDA’s responses.

8-2 Please see the Issue Summaries cited in the response to Comment no. 8-1 for further discussion of these issues and DOE’s and NYSEKDA’s responses. The additional issues cited by the commentor are discussed in the following paragraphs:

Erosion: DOE and NYSEKDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Long-term monitoring and maintenance: As acknowledged in this EIS, long-term monitoring and maintenance would be required for alternatives that would leave waste on site. This EIS provides a summary description of current and potential future environmental monitoring programs. The descriptions of the alternatives were revised to further describe the use of engineered barriers and long-term monitoring and maintenance. Long-term monitoring and maintenance are described in Chapter 2, Sections 2.4.2.6 and 2.4.3.8. Long-term monitoring and institutional controls are also discussed in Chapter 6. Additional information about current and proposed monitoring and institutional controls is provided in Appendices C, H, and I. Chapter 2, Table 2–4, includes estimates of the environmental consequences if (1) monitoring and maintenance are successful (institutional controls remain in place) and (2) monitoring and maintenance programs fail (institutional controls are lost). Chapter 4, Section 4.2, of this EIS includes monitoring and maintenance costs for the alternatives that would leave waste on site.

Detailed information regarding long-term monitoring and maintenance programs and institutional controls under alternatives that would leave waste on site has

8-1

8-2

Commentor No. 8 (cont'd): Amy Harlib

- Scientists found the site poses a significant danger to people who live along nearby creeks, Buffalo residents and people living along the shores of Lakes Erie and Ontario. If just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars.
- The DEIS ignores the fact that the site must be maintained into perpetuity if buried waste is left on site. In this case, perpetuity is not a dozen years, or even two or three generations-the buried radioactive waste would have to be monitored, tracked, and maintained in place for hundreds of thousands to millions of years with burdensome and expensive maintenance costs. The EIS failed to analyze long term costs of monitoring and maintaining controls at the site for even 1,000 years.
- NYSERDA Raised Serious Problems with Key Aspects of DEIS. Essentially NYSERDA stated that the DOE's environmental assessments are scientifically indefensible for long term erosion, engineering controls and health impacts, as summarized below from the Forward of the DEIS (volume 1).
 - The soil erosion analysis over the long term is not scientifically defensible and should not be used for long-term decision making. Using the current erosion models, predictions of population doses will not be accurate for the long term.
 - The groundwater contaminant transport analysis and modeling cannot be relied on in predicting public radiation doses and long term cleanup decisions.
 - Engineered barriers performance has not been substantiated and may be overly optimistic. Such barriers (caps, slurry walls, etc.) are critical to waste containment, and over the long term public radiation doses could be underestimated.
 - The DEIS should be reframed to reflect the applicable federal requirements. The DEIS should be reframed to reflect the applicable federal requirements. The License Termination Rule (LTR) is the applicable federal regulation, not portions of NRC's low-level disposal regulations. It is not logical to assess the impacts from decommissioning actions that must meet the LTR requirements, but use other, not applicable regulations, to structure the analysis.
 - The waste exhumation analysis is overly conservative and based on extreme conditions, resulting in maximal costs. Alternative methods could reduce the costs of exhumation and waste disposal.

8-2
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not been specifically defined at this time. Such definition would occur after an alternative is selected for implementation and would include consultation with appropriate regulatory authorities. An element of the long-term programs would be the development of plans and procedures for responding to emergencies. These plans and procedures would include coordination and agreements with local police and fire departments and medical facilities.

NYSERDA's View in EIS Foreword. DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analyses. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

The analysis presented in Chapter 4, Section 4.1.10, complies with the requirements of NEPA and was not structured to reflect the requirements of NRC's low-level radioactive waste disposal regulations. Appendix L of this EIS discusses compliance with NRC's License Termination Rule.

The approach to estimating costs and the resulting cost estimate for the Sitewide Removal Alternative were reviewed and revised for the Final EIS. The revised cost estimate is presented in Chapter 4, Section 4.2.

As noted above, DOE disagrees with many of the points in NYSERDA's View, including the opinion that the long-term performance assessment for the Sitewide Close-In-Place Alternative is "seriously flawed and scientifically indefensible." Chapter 1, Section 1.8, of this EIS provides a roadmap of DOE's response to the

Commentor No. 8 (cont'd): Amy Harlib

- The long-term performance assessment for the in-place Closure alternative is “seriously flawed and scientifically indefensible.”

8-2
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3) Oppose Phased Decision Making Preferred Alternative

Under this Alternative, Phase 1 would include moving solidified high-level waste to a new storage facility. The Phase 1 new cleanup work includes demolishing the process building in order to excavate the strontium plume source area, cleaning up the lagoons and installing barriers for groundwater contamination. Some question whether the plume is from leaking tanks. All of this new cleanup work addresses only 1.2% of the total radioactivity on the site. Decisions on a majority of the waste, or 99% of the radioactivity, will be addressed in Phase 2 including high-level waste tanks, and both radioactive waste burial areas (NDA and SDA), or approximately 600,000 curies. Public participation on the Phase 2 decision making process is not explained or guaranteed.

- The potential environmental and health impacts of leaving 99% of the radioactivity on site for another 30 years was not studied. For instance, the high-level waste tanks, with 320,000 curies of radioactivity, are nearing the end of their useful life (50 years) and any leaks could seriously pollute the sole source aquifer. The Decommissioning Plan (DP) claims that the high-level waste tanks will be empty at the start of Phase I, yet neither the DEIS or DP state how and when the tanks would be actually emptied.

- Given the past record of decades of delay, the two phased approach with a lengthy 30 year timetable is not responsive or responsible in addressing dangerous contamination. The site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater, and radioactivity from the site has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario demonstrating a potential for the leaking site to contaminate drinking water supplies. For instance, the buried high-level waste area (NDA) has been undergoing measures to limit water flow, and a large amount of high-level radioactive waste is buried in deep holes 50 to 70 feet deep which pose a significant risk of leaks to the sole source aquifer.

- The public was provided with almost no information on the data collection under Phase I, which is essential to determining the extent of future decontamination work in Phase 2. If data collection is inadequate, a safe cleanup in Phase 2 is less likely. There is no plan for future public participation on Phase 2 activities.

8-3

8-3 DOE and NYSERDA note the commentor’s opposition to the Phased Decisionmaking Alternative. Please see the Issue Summaries cited in the responses to Comment nos. 8-1 and 8-2 for responses to portions of this comment. The additional issues cited by the commentor are discussed in the following paragraphs:

Waste management under the Phased Decisionmaking Alternative: The commentor’s statement regarding actions that would be taken during Phase 1 of the Phased Decisionmaking Alternative is consistent with what is stated in Chapter 2, Section 2.4.3 of this EIS. However, all of the alternatives except the No Action Alternative involve movement of the solidified high-level radioactive waste to a new storage facility. In addition, the extensive WNYNSC environmental monitoring program, which is designed to detect possible movement of contamination on the site, as well as specialized studies, have concluded that the source of the North Plateau Groundwater Plume is the Main Plant Process Building.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative

Commentor No. 8 (cont'd): Amy Harlib

4) Revisions Needed on Flawed DEIS

- Information Needed on Monitoring and Institutional Controls. The DEIS includes cleanup options where long-lasting radioactive waste is left buried on site, yet there is a serious lack of information on the monitoring and maintenance of engineering and institutional controls to ensure radioactive waste is safely contained. Funds and procedures should also be described that will be in place to respond immediately to any toxic releases. This information is absolutely critical to evaluate whether or not the site can be safely maintained if waste is left buried on site. The full monitoring, maintenance and institutional control program needs to be described in detail under each alternative.

8-4

- Public Disclosure is Inadequate. There appears to be a major discrepancy in the two documents; the DEIS states that DOE will be involved in both Phase I & 2 of the Phased Decision Making Alternative. But, the Decommissioning Plan appears to describe a situation where DOE could leave the site and any responsibility at the end of Phase I in approximately 30 years. If this were the case, it could leave New York State with the responsibility for cleaning up an estimated 99% of the site's radioactivity. This would obviously be a major change, yet there are only a few references in the Plan. It is critical that DOE confirm they will continue their responsibility and commitment to fully remediate the site.

8-5

- State Law Requires a Complete Plan in DEIS. The Phased Decision Making Alternative not only fails to tell us about key elements of Phase I, such as data collection, but it is unclear about what future actions would be done in Phase 2, which could be a violation of the State Environmental Quality Review Act (SEQRA). The SEQRA law requires that a DEIS have a complete plan and that all potential impacts be examined in detail in the DEIS; it does not allow segmentation of an action and an incomplete plan such as the phased decision making proposal.

8-6

- Eliminate Discounting. The agencies inappropriately use discounting in their cost analysis of the cleanup options. The total costs of their analysis should be an undiscounted cost. The economic technique known as 'discounting' undervalues important environmental resources like the Great Lakes and sole source aquifers, as well as future generations. The economists who authored the FCA Study critiqued the use of discounting in nuclear waste cleanups over long time periods for the following reasons. In standard capital investments, a discount rate is applied to account for future interest earnings. For instance, at a 3 percent discount rate, \$103 next year has a present value of \$100 today, because \$100 is

8-7

presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Potential environmental and health impacts of leaving waste on site for 30 years: The analysis conducted for this EIS provides a basis for understanding the environmental and health impacts of continuing to manage the inventory in the Waste Tank Farm, NDA, and SDA in their current configuration. The impacts of storage are presented in Chapter 4, Section 4.1.9, where the Phase 1 human health impacts are discussed. Potential mitigation measures that could be implemented during this period are discussed throughout Chapter 6. Information on the human health impacts during this period is also provided in Appendices I, J, and P.

Status of the underground tanks in the Waste Tank Farm: DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State, or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flow is into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying.

Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile. Chapter 2, Section 2.3.1, of this EIS, as well as text in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)*, have been clarified to acknowledge that the liquids remaining in the tanks will be dried as a result of installation and operation of the tank and vault drying system and that this drying

Commentor No. 8 (cont'd): Amy Harlib

the amount one would have to put in the bank today at 3 percent interest, in order to end up with \$103 next year. But, since West Valley's waste is radioactive for tens of thousands of years, a cost analysis should start out with at least a review over the next 1,000 years as a first step. Over periods of 1000 years, any substantial discount rate implies that the health and wellbeing of future generations has no present value-or no worth to us today. Since the cleanup options are meant to protect the public for many generations, we cannot reasonably assume that there is no value to public health in the year 1000. Also, the existence of regulatory requirements for protection of sites that will remain dangerous for 1,000 years must imply that we care today about health hazards that will be experienced in 3008. Costs and benefits incurred in that distant year must have a significant present value; otherwise, we could ignore them and we could "prove" via discounting that it is not cost-effective to spend anything today on our successors a thousand years down the road. At a discount rate of 1.4 percent, considered low by many economists, \$1 million in 3008 has a present value of \$1 today. Thus it would not be worth spending more than \$1 today to prevent \$1 million of harm in 3008. To validate the commonsense idea that outcomes in 3008 matter today, the discount rate must be no more than zero. If we care about the long-term impacts of today's nuclear waste, then the only supportable discount rate is zero. While the choice of a discount rate for short term decisions is an economic question, the choice of an intergenerational discount rate is a matter of ethics and policy. The value of future lives is a strong argument for not using an economic discount rate in this analysis.

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will be complete before any Waste Tank Farm decommissioning actions are initiated.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program. The decommissioning measures to manage the North Plateau Groundwater Plume and other sources of contamination at WNYNSC would reduce the consequences to humans and the environment.

Data collection under Phase 1 of the Phased Decisionmaking Alternative:

Chapter 2, Section 2.4.3, of this EIS describes decommissioning activities under the Phased Decisionmaking Alternative and provides a discussion of the data collection, studies, and monitoring to be performed during implementation of Phase 1 and the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2. Section 2.4.3.3 explains how the additional data and studies would be used in making a decision about potential future activities. The intent of this EIS is to provide a description of the environmental impacts of each of the alternatives to inform the Agency decisionmakers.

Public participation in Phase 2 decisionmaking: Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

Commentor No. 8 (cont'd): Amy Harlib

8-4 Please see the response to Comment no. 8-2 regarding long-term monitoring and maintenance and institutional controls under alternatives that would store waste on site. As stated in that response, detailed definition of long-term monitoring and maintenance programs and institutional controls under the alternatives that would leave waste on site would occur after an alternative is selected for implementation. An element of the long-term programs would be the development of plans and procedures for responding to emergencies, including coordination and agreements with local police and fire departments and medical facilities.

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of the decision documented in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated. Funding for emergency response to toxic releases is not within the scope of this EIS.

8-5 DOE will remain on site until it completes its responsibilities as assigned under the West Valley Demonstration Project Act. DOE would not leave the site after completion of the Phase 1 actions because it would not have completed the actions required under the Act. The description of the Phased Decisionmaking Alternative in Chapter 2 of this EIS has been revised to clarify this, and the wording in the *Phase 1 Decommissioning Plan* has been revised to avoid the implication that DOE would leave the site at the end of Phase 1.

8-6 If the Phased Decisionmaking Alternative is selected and documented in DOE's Record of Decision and NYSERDA's Findings Statement, cleanup of the site would occur in two separate phases. As part of the description of the decommissioning activities under the Phased Decisionmaking Alternative, Chapter 2, Section 2.4.3, of this EIS provides a discussion of the data collection, studies, and monitoring that would be performed during implementation of Phase 1, as well as the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2 actions.

Commentor No. 8 (cont'd): Amy Harlib

If the Phased Decisionmaking Alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either the removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.

DOE has not segmented the activities proposed in this EIS; instead, DOE has prepared this single, comprehensive EIS for the decommissioning and long-term stewardship of WNYNSC. This EIS adequately analyzes the totality of environmental impacts, including costs, of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Close-In-Place, Phased Decisionmaking, and Sitewide Removal), as well as the No Action Alternative.

While the Phased Decisionmaking Alternative temporarily defers a final decision on the disposition of the Waste Tank Farm, the NDA, and the Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within this current EIS. Of course, as with all tiered decisions, DOE would continue to assess the results of any site-specific studies along with any emerging technologies to ascertain whether or not a Supplemental EIS is warranted prior to any Phase 2 decision. Based upon data available to date, however, DOE believes this EIS adequately evaluates the environmental impacts associated with the range of reasonable alternatives and the Agency has vigorously resisted all efforts to “segment” this single comprehensive decommissioning EIS into separate NEPA documents.

It is NYSERDA’s position that segmentation under SEQR refers to the improper division of one project into multiple smaller projects to circumvent NEPA (or

Commentor No. 8 (cont'd): Amy Harlib

SEQR) requirements. NYSERDA does not believe that improper segmentation would be involved under the Phased Decisionmaking Alternative because the Phase 1 actions proposed would be independent of and would not bias actions conducted in Phase 2. In other words, the actions proposed under Phase 1 would not automatically trigger certain actions under Phase 2; to the contrary, DOE and NYSERDA could opt for any alternative or combination of alternatives during Phase 2. The test for improper segmentation is whether or not projects (in this case Phase 1 and Phase 2) are interdependent. In this case, they are clearly not.

8-7 DOE and NYSERDA acknowledge the commentor's objection to discounting and interest in the cost-benefit analysis included in the Revised Draft EIS. Please see the Issue Summary for "Questions about Cost-Benefit Analysis" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The cost-benefit analysis presented in Chapter 4, Section 4.2, of the Revised Draft EIS was performed to support NRC's request for cost-benefit information consistent with its as low as is reasonably achievable (ALARA) analysis guidelines. This cost-benefit analysis follows the principles in the NRC ALARA guidance presented in NUREG-1757, "NRC Consolidated Decommissioning Guidance." The analysis in Section 4.2 has been revised for this Final EIS and uses several relatively low discount rates (1, 3, and 5 percent) to investigate the sensitivity of the results to lower discount rates.

Commentor No. 9: Seth Rutledge

March 31, 2009

Seth Rutledge

560 Allen Street

Syracuse, NY 13210

I don't like the idea of sitting on a nuclear waste site while it spreads into the ground water and pollutes the great lakes. The waste must be cleaned up ASAP, or the job will be harder or impossible for future generations.

9-1

9-1

DOE and NYSERDA note the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 10: Edward Butler

March 31, 2009

Edward Butler

36 E. 69th St.

New York, NY 10021

Sitewide Removal is the only Alternative that provides a complete and comprehensive cleanup of the entire site through excavation of radioactive and toxic waste, provides a permanent and safer solution that removes radioactive waste from a site with serious erosion problems, earthquake hazards, and a sole source aquifer, prevents any catastrophic releases which could cause polluting of community drinking water supplies, Lakes Erie and Ontario, harm public health and cost billions of dollars, significantly lowers health risks to nearby communities, with all waste removed after 64 years, and provides the most cost-effective approach over the long term. Leaving buried waste on site is expensive and a serious environmental and public health risk. Given the past record of decades of delay, the two phased approach with a lengthy 30 year timetable is not responsive or responsible in addressing dangerous contamination. In addition, the DEIS is flawed and inadequate and needs revisions.

10-1

10-2

10-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

10-2 This EIS was prepared in accordance with the requirements of NEPA and SEQR. In accordance with those requirements, the Revised Draft EIS was issued for public review and comment and DOE has revised it, as appropriate, to enhance the clarity and technical analysis of this Final EIS.

Commentor No. 11: Robert Rosenfeld

March 31, 2009

Robert Rosenfeld

26 Mckee Ave

Valley Stream, NY 11580

I understand there will be a determination on how best to deal with a nuclear waste site in the west valley. I cannot believe there could be more than the one obvious answer. Clean it up. You have the potential of contaminating the Great lakes and thus at least a thousand miles of shoreline as well as the living things in the water and the water supply of huge numbers of people. This is a no brainer, clean it up completely. Thank you

11-1

11-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 12: Laurence Kirby

March 31, 2009

Laurence Kirby

36 Purdy Hollow Rd

Woodstock, NY 12498

We need the safest way to clean up by digging up the waste as soon as possible so it cannot leak into our water and environment. Therefore I support the Sitewide Removal Alternative and oppose Leaving Buried Waste On Site.

12-1

12-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative and opposition to leaving buried waste on site. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 13: Don Devine

March 31, 2009

Don Devine

3 Rocky Road

Chester, NY 10918

Please perform the safest cleanup. Sitewide Removal. Dig dig up the waste immediately so it cannot leak into our water and environment.

|| 13-1

13-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 14: Suzanne Webster

April 1, 2009
Suzanne Webster
154 Harwood Circle
Rochester, NY 14625

Please be aware that this site MUST be taken care of properly NOW. We cannot leave our mistakes for future generations.

|| 14-1

14-1

DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 15: Judy W. Soffer

April 1, 2009

Judy W. Soffer

NIRS

8 Termakay Drive

New City, NY 10956-6434

Protect the Great Lakes and western New York's drinking water. Support a full cleanup of the West Valley Nuclear Waste Site now.

15-1

15-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 16: Kathleen M. Dunwoodie Aman

April 1, 2009

Kathleen M. Dunwoodie Aman

431 Ruskin Rd

Amherst, NY 14226

It is imperative that sufficient funding be included to completely clean up the West Valley nuclear site. Independent studies show that the alternative to a complete clean up is that nuclear waste will seep into the land and Cattaraugus Creek which gushes into Lake Erie. Consider the wonder of the gift of water : everytime you take a drink and realize most of that fresh water comes from the Great Lakes - do we want future generations' water poisoned by our inaction? Please make sure to fully fund the complete clean up of West Valley.

16-1

16-2

**16-1
cont'd**

16-1

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of the decision documented in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

16-2

Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 17: Elizabeth B. Weberg, Deputy Mayor,
East Aurora, New York

From: Elizabeth Weberg [mailto:weblark@verizon.net]
Sent: Thursday, April 02, 2009 9:31 AM
To: Bohan, Catherine
Subject: West Valley site

Dear Ms. Bohan,

I am unable to attend the hearing this evening at ECC on the future of the West Valley radioactive waste, but as a resident of Western New York and as a chemist, I have very strong feelings about this issue.

Burying the problem is not the solution! There are irrefutable facts that must be faced:

- 1) The current site has extremely rapid erosion rates. The streams that run through it eventually feed into Lake Erie, the Niagara River, Lake Ontario, and beyond. || 17-1
- 2) The West Valley Site has waste that will be dangerous for 100,000 years. There is no method of keeping the waste on site that can control it for that duration. || 17-2
- 3) Fresh water is the most important natural resource on our earth to protect.

The only responsible solution is to store the waste above ground so it is not forgotten and can be monitored until a safe, national depository is constructed. || 17-3

We have created a mess that has no easy solution, but the mess is ours to deal with, and we must do everything in our power to prevent poisoning the land and water for future generations.

Thank you,

Elizabeth B. Weberg
Ph.D., Inorganic Chemistry
Deputy Mayor, East Aurora

17-1 DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Please see the Issue Summaries for “Concerns about Potential Contamination of Water” and “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

17-2 The long-term environmental consequences of managing waste on site are analyzed in Chapter 4, Section 4.1.10, of this EIS.

17-3 As explained in Chapter 2, Section 2.5.1, of this EIS, DOE and NYSERDA do not consider the use of existing structures or construction of new aboveground facilities at WNYNSC for indefinite storage of decommissioning or long-term management of waste to be a reasonable alternative for further consideration because it would not meet the Purpose and Need for Agency Action described in Chapter 1, Section 1.3. Thus, the decommissioning alternatives addressed in this EIS involve managing existing facilities and contamination at their current locations (Sitewide Close-In-Place) or removing all radioactive and hazardous waste from the site (Sitewide Removal).

Offsite disposal capacity is available for most of the waste that could be generated from any of the EIS alternatives. Consistent with existing practice, any waste generated from any of the EIS alternatives that does not currently have offsite disposal capacity (referred to as orphan waste) would be safely and retrievably stored at WNYNSC until such disposal capacity is available.

Commentor No. 18: Tammy Yekich

4340 Chicholm Trail
Hamburg, NY 14075
March 30, 2009

Dear Ms Bohan,

My family drinks and bathes in the water that comes from Lake Erie. We may now, and/or in the future, be affected by waste from STRONTIUM 90, PLUTONIUM, and other radioactive by-products of reprocessing from West Valley Nuclear Fuel Services, which is presently leaking into nearby streams and creeks that end up in Lake Erie and Lake Ontario.

This dangerous facility was built on unstable terrain that has now had a large landslide.

Decommissioning this long-term stewardship of West Valley demonstration project is NOT an option.

New York State and the Federal government MUST be involved in completely removing nuclear materials from West Valley NOW.

Sincerely,
Mrs Tammy Yekich

18-1

18-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

18-2

18-2

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

18-1
cont'd

Commentor No. 19: Deborah Wirth

May 14, 2009

Deborah Wirth

Wirth Holistic

PO Box 1615

Williamsville, NY 14231

Waiting 30 years is UNACCEPTABLE! What affects us will eventually affect you too! We want Complete Removal Now of the radioactive material at West Valley. We also want An extension of the deadline to file objections from June 8, 2009 to December 2009 so that people have a chance to get informed!

19-1

19-2

19-1 DOE and NYSERDA note the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

19-2 In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009.

Commentor No. 20: Gerard Catalano

April 3, 2009

Gerard Catalano

100 Hamilton Blvd.

Kenmore, NY 14217

Dear Ms. Bohan, To this day it shocks me the policies of NYS regarding the chemical dumps in Niagara County. The faster we can dispose of the chemicals buried in Niagara County the better off our children will be. Have you ever looked at the statistics of the Great Lakes? 1) Drinking water to over 15 million people. 2) Holds 20% of the WORLDS fresh water. 3) Over \$1 billion a year in recreation and fishing industries. We need these chemicals out of Niagara County NOW not 30 years from now. Don't tell me that there isn't significant seepage into the lakes Erie and Ontario. If these stats are not alarming enough to you then you are corrupt as the past administrations. I am also asking for an extension of the deadline for objections from June 8, 2009 to a new date. Gerard Catalano

|| 20-1

20-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

|| 20-2

20-2

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009.

*Commentor No. 21: Harriet Lane Tower,
Residents for Responsible Government*

April 6, 2009

Harriet lane Tower

Residents for Responsible Government

800 River RD

Youngstown, NY 14174

Government agencies have made serious errors related to the environment and the well being of the people. Now is the time to correct these errors and to remediate fully, now, all at once the errors of West Vally. One of the most spectacular geographic areas of westen New york has been marred and put at risk by these errors. Enough procrastinating! Bite the bullet and take care of it b efore the toxins migrate to the Great Lakes and even bigger problems arise. What kind of people work for these agencies that would be so blind to the actions that need attention. Harriet lane Tower

21-1

21-1

DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 22: Wendy Swearingen

April 6, 2009

Wendy Swearingen

3075 North Creek Road

Youngstown, NY 14174

Dear Ms. Bohan, The current plan and environmental impact statement does not fully address two important West Valley issues. It is imperative to protect residents proximate to the site from actual and potential harm and danger, and second the Great Lakes must be safe from all contamination. Lake Ontario alone provides drinking water to more than 50 million humans. Complete removal is the only viable solution that addresses both issues. Please revisit the planning stage and devise a plan that will permanently remove the radioactive wastes from West Valley as soon as possible. I would ask you to plan for a complete removal now and to extend the comment period from June 2009 to December 2009.

Sincerely, Wendy Swearingen

22-1

22-1

This EIS was prepared in accordance with the requirements of NEPA and SEQRA to evaluate the environmental impacts of alternatives for the decommissioning and/or long-term stewardship of WNYNSC. DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

22-2

22-2

In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009.

**Commentor No. 23: Barbara Warren, Executive Director,
Citizens' Environmental Coalition**



Main Office: 33 Central Ave., 3rd Floor, Albany, New York 12210
 Phone: (518) 462-5527 • Fax: (518) 465-8349 • E-mail: cectoxic@ce.org
 Websites: www.ectoxic.org • www.ecothreatny.org • www.toxicfreefuture.org

**Testimony regarding
 the Draft Decommissioning and Stewardship EIS
 for the Western New York Nuclear Service Center
 By Barbara Warren
 Citizens' Environmental Coalition
 Monday March 30th 2009
 Albany, NY**

Independent Full Cost Accounting Study

An independent, state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, revealed leaving buried waste at the site is both high risk and expensive while a waste excavation cleanup presents the least risk and the lowest cost. Over 1,000 years, waste excavation costs \$9.7 to \$9.9 billion while leaving dangerous buried radioactive waste onsite costs \$13 billion to \$27 billion if a catastrophic release occurred. We are putting that full report into the record for this hearing. The Full Cost Accounting Study analysis is actually supported by the extensive comments of NYSERDA in the Forward to the Environmental Impact Statement. There NYSERDA questions the long term analysis done by DOE saying they are seriously flawed and scientifically indefensible and therefore cannot be relied on for predicting public radiation doses.

Toxic Assets & The Real Deal

The recent debacle of the financial industry has resulted in lots of talk about toxic assets and what to do about them. Several trillion dollars have been allocated to restoring the soundness of financial institutions because of these "so-called toxic assets." We have REAL toxic assets at the West Valley site and the government must find the money to dig them up and safely contain them for thousands of years. Whatever the cost, it is the government's responsibility to do so. Leaving the buried waste in the ground to leach into the sole source aquifer or to be released catastrophically by the forces of erosion and contaminating the Great Lakes is unacceptable. Fully cleaning up the radioactive waste at West Valley sounds like a bargain at under \$10 billion when compared to over a hundred billion for individual banks. We want to remind you that **Prevention** is usually a fraction of the cost of response, remediation and clean-up. Protecting New Orleans from storms and flooding would have prevented hundreds of billions of dollars in damages from Hurricane Katrina. Your use of Cost-benefit analysis undervalues all prevention activities, which prevent future harm.

Tonight I am going to focus on some of the major problems with the EIS and Decommissioning Plan, particularly the Preferred Alternative or "1% Solution", as we are now calling it. Phase 1 will handle just 1.2% of the buried radioactivity on site. The other 99% of the radioactivity will possibly be dealt with 30 years from now in Phase 2, but we know almost nothing about Phase 2. If they only do 1% of the radioactivity in each Phase, we might need 99 Phases to complete the clean-up.

A Clean Environment Green Purchasing* Pollution Prevention* Healthy People* Green Jobs* Zero Waste
 A Healthv Economy* A Sustainable Future*

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23-1 DOE and NYSERDA acknowledge the commentor's support for the conclusions of *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* and opposition to an EIS alternative that would leave buried waste on site. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Conclusions of the *Synapse Report*" in Section 2 of this CRD for further discussion and DOE's and NYSERDA's responses.

23-2 DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analysis. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

23-3 Regarding funding of cleanup at WNYNSC, this EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of decisions made in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

The preliminary cost-benefit analysis presented in Chapter 4, Section 4.2, was prepared at NRC's request and in a manner consistent with NRC's as low as is reasonably achievable (ALARA) guidance. Chapter 4, Section 4.2, of this EIS has

**Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition**

An Environmental Impact Statement should contain 3 major and essential elements:

1. A Complete Plan or Project & Full Public Disclosure
An EIS should start with a complete plan or project and then fully describe and disclose all elements of the project.
2. Identification of all Potential Environmental Impacts and then full Analysis of those impacts.
3. A legitimate public process with information made available and an adequate opportunity for the public to have some influence on the decisions that are made.

Unfortunately we have very incomplete plans for all alternatives except for Sitewide Removal and the Preferred Alternative with its 2 phases is the most incomplete. The major areas of Incompleteness include:

- Monitoring of Containment & Leaks. There is no detailed description of monitoring- no disclosure to the public, no assessment of the environmental impacts associated with the failure to identify a containment failure and as a result no legitimate public process for this critical element.
All of the Alternatives that leave buried Radioactive Materials on site require ongoing monitoring to ensure that containment is maintained and dangerous radioactive materials are not contaminating ground and surface water and spreading off-site. In the case of the Sitewide Removal Alternative we are told that all contamination will be removed, so there is no need for monitoring. In the case of all the other Alternatives monitoring is not described. Monitoring is an essential element of long term containment and control. An inadequate monitoring plan can result in widespread contamination and jeopardize public health—in other words it could have serious environmental impacts. Therefore a detailed monitoring plan should have been disclosed to the public in the EIS so we could comment on its adequacy. And the potential impacts of an inadequate monitoring plan analyzed. As a result the EIS is seriously flawed.
- Data Collection. One of the primary objectives of the so-called Phased Decision-Making Alternative is to collect more data at the site. Data Collection is supposedly a critical part of the future decisions that will be made regarding what projects will be undertaken in Phase 2. Yet the public is not provided any detail regarding the data collection. Thus there is no public disclosure, no ability for the public to evaluate the adequacy of the planned data collection in setting the stage for responsible decision-making, and no ability for the public to provide comments on a critical element of Phase 1.
- The Phased Decision- making Alternative leaves the Public Out. What we now have is unknown process in which agencies will decide on how much monitoring and how much data collection is needed. Over the next 30 years federal and state agencies will make decisions with no public process or involvement. Then the US Department of Energy will leave the West Valley nuclear site prior to the beginning of Phase 2. Thus New York State will be left with the entire responsibility and the bill for cleaning up the rest of the radioactive mess—from federal nuclear wastes, and a national program of nuclear reprocessing.
P. ES-20 DP

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been revised to present the results of sensitivity analyses using different discount rates. If cost-benefit considerations are part of the basis for agency decisionmaking, this will be acknowledged and discussed in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Questions about Cost-Benefit Analysis" Issue Summary in Section 2 of this CRD for further discussion of this issue.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see the response to Comment no. 23-8).

DOE and NYSERDA believe that this EIS complies with the requirements of NEPA and SEQR.

1. This EIS has been prepared in accordance with the requirements of NEPA and SEQR. DOE and NYSERDA have prepared this single, comprehensive EIS for the decommissioning and long-term stewardship of WNYNSC. As required by NEPA and SEQR, it analyzes the environmental impacts of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Removal, Sitewide Close-In-Place, and Phased Decisionmaking), as well as the No Action Alternative. A detailed work plan is not required to complete an EIS, and normally is not developed until a decision is made.

2. This EIS adequately analyzes the totality of environmental impacts, including costs, for the identified alternatives. These impacts are presented in Chapter 4 of this EIS.

3. The public comment process for this EIS meets the requirements of NEPA and SEQR. The Revised Draft EIS was issued for public review and comment on December 8, 2009. DOE's Notice of Availability announced a 6-month public

Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

3

Insofar as institutional controls are concerned, DOE would continue control of the project premises during the Phase 1 decommissioning activities and the period between completion of these activities and the start of Phase 2 of the decommissioning. Institutional controls would include security fences and signs along the perimeter of the project premises, a full-time security force, provisions for controlled access through designated gateways, and appropriate security measures for the new Canister Interim Storage Facility on the south plateau, which would be established during Phase 1 of the decommissioning.

- Because Phased Decision-making leaves decisions about what to do with 99% of site radioactivity, the majority of the environmental impacts are unstudied in this alternative. The NRC Disposal site and the State Disposal site are left for Phase 2 as are the High Level Waste Tanks. The inadequacies of the EIS are best illustrated by focusing on these tanks. These tanks are made of carbon steel, subject to corrosion and are currently at the end of their useful lives. Their ability to contain any radioactivity over the next few years is questionable, much less for the next 30 years. The EIS not only fails to describe the monitoring in and around the tanks but fails to examine the potential impact of a failure and leakage from these tanks on the sole source aquifer and nearby creeks. But the Decommissioning Plan stands alone in its lack of honesty when it claims the tanks are empty while describing the contrary situation of the tanks containing 320,000 curies of radioactivity.
- Another objective of Phase I is supposedly to "not prejudice decisions for Phase 2". I have no idea what this means. However, it is not clear why facilities that have not been impacted by radioactivity are a priority for removal under Phase 1 of the Preferred Alternative such as the new Warehouse in WMA-10. We are concerned that eliminating this facility and others could hinder a full excavation and cleanup of the NDA and the SDA in the future. Also included in this area and slated for demolition are an administration building, an environmental laboratory, and a waste management storage area. Where will you store equipment and materials for the planned activities at the site? Where will workers change their clothing and store protective equipment? Where will emergency medical supplies and equipment be stored? We have received none of the rationale for the choice of certain facilities for demolition and not others. Why is remote handling equipment being removed? Won't it be needed to remove the canisters of vitrified high level waste? At the same time we don't have a work plan that describes fully what facilities will be needed for the work to be accomplished—including full excavation and cleanup of all site facilities containing 99% of the radioactivity. We object to any buildings, facilities or equipment being removed in phase I that pose no radioactive or hazardous material problem, because we can see no benefit to prioritizing such facilities for removal and we fear it will foreclose reasonable and cost-effective options for full clean-up.

The Phased Decision making alternative is an incomplete plan with inadequate basic information available to the public, and therefore inadequate environmental analysis. The current public process fails the test for public involvement and there is no plan laid out for future public involvement. In fact under the State Environmental Quality Review Act, a segmented plan rather than a complete plan is prohibited.

The Siterwide Removal Alternative—full excavation and cleanup-- is the only alternative that constitutes a complete plan and that has been adequately described to the public. The only missing element we can identify is that RCRA hazardous waste was not dealt with for this alternative or any of them.

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comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) and three public hearings. In response to requests from the public, DOE and NYSERDA extended the original public comment period for an additional 90 days, through September 8, 2009. An additional public hearing was held in Albany, New York, and the hearing originally scheduled for Blasdell, New York, was moved to a more central downtown Buffalo, New York, location. DOE and NYSERDA held the public hearings to provide interested members of the public with opportunities to learn more about the content of the Revised Draft EIS from exhibits, factsheets, and other materials; to hear DOE and NYSERDA representatives present the results of the EIS analyses; to ask clarifying questions; and to provide oral or written comments. A website (<http://www.westvalleyeis.com>) was established to further inform the public about the Revised Draft EIS, how to submit comments, the public hearings, and other pertinent information. Comment submission mechanisms and public hearing dates, times, and locations were announced in the *Federal Register* and New York State Environmental Notice Bulletin notices, in local newspapers, and on the website. Members of the public who expressed interest and are on the DOE and NYSERDA mailing list for the Revised Draft EIS were notified by U.S. mail regarding hearing dates, times, and locations.

23-6

As acknowledged in this EIS, long-term monitoring and maintenance would be implemented for alternatives that would leave waste on site. This EIS provides a summary description of current and potential future environmental monitoring programs. The descriptions of the alternatives were revised to further describe the use of engineered barriers and long-term monitoring and maintenance. Long-term monitoring and maintenance are described in Chapter 2, Sections 2.4.2.6 and 2.4.3.8. Long-term monitoring and institutional controls are also discussed in Chapter 6. Additional information about current and proposed monitoring and institutional controls is provided in Appendices C, H, and I. Chapter 2, Table 2-4, includes estimates of the environmental consequences if (1) monitoring and maintenance are successful (institutional controls remain in place) and (2) monitoring and maintenance programs fail (institutional controls are lost). Chapter 4, Section 4.2, of this EIS includes monitoring and maintenance costs for the alternatives that would leave waste on site.

Detailed information regarding long-term monitoring and maintenance programs and institutional controls under alternatives that would leave waste on site has

**Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition**

not been specifically defined at this time. Such definition would occur after an alternative is selected for implementation and would include consultation with appropriate regulatory authorities.

23-7 Chapter 2, Section 2.4.3, of this EIS describes decommissioning activities under the Phased Decisionmaking Alternative and provides a discussion of the data collection, studies, and monitoring to be performed during implementation of Phase 1 and the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2. Section 2.4.3.3 explains how the additional data and studies would be used in making the Phase 2 decision regarding potential future activities. The intent of this EIS is to provide a description of the environmental impacts of each of the alternatives to inform the Agency decisionmakers.

23-8 Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and

Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE will remain on site until it completes its responsibilities as assigned under the West Valley Demonstration Project Act. DOE would not leave the site after completion of the Phase 1 actions because it would not have completed the actions required under the Act. The description of the Phased Decisionmaking Alternative in Chapter 2 of this EIS has been revised to clarify this, and the wording in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)* has been revised to avoid the implication that DOE would leave the site at the end of Phase 1.

23-9

This EIS presents the impacts of Phase 1 and Phase 2 of the Phased Decisionmaking Alternative. The environmental impacts of implementing Phase 1 of the Phased Decisionmaking Alternative are described for each resource area in Chapter 4 of this EIS. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is

**Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition**

working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flow is into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level radioactive waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying. Longer-term monitoring at the site is addressed in the response to Comment no. 23-6.

Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile. Chapter 2, Section 2.3.1, of this EIS, as well as text in the *Phase 1 Decommissioning Plan*, have been clarified to acknowledge that there are liquids remaining in the tanks that will be dried as a result of installation and operation of the tank and vault drying system and that this drying will be complete before any Waste Tank Farm decommissioning actions are initiated.

- 23-10** DOE and NYSERDA acknowledge the commentor's concerns that the removal of facilities under Phase 1 of the Phased Decisionmaking Alternative could affect a future decision about site cleanup.

The decision has already been made to remove many of the facilities and areas identified by the commentor down to their floor slabs or to grade prior to the start of any decommissioning actions (see Chapter 2, Section 2.3.1, of this EIS). These include the Administration Building and Expanded Environmental Laboratory in Waste Management Area 10 and most of the facilities in Waste Management Area 5. The decisions as to which facilities would be removed to achieve the Interim End State (the EIS starting point) were developed by DOE and NYSERDA after careful consideration of all facilities and areas on WNYNSC. None of the facilities to be closed at the starting point of this EIS are expected to be needed, either individually or collectively, for any decommissioning alternative. None of them would be needed to safely monitor and maintain or support future removal of the vitrified high-level radioactive waste on the site or to assist in

**Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition**

other aspects of site decommissioning. Leaving the unneeded facilities in place would require continuing maintenance and monitoring, resulting in unnecessary expense. The only facility specifically identified by the commentor that will not have been removed prior to the EIS starting point is the New Warehouse in Waste Management Area 10. The New Warehouse and other facilities and storage areas that would be removed from the site during Phase 1 of the Phased Decisionmaking Alternative, if that alternative is selected in DOE's Record of Decision and NYSERDA's Findings Statement, are addressed in Chapter 2, Section 2.4.3.1, of this EIS.

Facilities that would be required for full excavation and cleanup of all site facilities (Sitewide Removal) are described in the discussion in Chapter 2, Section 2.4.1.1, and Appendix C, Section C.3.1.

- 23-11** Regarding the adequacy of the environmental analysis performed for the Phased Decisionmaking Alternative, please see the response to Comment no. 23-9. Regarding continued public involvement in Phase 2 decisionmaking under the Phased Decisionmaking Alternative, please see the response to Comment no. 23-8.

Concerning the rest of this comment, DOE has not segmented the activities proposed in this EIS; instead, DOE has prepared this single, comprehensive EIS for decommissioning and long-term stewardship of WNYNSC. This EIS adequately analyzes the totality of environmental impacts, including costs, of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Close-In-Place, Phased Decisionmaking, and Sitewide Removal), as well as the No Action Alternative.

While the Phased Decisionmaking Alternative temporarily defers final decision on the disposition of the Waste Tank Farm, NDA, and Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within the current EIS. Of course, as with all tiered decisions, DOE would continue to assess the results of any site-specific studies along with any emerging technologies to ascertain whether or not a Supplemental EIS is warranted prior to any Phase 2 decision. Based upon data available to date, however, DOE believes this EIS adequately evaluates the environmental impacts associated with the range of reasonable alternatives and the agency has vigorously resisted all efforts to "segment" this single comprehensive decommissioning EIS into separate NEPA documents.

**Commentor No. 23 (cont'd): Barbara Warren,
Citizens' Environmental Coalition**

It is NYSERDA's position that segmentation refers to the improper division of one project into multiple smaller projects in an effort to circumvent NEPA (or SEQR) requirements. NYSERDA does not believe that improper segmentation has occurred in this case because the Phase 1 actions proposed under the Preferred Alternative would be independent of and would not bias actions conducted in Phase 2. In other words, the actions proposed under Phase 1 will not automatically trigger certain actions to take place under Phase 2; to the contrary, NYSERDA can opt for any alternative or combination of alternatives during Phase 2. The test for improper segmentation is whether or not projects (in this case Phase 1 and Phase 2) are interdependent. In this case, they are clearly not.

- 23-12** DOE acknowledges the commentor's support for the Sitewide Removal Alternative. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD. Both the Revised Draft EIS and the Final EIS address management and disposal of RCRA hazardous waste. Chapter 1, Section 1.2, discusses the RCRA background of the site. Chapter 4, Section 4.1.11 and Table 4-46, address the disposition of hazardous waste under each of the alternatives. The long-term performance assessment in Appendix H analyzes the human health consequences of known hazardous constituents. Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, of this Final EIS, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 24: Roger Downs,
Sierra Club Atlantic Chapter



March 30, 2009

Catherine Bohan,
EIS Document Manager,
West Valley Demonstration Project,
Department of Energy,
PO Box 2368, Germantown, MD 20874

Dear Ms. Bohan,

The Sierra Club Atlantic Chapter has reviewed the Department of Energy (DOE) and NYS Energy Research & Development Authority's (NYSERDA) Draft Environmental Impact Statement (DEIS) focused on cleanup options for the West Valley Nuclear Waste Site. In consideration of all available and analyzed options we find that a complete site wide removal of this historic radioactive waste deposit is far superior to the "preferred alternative" which is to wait up to 30 years on a final cleanup decision, while the plume of waste continues its subsurface migration.

Clearly the site wide removal option provides us the benefit of a complete and comprehensive cleanup from a site with serious erosion problems, earthquake hazards; all over a sole source aquifer. Ultimately, we would like to remove any possibility of a catastrophic release into community drinking water supplies, including the Great Lakes, potentially costing billions in human and ecological losses.

The Sierra Club Atlantic Chapter has also reviewed the independent, State-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site* and we are compelled by the findings:

Leaving buried waste at the site has more adverse environmental outcomes and at a greater cost where as a complete site wide cleanup presents the least risk to a broader population and is the least expensive long-term option. The study finds that over the next 1000 years, waste excavation will cost \$9.9 billion while onsite burial will cost \$13 billion with the potential for an additional \$27 billion dollar remediation cost if a catastrophic release occurs.

24-1 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

24-1

Implementation of the Phased Decisionmaking Alternative would make an important advance in the decommissioning of the WNYNSC within the initial 8 years. The cleanup that would take place during Phase 1 of the Preferred Alternative, as explained in Chapter 2, Section 2.4.3, of this EIS, would reduce or eliminate potential health or environmental impacts by removing major facilities (such as the Main Plant Process Building and lagoons). In addition, the source area for the North Plateau Groundwater Plume would be removed, thereby reducing the source of radionuclides that are potential contributors to human health or environmental impacts. The nonsource area would be contained by the permeable treatment wall.

24-2

24-2 DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in Appendix F of this EIS. This EIS analyzes the long-term (multi-century) consequences of unmitigated erosion for postulated local and Lake Erie and Niagara River water users. This EIS also analyzes the long-term consequences of groundwater releases to postulated local and Lake Erie and Niagara River water users. Please see the Issue Summaries for "Concerns about Potential Contamination of Water" and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

24-3

**Commentor No. 24 (cont'd): Roger Downs,
Sierra Club Atlantic Chapter**

While it is difficult to think in geologic time, we are convinced that the West Valley Site is fatally vulnerable to erosion, and that a long-term storage strategy of radioactive waste is certain to result in the Great Lakes contamination over the centuries. The responsibility of maintaining this site in perpetuity over hundreds if not thousands of years cannot be remotely guaranteed. New York State and The Dept of Energy have control over the present, and in spite of the staggering cost, full comprehensive clean up now will be the bargain of the millennium.

The Sierra Club Atlantic Chapter is appreciative of NYSERDA's separate and critical analysis of the DEIS's unscientific findings, and hopes that moving forward meaningful changes will be made to the document including clarification on public disclosure, monitoring protocols, and future obligations under SEQRA.

While we understand the complexity of this clean-up and the perceived need for a phased approach to allow for the best information to guide the process, we find the current "preferred alternative" deficient in its lack of commitment to public participation, expeditious clean ups and clarity as to who will eventually fund the vast majority of those clean-ups. Again, we urge the Department of Energy to take responsibility, while we still can, and fund the total clean up of the West Valley Nuclear Waste Site.

Sincerely yours,



Roger Downs
Sierra Club Atlantic Chapter
353 Hamilton Street
Albany, NY 12210
(518) 426-9144

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24-4

24-3 DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response.

In preparing this Final EIS, changes were made to the Revised Draft EIS in response to Agency and public comments. Specific instances of additional information included in this Final EIS include long-term monitoring protocols (Sections 2.4.2.6, 2.4.3.8, and 2.4.4.4) and future NEPA and SEQRA obligations under the Preferred Alternative (Section 2.4.3). Public disclosure is discussed in the following response.

24-4 Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQRA requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor

*Commentor No. 24 (cont'd): Roger Downs,
Sierra Club Atlantic Chapter*

are responsible for establishing funding levels for state government programs. Implementation of the decision documented in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

**Commentor No. 25: Laurence T. Beahan, Conservation Chair,
Sierra Club, Niagara Group**

Laurence T. Beahan MD
5 Darwin Drive
Snyder NY 14226
716 839 3112
larry_beahan@roadrunner.com

Catherine M. Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
Germantown, MD 20874

RE West Valley *Draft Decommissioning and/or Long term Stewardship EIS Comments.*

The border between Erie and Cattaraugus County is pretty country, forested hills cut by deep ravines. The snow pack is beginning to melt there. Dark tree trunks stand outlined against patches of snow on the forest floor. Fog shrouds the hollows. Occasional cabins peer through the woods.

Then at West Valley, out of the mist, looms a moon-scape with an alien space station at its center, the Western New York Nuclear Service Center. In the next few months, State and Federal governments will decide how much radioactive material to leave on this 3300-acre ulcer.

My wife, Lyn, and I drove down Route 219 to West Valley on a rainy day in March. We crossed the roaring Cattaraugus Creek where 219 construction attempts have loosed a fault line started it sliding into Zoar Valley. There, on Scobey Hill Road, a house is off its foundation, trees stand at odd angles, turf, undercut by mudslides, hangs over in a fringe. Geologically speaking, not long ago our beloved Boston Hills were a flat lake bed. Erosion is rapidly cutting it into this rugged terrain.

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**Commentor No. 25 (cont'd): Laurence T. Beahan, Conservation Chair,
Sierra Club, Niagara Group**

In the 1960s nuclear fuel reprocessing sounded like a marvelous idea. Cattaraugus County had empty space and needed jobs. Nuclear energy was the power source of the future and reprocessing spent uranium would take care of its radioactive waste. From 1966 to 1972 Nuclear Fuel Services, NFS, a private corporation, reprocessed over 600 metric tons of high-level uranium nuclear waste there.

NFS got out of the business when radioactive leftovers of reprocessing leaked into nearby streams, when employee radiation exposure became a problem, and when federal regulation tightened up. They walked away leaving tons of high and low level nuclear waste which will be a threat to health for thousands of years.

The Federal Government and New York State are left with the clean up and are now about to decide how thorough a job to do.

The nuclear site is on two plateaus divided by the eroding waters of Erdman Creek and surrounded by Franks and Quarry Creeks. They join Buttermilk Creek and it pours into the Cattaraugus a few miles west. Radioactive waste has leaked into West Valley's ditches. It sends a plume of radioactive ground water toward Buttermilk Creek. Buttermilk's 160 foot bluff, a few hundred yards away, has had a landslide. Plutonium has been found in the Cattaraugus behind Scobey Hill dam. There is the potential of polluting the waters of Lake Erie, Lake Ontario and the Saint Laurence River with West Valley's poisons.

We wonder if, when we took the kids wading in Zoar Valley, they were in a dilute solution of Strontium 90.

25-1

25-1 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Finding Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concern about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses. DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

DOE and NYSERDA are aware of the contamination behind the Springville (Scobey Hill) Dam that was the result of releases from the site when reprocessing operations were in progress. The sediments behind the Springville Dam have levels of cesium-137, uranium, potassium-40, and gross beta; plutonium measurements are below background levels. They are sampled every 5 years and the results are reported in annual site environmental reports (available at <http://www.wv.doe.gov>).

Commentor No. 25 (cont'd): Laurence T. Beahan, Conservation Chair,
Sierra Club, Niagara Group

Clearly it was a terrible mistake to put such a dangerous facility into such unstable geological terrain. The only conceivable answer now is complete removal of nuclear materials from West Valley.

Laurence T. Beahan MD

Conservation Chair, Sierra Club, Niagara Group

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**Commentor No. 26: Kathy McGoldrick,
Coalition on West Valley Nuclear Wastes**

P.O. Box 458
Ellicottville, NY 14731

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
Department of Energy
PO Box 2368
Germantown, MD 20874

Public Comments by Kathy McGoldrick, West Valley Coalition on Nuclear Wastes, on the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (DOE/EIS-0226-D)

DOE Representatives. Et.al.:

Historically, the Coalition on West Valley Nuclear Wastes has taken the position that there should be a full clean-up of the West Valley nuclear site, ultimately leaving the site available for unrestricted use. This, then, includes the complete exhumation of the state and federal burial grounds and the high level waste tanks.

Our position always has been as advocates for monitored and retrievable storage on site until the federal government has environmentally sound isolation and monitoring technologies and safe places for West Valley's reprocessing waste and other radioactive wastes, from mine tailings to fuel rods.

It is for these reasons that we have concerns regarding the Department of Energy's "preferred alternative", which calls for up to thirty years before a final cleanup decision is made. We would like to believe that this hesitation is truly to buy the wisdom of time. However, some of us find that hard to believe. Some of us have been here since 1980 when Westinghouse and the DOE came to West Valley to deal with the mess left after only six years of reprocessing; and although we have undoubtedly seen some progress, we have seen little in the way of final resolution for this once beautiful site.

We, the people, need to be involved in the final decision-making for West Valley because the ramifications of the wrong choices will affect our great lakes, our environment, and the lives of our progeny. The DEIS provides no methods whereby the public can be involved in the processes which will provide a Phase 2 alternative, despite the fact that 98-99% of the waste at the site will still need to be dealt with at that time. This is not acceptable.

The public needs to be secure in knowing that there is every intent to clean up the entire West Valley site, and that at the end of Phase I there will not be a 30 year "coma" after which the DOE "comes to" and determines to grout in-situ the high level waste tanks and the burial grounds. There must be a continuous decision-making process

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26-1 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Modified Phased Decisionmaking Alternative" in Section 2 of this EIS for further discussion of these issues and DOE's and NYSERDA's responses.

26-2 Offsite disposal capacity is available for most of the waste that could be generated from any of the EIS alternatives. The shift to a national policy of storage rather than disposal of this waste is outside the scope of this EIS. Consistent with existing practice, any waste generated from any of the EIS alternatives that does not currently have offsite disposal capacity (referred to as orphan waste) would be safely and retrievably stored on site until such disposal capacity is available.

26-3 Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

Commentor No. 26 (cont'd): Kathy McGoldrick,
Coalition on West Valley Nuclear Wastes

involving the public, the end result of which is removal of all waste from West Valley. It is critical that the DOE confirm that it will continue its responsibility and commitment to fully remediate the site. There must be no lapse in the process which helps us determine how to best meet the decommissioning requirements prescribed by the NRC under the West Valley Demonstration Project Act and set forth in the NRC's License Termination Rule.

After Phase 1 the West Valley site will still suffer the SDA and NDA burial grounds, the North Plateau Groundwater Plume, the Waste Tank Farm and more likely than not, Streambed Sediment Contamination and a Cesium Prong of Surface Soil. We are concerned that the ultimate decisions made regarding these wastes will be subject to a DEIS erosion analysis which is questionable. Even NYSERDA raises serious issues with the DOE's erosion study processes. It is quite likely by other analyses that the West Valley site will be subject to erosion that could allow these wastes to enter the waterways which feed into lakes Erie and Ontario far sooner than the DEIS suggests.

The DEIS soil erosion analysis is not scientifically defensible over the long term and should not be used for long-term decision making. The groundwater contaminant transport analysis and modeling used in the DEIS cannot be relied on to predict public radiation doses and long term cleanup decisions. Erosion and waste transport barrier performance has not been substantiated and may be overly optimistic. Especially for these reasons, we cannot accept a study process which leaves open the potential for the DOE to walk away from the site after 30 years, or to choose the Sitewide Close in Place Alternative or any variable thereof.

Anything less than ultimate cleanup of the site is unreasonable and unethical.

Yes, we have seen some of the highest level waste made into glass logs, but they still rest on this once beautiful site because there is nowhere for them to go. And although I recognize that it is superfluous to this DEIS, it is not superfluous for us to ask, "Why then, would we ever consider increasing nuclear capacity WHEN THERE IS NOWHERE FOR THE NUCLEAR WASTE TO GO?" And what would the cost of a kilowatt of nuclear energy REALLY be if we included the cost of appropriately dealing with the associated nuclear waste? If the push toward "new nuclear" is, as I suspect, about ultimate corporate control of our energy resources, then I am reminded of where unbridled control of our nation's resources by the few has gotten us today.

West Valley waste is a reminder of how the citizen pays the price for unreasonable and unethical business actions once sanctioned by government, *perhaps* with machiavellian best interests for the public. But West Valley and the West Valley Demonstration Project Act are also testaments to the strength of the citizenry in moving government to do the right thing. Let us continue in that process of doing the right thing and let us involve our people in the process of learning how to do the right thing, now, in this new era.

Thank you.

Kathy McGoldrick

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NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

DOE will remain on site until it completes its responsibilities as assigned under the West Valley Demonstration Project Act.

26-4 As stated in the Purpose and Need for Agency Action in Chapter 1 of the Final EIS, DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used in the solidification of high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as the NRC may prescribe. This EIS analyzes three alternatives for accomplishing decommissioning and/or long-term stewardship of the WNYNSC.

As noted in the response to Comment no. 26-1 regarding the 30-year timeframe for Phase 2 decisionmaking, DOE and NYSERDA have reconsidered this timeframe. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

As stated in the response to Comment no. 26-3, DOE will remain on site until it completes the actions required under the West Valley Demonstration Project Act.

It should be noted that, if the Phased Decisionmaking Alternative is selected, the decision for implementation of Phase 2 could be sitewide removal of remaining facilities and contamination (Sitewide Removal Alternative), in-place closure of remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements.

26-5 DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These

Commentor No. 26 (cont'd): Kathy McGoldrick,
Coalition on West Valley Nuclear Wastes

projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. The erosion analysis that is presented in Appendix F of this EIS is considered to be scientifically defensible and, consistent with NEPA requirements, uses a theoretical approach that is accepted in the scientific community for evaluating long-term erosion.

DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analyses. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

Please see the Issue Summaries for "Concerns about Potential Contamination of Water" and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

26-6 Although the Administration stated its intent in the 2010 budget request to terminate the Yucca Mountain program while developing nuclear waste disposal alternatives, DOE remains committed to meeting its obligations to manage and ultimately dispose of high-level radioactive waste and spent nuclear fuel (see Chapter 1, Section 1.6.4, of this EIS). The Administration intends to convene a blue ribbon commission to evaluate alternative approaches for meeting these obligations and will provide recommendations that will form the basis for working with Congress to revise the statutory framework for managing and disposing of high-level radioactive waste and spent nuclear fuel.

26-7 DOE and NYSERDA note the comment.

Commentor No. 27: Chicory Kettle



The Revised Draft Environmental Impact Statement for
Decommissioning and/or Long-Term Stewardship at the West Valley
Demonstration Project and Western New York Nuclear Service Center
(Decommissioning and/or Long-Term Stewardship EIS)

NYSERDA

Comment Form

Date: March, 31 2009

Name Chicory Kettle
Organization _____
Address 80 Jimerson Hill Lane
City, State, Zip Code Irving, NY 14081

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the Final EIS; comments received will be included in their entirety.

Your Comments on the Draft Decommissioning and/or Long-Term Stewardship EIS
you should take care of all the stuff
in the lakes because the fish will
die and will too we need fish to
live. think about all the stuff
that are made of fish and ather in the lake.

27-1

27-1

DOE and NYSERDA note the commentor's concern about contamination of the Great Lakes and the effect on fish. The purpose of this EIS is to evaluate the environmental impacts of the various alternatives, including the impacts on biological resources, which are presented in Chapter 4 of this EIS. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Thank You For Your Comments

PLEASE RETURN THIS FORM TO THE REGISTRATION DESK OR SUBMIT BY JUNE 8, 2009 TO:

U.S. Mail: Catherine Bohan, EIS Document Manager, U.S. Department of Energy, P.O. Box 2368, Germantown, MD 20874

Toll-Free Fax: 1-866-306-9094

E-mail: westvalleyeis.com

**Commentor No. 28: Lenith K. Waterman, Clerk,
Seneca Nation of Indians**

Seneca Nation of Indians

President - Barry E. Snyder, Sr.
Clerk - Lenith Waterman

12837 ROUTE 438
IRVING, NEW YORK 14081

Tel. (716) 532-4900
FAX (716) 532-6272



Treasurer - Jacqueline Bowen

P.O. BOX 231
SALAMANCA, NEW YORK 14779

Tel. (716) 945-1790
FAX (716) 945-1565

AT THE REGULAR SESSION OF COUNCIL OF THE SENECA NATION OF INDIANS HELD ON MARCH 14, 2009 AT THE G.R. PLUMMER BUILDING ON THE ALLEGANY TERRITORY SALAMANCA, NEW YORK, 14779.

CN: R-03-14-09-25

EXECUTIVES PRESENT: PRESIDENT - BARRY E. SNYDER, SR.
CLERK - LENITH K. WATERMAN
TREASURER - JACQUELINE L. BOWEN

TO SUPPORT WEST VALLEY CLEANUP / APPROVAL

MOTION: by J. Conrad Seneca, seconded by Donald John that Tribal Council approves the following resolution:

WHEREAS, the Seneca Nation of Indians is a Sovereign Nation recognized by the United States as such pursuant to the Treaty of November 11, 1794 and occupying five territories in Western York State; and

WHEREAS, the West Valley nuclear waste site, located 17 miles upstream from the Nation's Cattaraugus Territory along Cattaraugus Creek, is burdened with the vast amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years, some for millions of years, including plutonium, uranium, strontium-90 and iodine-129, which can cause leukemia and cancer at low doses; and

WHEREAS, the West Valley site is the United States' only venture into commercial reprocessing of irradiated nuclear fuel, which was operated by Nuclear Fuel Services and resulted in a complete failure in 1976 with the Company leaving and passing on clean up responsibility to the U.S. government; and

WHEREAS, the West Valley site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater, and radioactivity from the site has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario demonstrating a potential for the leaking site to contaminate the waters flowing through the Nation's Territory and affecting the lives of the Seneca people; and

28-1

28-2

28-3

28-1 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

28-2 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

28-3 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

**Commentor No. 28 (cont'd): Lenith K. Waterman, Clerk,
Seneca Nation of Indians**

TO SUPPORT WEST VALLEY CLEANUP / APPROVAL
REGULAR SESSION OF COUNCIL
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WHEREAS, the Department of Energy and NYS Energy Research & Development Authority are proposing to leave buried waste onsite, (including high level radioactive waste tanks when such tanks are at the end of their useful lives and could leak contamination at any time), and delay final cleanup decisions for up to 30 years; and

28-4

WHEREAS, various economists and scientists recently released a first-ever study on the long-term cleanup costs, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, funded by a New York State grant sponsored by Senator Catherine Young (R-Olean), and conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates; and

28-5

WHEREAS, the study investigated the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that a full waste excavation cleanup costs less, at \$9.9 billion, and presents the least risk to the population that leaving buried waste onsite, at \$13 billion, and which also carries high risks to human populations, including a potential cost of \$27 billion or more if a catastrophic release of radioactive waste contaminated drinking water supplies;

28-6

WHEREAS, scientists have found that erosion is a powerful and fast moving force in the region, which means that leaving buried radioactive waste onsite poses a risk to the Nation and its people if controls fail and dangerous radioactive waste pollutes Cattaraugus Creek.

28-7

NOW, THEREFORE, BE IT RESOLVED, that the Council of the Seneca Nation of Indians hereby supports the full cleanup of the entire West Valley nuclear waste site through waste excavation and the adoption of cleanup standards that are at least as protective as current New York State radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water; and

28-8

FURTHER RESOLVED, that the President is authorized and directed to distribute official copies of this resolution to appropriate United States and New York State Energy officials, including the U.S. Department of Energy and the New York State Energy and Research Development Authority.

ALL IN FAVOR

MOTION CARRIED

CERTIFICATION

I hereby certify the foregoing extract is a true and correct copy from the minutes of the Regular Session of Council of the Seneca Nation of Indians held on March 14, 2009, on the Allegany Territory, original of which is on file in the Clerk's Office of the Seneca Nation of Indians.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

28-4 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further

**Commentor No. 28 (cont'd): Lenith K. Waterman, Clerk,
Seneca Nation of Indians**

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IN TESTIMONY WHEREOF, I have hereunto subscribed my name and caused the seal to be affixed at the G.R. Plummer Building, on the Allegany Territory, on the 18th day of March 2009.

ATTEST:


LENITH K. WATERMAN, CLERK
SENECA NATION OF INDIANS

{ S E A L }

- reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., “fixed”) to metal surfaces and is not readily mobile.
- 28-5** Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.
- 28-6** DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 28-7** DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.
- 28-8** DOE and NYSERDA acknowledge the commentor’s support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s

Commentor No. 28 (cont'd): Lenith K. Waterman, Clerk,
Seneca Nation of Indians

Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC that are embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, of this Final EIS, these regulatory requirements include RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 29: Barry Miller,
Concerned Citizens of Cattaraugus County

I am Barry Miller. I live at 3624 Jollytown Rd., Hinsdale, NY 14743.

I represent Concerned Citizens of Cattaraugus County.

Points on how to handle the waste at West Valley:

- | | | |
|---|--|------|
| 1. Site Wide Removal—a recent state funded cost accounting reveals that leaving the waste buried is both high risk and highest cost. Excavation is less cost and least risk to a large population. | | 29-1 |
| 2. Leaving buried waste is not acceptable—erosion and we are talking about 1,000 years of control and monitoring --- unacceptable. | | 29-2 |
| 3. No Phased Decision Making – there is no evidence that the strontium plume is from leaking tanks. Besides this is a very small portion of the radioactive waste. There is no explanation concerning public participation in Phase 2. A two-phased approach over 30 years is not responsible. | | 29-3 |
| 4. Revisions are needed on flawed DEIS. It includes cleanup options where long-lasting radioactive waste is left buried on site, yet there is a serious lack of information on the monitoring and maintenance of engineering and institutional controls to ensure radioactive material safely contained. Funds and procedures should also be described that will be in place to respond immediately to any toxic releases. The decommissioning plan appears to describe a situation where the Doe could leave the site and any responsibility at the end of phase 1 in around 30 years which would leave NYS the responsibility of cleaning up 99% of the radioactivity. It is imperative that the DOE confirm that they will continue their responsibility and commitment to fully remediate the site. | | 29-4 |
| 5. Use zero in the discount rate. There must not be an economic discount rate in an analysis of the cost of cleanup in 1,000 years, the time the waste will be radioactive. Any substantial discount rate implies that the health and well-being of future generations have no present value-or no worth to us today. | | 29-5 |

29-1 DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. DOE and NYSERDA also assume that the commentor is referring to the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Conclusions of the *Synapse Report*” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Chapter 4 of this EIS presents the environmental impacts, including human health risks, for each of the decommissioning alternatives and the No Action Alternative. This EIS also includes a cost analysis of each alternative, based on NRC guidance. In addition to the Issue Summaries cited above, please see the Issue Summary for “Questions about Cost-Benefit Analysis” and Chapter 4, Section 4.2, of this EIS for discussions of this approach to developing cost-benefit information.

29-2 DOE and NYSERDA acknowledge the commentor’s opposition to an EIS alternative that would leave buried waste on site. In addition to the Issue Summaries cited in the response to Comment no. 29-1 above, please see the Issue Summaries for “Concerns about Potential Contamination of Water” and “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

29-3 DOE and NYSERDA concur that there is no evidence that the strontium plume is from the underground tanks in the Waste Tank Farm. The extensive WNYNSC environmental monitoring program, which is designed to detect possible movement of contamination on the site, as well as past studies discussed in Chapter 3, Section 3.6.2.1, have concluded that the source of the North Plateau Groundwater Plume is the Main Plant Process Building.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased

**Commentor No. 29 (cont'd): Barry Miller,
Concerned Citizens of Cattaraugus County**

Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

29-4 As acknowledged in this EIS, long-term monitoring and maintenance would be required for alternatives that would leave waste on site. This EIS provides a summary description of current and potential future environmental monitoring

**Commentor No. 29 (cont'd): Barry Miller,
Concerned Citizens of Cattaraugus County**

programs. The descriptions of the alternatives were revised to further describe the use of engineered barriers and long-term monitoring and maintenance. Long-term monitoring and maintenance are described in Chapter 2, Sections 2.4.2.6 and 2.4.3.8. Long-term monitoring and institutional controls are also discussed in Chapter 6. Additional information about current and proposed monitoring and institutional controls is provided in Appendices C, H, and I. Chapter 2, Table 2-4, includes estimates of the environmental consequences if (1) monitoring and maintenance are successful (institutional controls remain in place) and (2) monitoring and maintenance programs fail (institutional controls are lost). Chapter 4, Section 4.2, of this EIS includes monitoring and maintenance costs for the alternatives that would leave waste on site.

Detailed information regarding long-term monitoring and maintenance programs and institutional controls under alternatives that would leave waste on site has not been specifically defined at this time. Such definition would occur after an alternative is selected for implementation and would include consultation with appropriate regulatory authorities. An element of the long-term programs would be the development of plans and procedures for responding to emergencies. These plans and procedures would include coordination and agreements with local police and fire departments and medical facilities.

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of the decision made in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

As noted in the response to Comment no. 29-3 regarding the 30-year timeframe for Phase 2 decisionmaking, in response to public comments on this issue, DOE and NYSERDA have reconsidered this timeframe. The Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

**Commentor No. 29 (cont'd): Barry Miller,
Concerned Citizens of Cattaraugus County**

DOE will remain on site until it completes its responsibilities as assigned under the West Valley Demonstration Project Act. DOE would not leave the site after completion of the Phase 1 actions because it would not have completed the actions required under the Act. The description of the Phased Decisionmaking Alternative in Chapter 2 of this EIS has been revised to clarify this, and the wording in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)* has been revised to avoid the implication that DOE would leave the site at the end of Phase 1.

29-5 DOE and NYSERDA acknowledge the commentor's opinion about cost discounting in the cost-benefit analysis included in the Revised Draft EIS. Please see the Issue Summary for "Questions about Cost-Benefit Analysis" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The cost-benefit analysis presented in Chapter 4, Section 4.2, of the Revised Draft EIS was performed to support NRC's request for cost-benefit information consistent with its as low as is reasonably achievable (ALARA) analysis guidelines. This cost-benefit analysis follows the principles in the NRC ALARA guidance presented in NUREG-1757, "NRC Consolidated Decommissioning Guidance." The analysis in Section 4.2 has been revised for the Final EIS and uses several relatively low discount rates (1, 3, and 5 percent) to investigate the sensitivity of the results to lower discount rates. The use of a single discount rate of zero for the ALARA analysis is not considered to be consistent with NRC guidance.

**Commentor No. 30: James Rauch, Secretary,
FACTS, Inc. (For a Clean Tonawanda Site)**

Subject: DOE/EIS-0226-D (Revised) November 2008
Oral Comments of James Rauch, Secretary, FACTS (For A Clean Tonawanda Site), Inc.
April 2, 2009

In the mid-90s, several years after the Coalition on West Valley Nuclear Waste's (CWVNW) 1987 court settlement with DOE, the public was promised that the legally required National Environmental Policy Act (NEPA) and State Environmental Quality Review Act (SEQRA) impact statements for closure of the West Valley nuclear site would be sitewide in scope, covering all the facilities and land contaminated by both NFS's reprocessing operations and the federal West Valley Demonstration Project (WVDP), as well as the two burial grounds (the State-licensed Disposal Area [SDA] and the NRC-licensed Disposal Area [NDA]). At that time the CWVNW was also promised by the DEIS contractor, SAIC, that the impact study would address impacts out 10,000 years from the present, as best they could. The resulting 1996 DEIS was released and commented upon by the public; it was sitewide in scope, and it showed some radiation dose impacts peaking well beyond 1000 years in the future.

The current DEIS fails to make the legally required NEPA sitewide decision; in fact it only resolves less than 2% of the wastes on the site, and puts off the decision on the remaining 98% of wastes for another 30 years. Fifty years to reach a decision on waste management at this leaky, physically most unsuitable site is not acceptable.

We often hear from both the State and the DOE that the sitewide decision needs to be delayed because "there is currently no place for some of the wastes", eg the vitrified High-Level Waste (HLW), and the greater than Class C waste (GTCC). This myth is a common ploy that DOE has used here and at other sites around the country. For example, while Yucca Mtn may never open for WV's HLW glass logs, in earlier discussions with the Coalition, DOE said that interim storage of these logs at their Idaho facility would be a possibility. It's clear to me that when DOE wants to, it can make this "no place to go" problem vanish. In the case of its Fernald uranium refinery, when DOE's contractor was anxious to collect a large work acceleration bonus, DOE soon found a place for Fernald's high-level K-65 residues; when Utah wouldn't take them, DOE moved these wastes to a private facility (Waste Control Specialists) in Texas that did not even have a disposal license for these dangerous radium-bearing materials, only a storage license.

New York State's record on radioactive waste management at its larger sites is quite poor and doesn't inspire confidence for the future. The two agencies in charge, DEC and DOH, are nine years overdue on promulgating radioactive site cleanup regulations corresponding to NRC's 1997 federal License Termination Rule (LTR). In fact, the NRC has placed the State's Agreement State radiation programs on heightened oversight for failing to meet this deadline. Why do I bring this up? Because had the State promulgated these regulations in a timely fashion, it might have prevented the deficient cleanup decisions made by the Army Corps at the Tonawanda Manhattan Project properties. In fact, the State did not enforce its own existing AEA-authorized radiation regulations applicable to those Tonawanda properties and sat by, and continues to sit by, while Army Corps implements its deficient CERCLA-based cleanups at the Tonawanda properties. The weak cleanup levels selected for the Linde property attracted national attention.

At Lewiston, the State sat by in the 1980s while DOE made a mockery of the NEPA impact process. NEPA requires a decision (Record Of Decision [ROD]) before federal resources are committed to a federal project. At the DOE-owned Niagara Falls Storage Site, the State allowed DOE to perform a number of "interim actions", the most egregious being the slurring of the high-level K-65 residues from the silo to the water-logged building basements and placement of an interim cap over these wastes. The decision to be made in the final impact statement is simply whether to put a final, thicker, clay cap on the tumulus. At the time there was criticism within NYS DOH about this DOE "subterfuge" as DOH's John

30-1

30-1 The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. This Final EIS presents the environmental impacts of four alternatives that address decommissioning and long-term stewardship of the WNYNSC. The long-term performance assessment considers impacts beyond 10,000 years for the alternatives that would leave waste on site.

DOE believes that this EIS meets the requirements of NEPA. While the Phased Decisionmaking Alternative would temporarily defer a final decision on the disposition of the Waste Tank Farm, the NDA, and the Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within this current EIS. The environmental impacts of implementing Phase 1 of the Phased Decisionmaking Alternative are described for each resource area in Chapter 4 of this EIS. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.

The status of the Yucca Mountain project is acknowledged in this EIS, and the plan to store the vitrified high-level radioactive waste at the WNYNSC is consistent with DOE's August 1999 ROD for the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F). The implications of the potential for orphan waste are discussed in this EIS.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now

**Commentor No. 30 (cont'd): James Rauch, Secretary,
FACTS, Inc. (For a Clean Tonawanda Site)**

Matuszek called it, but the Department heads and Governor Cuomo did nothing about it. Years later, the National Academy of Science's National Research Council issued its 1995 report stigmatizing these radium-bearing K-65 residues as no different in hazard than HLW, and calling for their exhumation and further stabilization by vitrification or other means.

At West Valley, both the DOE and the State have let the North Plateau Sr-90 plume spread to contaminate one million cubic yards of soils rather than effectively dealing with it decades ago when the cost would have been a million dollars or less; the estimated cost to properly clean it up now is between \$1.5 and \$2 billion, depending on how much longer they wait. This is a glaring example of waste management failure.

It's high time to get on with the necessary job of full cleanup of the West Valley site.

30-2

contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Finding Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

30-2 The history of the North Plateau Groundwater Plume is discussed in Chapter 3, Section 3.6.2.1, of this EIS. The plume was first discovered in the early 1990s. This EIS was prepared to evaluate the environmental impacts of alternatives for the decommissioning and/or long-term stewardship of WNYNSC, including the North Plateau Groundwater Plume and its source. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the plume. Under any of the action alternatives, DOE would take actions to remove or mitigate the impacts of the plume. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 31: Vincent Agnello

Vincent Agnello
3314 East Ave.
Youngstown, NY 14174

April 2, 2009

Catherine Bohan
EIS Document manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2868
Germantown, Md. 20874

Dear Catherine Bohan:

I am a past president of Residents for Responsible Government, Inc. a community based group fighting to clean the environment in Lewiston and Youngstown from further disposal of toxic wastes and from the radioactive assault on our community from the government's LOOW site. In a sense, our struggle and that of the residents impacted by West Valley are similar. The government's response, both Federal and State, are even more strikingly identical. No action to protect the health and welfare of the impacted citizens. Neither level of government has taken any action in our communities to protect our nation's greatest resource, the fresh waters of the Great Lakes.

I am a professor at Niagara University and I recently showed my classes a video on the struggles of the residents of Love Canal. The video was entitled "In Our Own Backyard: The First Love Canal" by Bull Dog Films (1982). I would recommend that you view the film before making any decisions on West Valley. My students were shocked by the government's inaction. History does repeat itself. When asked what the role of government is, their response was uniform: Government's job is to protect the health and welfare of its citizens.

Your plan of action and the environmental impact statement is faulty in that it fails to address honestly, accurately, and fully the two major issues regarding West Valley. First, your plan must protect the residents of the area from actual and potential harm. Secondly, and as important, your plan must remove any threat of contamination to the fresh drinking water of the Great Lakes. Complete removal is the only viable solution that addresses both issues. We could spend months going over each line of your plan and impact statement, but that will not resolve the issue at hand. I implore you to go back to the planning stage and come up with a plan that will permanently remove the radioactive wastes from West Valley and to do so immediately.

What will our legacy be? What shall we say to our children, grandchildren, and generations to come as to why they have no drinking water? What shall we say to our children as to why our government continues to fail us?

Sincerely,


Vincent Agnello

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DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. Please see Chapter 1, Section 1.2, for a discussion of the history of the development of this EIS. This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 32: Margret Linich

April 7, 2009
Margret Linich
14549 Lake Street
Sterling, NY 13156

It is imperative more now than ever, in a time when we fully understand the long term repercussions of polluting the environment, that action is swiftly executed to protect some of the most important fresh water sources in the world. Please do not delay and allow this to devolve into a catastrophe for our local environment, Make a decision your grandchildren can live with.

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DOE and NYSERDA note the commentor’s desire for a decision that is protective of humans and the environment. The EIS evaluates the environmental impacts of decommissioning and/or long-term stewardship of WNYNSC. These impacts are presented in Chapter 4 of this EIS. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 33: Bridget M. Fitzgerald

April 12, 2009

Bridget M. Fitzgerald

109 N. Buffalo St. #33

Springville, NY 14141

what happens when the scoby hill landslide/collapse progresses?the erosion behind the nuke plant has escalated and is obvious. can we afford to let that stuff in catt. creek and proceed to lake erie,niag.river,lake ontario, etc. doesnt alot of the us drinking h20 come from the great lakes? doesnt the food we grow become at risk if the stuff flows downstream through our farmland. why did the d.o.t. ignore the studies from the 70's about "springville" and erosion? who's zoomin' who here?

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DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H. Erosion studies are discussed in Appendix F. Please also see the Issue Summaries for "Concerns about Potential Contamination of Water" and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Neither DOE nor NYSERDA can speak for the New York State Department of Transportation (NYSDOT). Questions about NYSDOT's handling of studies from the 1970s about Springville and erosion should be directed to that Agency.

Commentor No. 34: Rev. Bronwen W. Boswell,
Presbytery of Western New York

PRESBYTERY OF WESTERN NEW YORK

2060 UNION ROAD • WEST SENECA, NEW YORK 14224 • (716) 668-1995
FAX (716) 668-5336
WWW.PBYWNY.ORG



PRESBYTERIAN
CHURCH (U.S.A.)

April 9, 2009

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
PO Box 2368
Germantown, MD 20874

Dear Ms. Bohan:

At the regularly scheduled meeting on March 28, 2009 the Presbytery of Western New York unanimously passed the attached resolution on the clean up of the West Valley Nuclear Site. The Presbytery is the governing body of 64 churches with 12,640 members in Western New York.

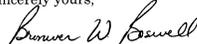
The Resolution:

Supports the full clean up of the entire West Valley nuclear waste site (also known as the Western NY Nuclear Service Center & Demonstration Project) through waste exhumation; and

Supports cleanup standards for the West Valley Demonstration Project site that are at least as protective as current guidance in New York State for unrestricted use levels, and are fully protective of vulnerable human populations including children, and fully protective of all of the natural features of the site, such as fish and wildlife, while ensuring safe drinking water for all downstream human populations.

The Presbytery asks that you take appropriate action to ensure the full clean up of the West Valley site. Thank you for your assistance.

Sincerely yours,


The Rev. Bronwen W. Boswell
Stated Clerk

BWB:jlt

Enclosure

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DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, of this Final EIS, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 34 (cont'd): Rev. Bronwen W. Boswell,
Presbytery of Western New York

**A Response to the Draft Environmental Impact Statement
for Cleanup of Nuclear Wastes at West Valley Demonstration Project**

By: Presbytery of Western New York

Regarding: Comment period to respond to proposed Draft Environmental Impact Statement offered by the U.S. Department of Energy and the NYS Energy Research & Development Authority

Whereas, Christians believe that we are obligated to care for Gods gift of creation for the good of all and for the benefit of future generations (Genesis 2:15); and

Whereas, the West Valley Demonstration Project is a nuclear waste site, located in Cattaraugus County, that contains large amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years or longer; and

Whereas, the site includes dangerous waste such as plutonium-238, -239, -240, and -241, uranium-238, strontium-90, iodine-129 and tritium which has been shown to cause leukemia and cancer and other negative health effects at low doses; and

Whereas, an underground plume of radioactivity has been identified at the site, which is slowly migrating in groundwater toward Buttermilk Creek, which then empties into Cattaraugus Creek and thence into Lake Erie; and

Whereas, radioactivity from the West Valley site has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario and therefore impacts all of the Western New York region; and

Whereas, the Department of Energy and NYS Energy Research & Development Authority have issued a Draft Environmental Impact Statement which offers four alternatives for the resolution of cleanup at the site, and such agencies are accepting public comments through June 8, 2009; and

Whereas, the Department of Energy and NYS Energy Research & Development Authority have identified a Preferred Alternative which favors decontaminating and demolishing all buildings and leaving buried waste onsite, while delaying final cleanup decisions for up to 30 years; and

Whereas, economists and scientists recently released a first-ever study on the long-term cleanup costs, The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site, funded by a New York State grant sponsored by Senator Catharine Young (R-Olean), and the

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34-2 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

34-3 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The

**Commentor No. 34 (cont'd): Rev. Bronwen W. Boswell,
Presbytery of Western New York**

study was conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates, and

Whereas, the study investigated the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that leaving buried waste onsite is both high risk and expensive while a waste excavation cleanup presents the least risk to a large population and the lowest cost, and

Whereas, the study confirmed that erosion is a powerful force at the West Valley site and estimated that within the next few hundred years erosion will create damaging gullies, with buried waste areas breached in less than 1000 years and as quickly as 150 years; and

Whereas, the study estimated that if just 1% of radioactivity leaked from the site, a large population of over 800,000 Lake Erie water users would be exposed to substantial radiation; and

Whereas, the study concluded that if wastes are left buried at West Valley and a release occurs, it will have expensive and disastrous consequences irreparably contaminating the Great Lakes region; and

Whereas, the study concluded that the costs of maintaining buried waste in an attempt to thwart future disaster will be far more expensive and far more risky than exhuming the waste and the precautionary and safest approach is to excavate and move the wastes; and

Whereas, the Preferred Alternative offered in the Draft Environmental Impact Statement involves a large degree of uncertainty as to the eventual long-term risks of leaving any portion of nuclear wastes buried at the site, and defers final decisions about the most dangerous nuclear wastes to the next generation of citizens and government agencies; and

Whereas, Christian commitment to caring for creation presents a moral imperative to act responsibly based on the best information available currently, as part of our compact with future generations;

Therefore, Be It Resolved that the Presbytery of WNY

Supports the full clean up of the entire West Valley nuclear waste site (also known as the Western NY Nuclear Service Center & Demonstration Project) through waste exhumation; and

Supports cleanup standards for the West Valley Demonstration Project site that are at least as protective as current guidance in New York State for unrestricted

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environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile.

Commentor No. 34 (cont'd): Rev. Bronwen W. Boswell,
Presbytery of Western New York

use levels, and are fully protective of vulnerable human populations including children, and fully protective of all of the natural features of the site, such as fish and wildlife, while ensuring safe drinking water for all downstream human populations; and

Communicates this resolution to the U.S. Department of Energy as an official comment on the Draft Environmental Impact Statement for commissioning and/or Long-Term Stewardship at the West Valley Demonstration Project; and

Communicates this resolution to the Western New York Congressional delegation and to President Barack Obama; and

Urges member congregations and individuals to submit similar comments to the U.S. Department of Energy prior to the comment period deadline, June 8, 2009, either in person at the public hearings on 3-31, 4-1, 4-2 or in writing to the following address:

Attn: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project, U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874
Toll Free Fax: 866-306-9094.

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cont'd

- 34-5** Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.
- 34-6** DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 34-7** DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.
- 34-8** DOE and NYSERDA note that the impacts of a release of 1 percent of the site radioactivity referred to by the commentor are taken from the *Synapse Report*. Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response. See also the response to Comment no. 34-7 regarding the long-term impacts analysis addressed in this EIS.

Commentor No. 34 (cont'd): Rev. Bronwen W. Boswell,
Presbytery of Western New York

- 34-9** The conclusions referenced in the comment are taken from the *Synapse Report*. As noted above, please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 34-10** The Preferred Alternative is the Phased Decisionmaking Alternative. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close in place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA. Please see the response to Comment no. 34-5 regarding the timing of the Phase 2 decision.

Commentor No. 35: Joan Herold

Joan Herold
437 Prospect Ave
East Aurora NY 14052
USA

Phone 716 655 0033
email: wacasey43@verizon.net

April 7, 2009

Catherine Bohan
EIS document Manager
West Valley Demonstration Project
U.S. Department of Energy
P>O Box 2368,
Germantown, MD 20874

Dear Ms. Bohan,

Re: West Valley Demonstration Project - and
Niagara's Year of our Shared Waters

On April 2nd, I attended a public hearing on alternatives for cleaning up the
West Valley Demonstration Project. The four alternatives presented were –

No Action Alternative – presented as a basis for comparing action alternatives

Sitewide Removal Alternative - All facilities removed, soil and water decontaminated
and all waste shipped off site

Sitewide Close-In-Place Alternative - All major facilities closed in place, buffer areas
established, facilities with residual radioactivity isolated by specially designed closure
structures and engineered barriers.

Phased Decisionmaking Alternative – Remove Main Plant Process Building,
Vitrification Facility and source area of North Plateau Groundwater Plume containing
Cesium 137 and Strontium 90. No long term management decisions at this time for
other facilities – or for the Groundwater Plume itself – and an assessment period of up
to 30 years.

Amazingly, the DOE and NYSEDA favor the last alternative. This Preferred
Alternative would remove about 2% of the radioactive waste in Phase 1 – with
decisions regarding the rest of the facilities to be made in an assessment period of up to
30 years. It was noted that this puts the burden and costs on the shoulders of our
children and grandchildren.

I think it was clear at the hearing that virtually 100% of those present favored
Alternative #2 – Sitewide removal of radioactive waste. This would be an appropriate
use of stimulus money as it would provide jobs, clean up contamination and leave land
clean enough for other uses.

35-1

35-1 DOE and NYSEDA acknowledge the commentor's preference for the Sitewide
Removal Alternative. The decision on the selected course of action and supporting
rationale will be documented in DOE's Record of Decision and NYSEDA's
Findings Statement. Please see the Issue Summary for "Support for Sitewide
Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for
further discussion of this issue and DOE's and NYSEDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides
at WYNSC during previous WVDP operations. These radionuclides are now
contained in the vitrified high-level radioactive waste canisters currently in storage
at WYNSC and will be removed consistent with recommendations from the blue
ribbon commission convened to address management and ultimate disposition of
high-level radioactive waste and spent nuclear fuel. About another 1 percent of the
remaining long-lived radionuclides would be removed during Phase 1 of the Phased
Decisionmaking Alternative. A decision on the remaining approximately 30 percent
of these radionuclides would be decided as soon as practicable, but no later than
10 years from issuance of the initial DOE Record of Decision and NYSEDA
Findings Statement, if the Phased Decisionmaking Alternative is selected (see
below).

Regarding the 30-year timeframe cited by the commentor, the Phased
Decisionmaking Alternative included in the November 2008 Revised Draft EIS
allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but
no later than 30 years from issuance of the initial DOE Record of Decision and
NYSEDA Findings Statement, if the Phased Decisionmaking Alternative were to
be selected. In response to public comments expressing concern about the length
of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and
NYSEDA have reconsidered this timeframe for making a Phase 2 decision. As a
result, the Phased Decisionmaking Alternative presented in this Final EIS specifies
that a Phase 2 decision would be made no later than 10 years after issuance of the
initial DOE Record of Decision and NYSEDA Findings Statement, if the Phased
Decisionmaking Alternative is selected.

Once DOE's Record of Decision is issued, it may be possible to use stimulus funds
for some of the selected actions. DOE will explore options for use of the funds at
that time.

Commentor No. 35 (cont'd): Joan Herold

West Valley is subject to powerful forces of erosion, and is far from a stable site. Even a small leakage from the site would affect local streams that flow into the Great Lakes. And already some radioactivity has been detected in surrounding areas.

2009 is Niagara's Year of our Shared Waters – celebrating the 100th anniversary of the Boundary Waters Treaty between USA and Canada. How can the United States, in good conscience, delay for 30 years, or more, a full cleanup of West Valley Demonstration Project, which is already leaching pollutants into the Great Lakes – our “Shared Waters.”

Yours truly,

cc. President Barack Obama
 Senator Charles Schumer
 Senator Kristen Gillibrand
 Assemblyman Brian Higgins

35-2

35-2 DOE and NYSDERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. Please also see the Issue Summaries for “Concerns about Potential Contamination of Water” and “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSDERDA’s responses.

When Nuclear Fuel Services operated WNYNSC from 1966 through 1981, small quantities of radioactive and other materials were discharged to the air and surface water bodies as part of authorized operations. Chapter 3, Section 3.11.5, summarizes the consequences of historical accidents or spills at WNYNSC that resulted in release of radioactive material or hazardous constituents to the environment. Annual releases to surface water bodies and air from current WVDP activities are well within permitted limits established by applicable regulatory agencies, as discussed in Sections 3.6.1 and 3.7.2 of this Final EIS and reported in annual site environmental reports (available at <http://www.wv.doe.gov>).

Commentor No. 36: David Ashley

May 18, 2009

David Ashley

101 Windsor Place

Syracuse, NY 13210

I believe immediate action is needed to prevent radioactive waste from leaching off the site into streams or the ground watertable.

|| 36-1

36-1

DOE and NYSERDA note the commentor's desire for prompt action to address site cleanup. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

**Commentor No. 37: Kimberly D. Reichert, RMC,
Village Administrator, Clerk-Treasurer, Village of East Aurora**



I, Kimberly D. Reichert, Village Administrator/Clerk-Treasurer of the Village of East Aurora, Erie County, New York, do hereby certify that the attached resolution is a true copy of the original resolution adopted by the Village Board of the Village of East Aurora, at a meeting of the said Board held on the 18th day of May 2009.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Village of East Aurora, New York, this May 19, 2009.



Kimberly D. Reichert
Kimberly D. Reichert, RMC
Village Administrator
Clerk-Treasurer

Trustee Mercurio offered the following Resolution and moved its adoption:

**RESOLUTION ON WEST VALLEY
NUCLEAR WASTE SITE CLEANUP**

Whereas, thirty miles south of Buffalo, NY, the West Valley nuclear waste site, located in Cattaraugus County, is burdened with vast amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years, some for millions of years, including plutonium, uranium, strontium-90 and iodine-129, and can cause leukemia and cancer at low doses;

Whereas, the site is the nation's only venture into commercial reprocessing of irradiated nuclear fuel, was operated by Nuclear Fuel Services and ended in a total failure in 1976 with the company leaving and passing on cleanup responsibility to the government and taxpayers;

Whereas, the site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater, and radioactivity from the site

37-1

37-2

37-3

37-1 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

37-2 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

37-3 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

**Commentor No. 37 (cont'd): Kimberly D. Reichert, RMC,
Village Administrator, Clerk-Treasurer, Village of East Aurora**

has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario demonstrating a potential for the leaking site to contaminate drinking water supplies for millions of people;

37-3
cont'd

Whereas, the Department of Energy and NYS Energy Research & Development Authority are proposing to leave buried waste onsite, (including high level radioactive waste tanks when such tanks are at the end of their useful lives and could leak contamination at any time), and delay final cleanup decisions for up to 30 years;

37-4
37-5

Whereas, economists and scientists recently released a first-ever study on the long-term cleanup costs, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, funded by a New York State grant sponsored by Senator Catharine Young (R-Clean), and the study was conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates;

37-6

Whereas, the study investigated the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that a full waste excavation cleanup costs less, at \$9.9 billion, and presents the least risk to the population than leaving buried waste onsite, which is expensive, at \$13 billion, carries high risks, and could also cost an additional \$27 billion or more if a catastrophic release of radioactive waste contaminated drinking water supplies;

37-7

Whereas, scientists found that erosion is a powerful and fast moving force in the region, and leaving buried waste onsite poses a risk to people if controls fail and dangerous radioactive waste pollutes local, regional and international waterways into Lake Erie, the Niagara River and beyond;

37-8

Whereas, scientists found the site poses a significant danger to people who live along nearby creeks, Buffalo residents and people living along the shores of Lakes Erie and Ontario, and if just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars;

37-9

Whereas, scientists and economists concluded that if wastes are left buried at West Valley and a release occurs, it can have expensive and disastrous consequences irreparably contaminating the precious Great Lakes region, and the costs of maintaining buried waste in an attempt to thwart future disaster will be far more expensive and far more risky than excavating the radioactive waste which is the safest, precautionary approach;

37-10

Therefore, Be It Resolved, that the Village of East Aurora, located in the County of Erie, State of New York, goes on record with the passage of this Resolution that it

SUPPORTS the full cleanup of the entire West Valley nuclear waste site (also known as the Western NY Nuclear Service Center & Demonstration Project) through waste excavation; and

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

37-4

Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being

**Commentor No. 37 (cont'd): Kimberly D. Reichert, RMC,
Village Administrator, Clerk-Treasurer, Village of East Aurora**

SUPPORTS cleanup standards that are at least as protective as current state radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water.

This resolution will be distributed to state and federal elected officials and the US Department of Energy and NYS Energy Research and Development Authority.

Seconded by Trustee Scheer, and **ADOPTED** with voting as follows:

- Trustee Mercurio Aye
- Trustee McDonnell Aye
- Trustee Scheer Aye
- Trustee Biggs Aye
- Trustee Kasprzak Aye
- Mayor Crook Aye

|| 37-10
cont'd

further reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile.

37-5 Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

37-6 DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response.

37-7 DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

37-8 DOE and NYSERDA note that the impacts of a release of 1 percent of the site radioactivity referred to by the commentor are taken from the *Synapse Report*. Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2

**Commentor No. 37 (cont'd): Kimberly D. Reichert, RMC,
Village Administrator, Clerk-Treasurer, Village of East Aurora**

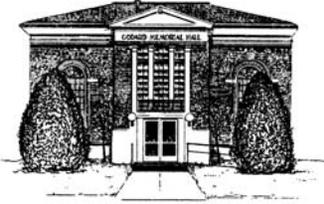
of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response. See also the response to Comment no. 37-7 regarding the long-term impacts analysis addressed in this EIS.

37-9 The conclusions referenced in the comment are taken from the *Synapse Report*. As noted above, please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response.

37-10 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, of this Final EIS, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 38: Mary E. Bolt, Town Clerk,
Town of Concord



Town of Concord

MARY E. BOLT
TOWN CLERK
TAX COLLECTOR
(716) 592-4948

May 22, 2009

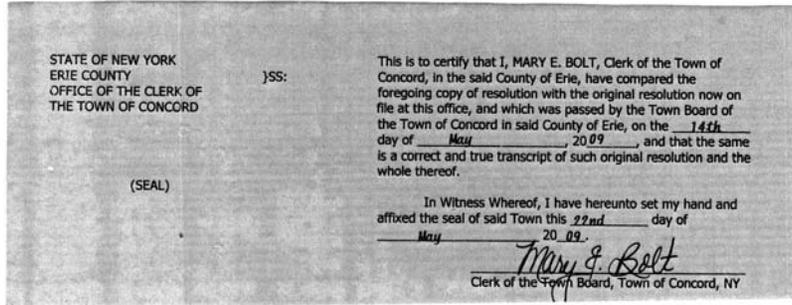
To: Mr. Bryan Bower, Director

From: Mary E. Bolt, Town Clerk

Enclosed please find certified copy of a Resolution passed by the Concord Town Board at their meeting held on Thursday, May 14th. It concerns cleaning up of the West Valley site.

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Commentor No. 38 (cont'd): Mary E. Bolt, Town Clerk,
Town of Concord



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Commentor No. 38 (cont'd): Mary E. Bolt, Town Clerk,
Town of Concord

TOWN OF CONCORD
ERIE COUNTY
SPRINGVILLE, NEW YORK

INTRO NO. 54
RESOLUTION NO. 12

DATE May 22nd, 2009

To Whom It May Concern:

I hereby certify that a meeting of the Town Board of the Town of Concord held at the Town Hall in the Town of Concord on the 22nd Day of May, 2009, a resolution was adopted of which the following is a true copy:

Councilman Snyder moved the adoption of Resolution 12, seconded by Councilman Salzler, and passed unanimously:

Revised Draft Environmental Impact Statement for Decommissioning and/ or Long Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center

WHEREAS: The Town Board of the Town of Concord appreciates the work that went into, and the cooperation among the core team members, especially DOE and NYSERDA, and all the groups involved in bringing the site to its current condition and to this Revised Draft EIS, and

WHEREAS: The Town Board of the Town of Concord would also like to recognize the important role the West Valley Citizen's Task Force (CTF) has played in this process and would like to emphasize the importance of the CTF's continuing role in this process as we move forward, and

WHEREAS: The Town Board of the Town of Concord makes it's comments and decisions on this Revised Draft EIS with public health and safety on the forefront of our minds, and wishes to best represent the views and sentiment of the residents of the Town of Concord, and

WHEREAS: The Town Board of the Town of Concord, for the purposes of making comments on this Revised Draft EIS, operates under the overall premise that the site will be completely cleaned to a point of sitewide removal where all waste, both radioactive and all other types, will be shipped off site for disposal as soon as reasonably possible, and eventually unrestricted use of the land will be achieved where applicable and safe, and

WHEREAS: we understand that there are obstacles that currently prevent full cleanup and site wide removal from taking place in the near future, the main one being, the lack of a Federal waste repository to send orphan and/ or high - level radioactive waste to, and

WHEREAS: we recognize that there are certain risks associated with any of the alternatives listed in this Draft EIS and that certain risks may be greater for sitewide removal, these could include impacts to human health and safety in the form of a release during cleanup activities, a catastrophic release, and a dose risk during transportation of waste, all of which could affect the general public or workers involved in clean up activities through several media including air, soil, and water, and

WHEREAS: The Town Board of the Town of Concord asserts that these risks and many other risks not mentioned, will eventually be outweighed by public sentiment and demand for sitewide removal of all wastes and, in time, by the risks associated with leaving this waste on site for long periods of time, and

WHEREAS: we recognize and agree that more time is needed to study erosion modeling, transportation methods, developing technologies to aid in containment and removal, engineered man made barrier technology, and other risks, and that these studies will support the eventuality of sitewide removal and full cleanup, and

38-1

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38-3

38-4

38-5

38-1 DOE and NYSERDA appreciate the commentor's recognition of the efforts of the Citizen Task Force, the involved agencies, and others in preparing this EIS and understand the basis for the comments provided.

38-2 DOE and NYSERDA acknowledge the commentor's preference for an alternative in which there is sitewide removal of all waste and unrestricted use of the site where applicable and safe. The decision on the selected course of action and supporting rationale will be provided in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

38-3 As described in Chapter 2, Section 2.4 of this EIS, there is currently no offsite disposal location for vitrified high-level radioactive waste canisters and certain wastes that may be generated by sitewide removal of all wastes. However, as stated in the same section, it is conceivable that the canisters and waste could be shipped off site during the time over which this alternative is implemented.

38-4 Please refer to the response to Comment no. 38-2. The commentor is correct that there are risks associated with implementation of any of the alternatives evaluated in this EIS. Chapter 4 of this EIS presents the impacts of the alternatives, including the potential human health impacts to workers and the public in the short-term and the long-term, to provide information to be considered by DOE and NYSERDA decisionmakers in selecting an alternative for decommissioning and/or long-term stewardship of WNYNSC.

38-5 Chapter 2, Section 2.4.3, of this EIS describes decommissioning activities under the Phased Decisionmaking Alternative and provides a discussion of the data collection, studies, and monitoring to be performed during implementation of Phase 1 and the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2. Section 2.4.3.3 explains how the additional data and studies would be used in making decisions for potential future activities. These studies will not necessarily lead to a full cleanup of the site as expressed by the commentor.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to

Commentor No. 38 (cont'd): Mary E. Bolt, Town Clerk,
Town of Concord

WHEREAS; the fact that NYSERDA does not agree with the analysis of soil erosion over the long term in the Revised Draft EIS indicates that more studies are needed in this area, but also, that more studies of this nature will not necessarily provide scientifically defensible analysis and therefore, due to the unique geographical conditions that exist on this site, erosion conditions over a longer period of time may never be accurately predictable, indicating sitewide removal as the best long term option, and

38-5
cont'd

WHEREAS; we question some of the transportation figures presented in the Revised Draft EIS, including the number of fatalities associated with rail accidents in transporting waste, a more thorough study is required in this area which may reveal these figures as overestimated and therefore, reveal a more positive conclusion toward moving forward with sitewide removal in regards to transporting waste of site which is critical to this alternative, and

38-6

WHEREAS; any additional studies related to erosion should take into consideration real world observations that can be made on site; just as the NYSDOT was surprised at the slumping conditions that developed while extending the 219 expressway through the Town of Concord in the Scoby Hill Road area, many local residents in our community predicted similar scenarios based on real world observations made over time, this to could be said about the conditions at the West Valley Site and therefore, the same lesson should be learned: erosion model output and related studies should be compared to actual field conditions and related data collected over time, this will inevitably lead to a conclusion to remove waste from the site, versus storing waste on site for the long term, and

38-5
cont'd

WHEREAS; we understand that the stability and long term performance of engineered barriers is critical to a close in place alternative or a close in place decision for Phase 2 of the Phased Decision Making Alternative and therefore, it shouldn't be assumed that these barriers will remain in place, unaffected by weather, time, and erosion, as we have observed the affects of these conditions on the engineered barriers currently on site and that sitewide removal is the only guarantee of no release from the site over the long term due to the deterioration or failure of engineered barriers, and

WHEREAS; we also recognize that some important decisions will have to be made throughout the Phased Decision Making process and that these decisions will be made with full public participation and consideration, with input from all the parties involved, with the best information at hand, will require revision of the EIS, and will eventually lead to sitewide removal and full cleanup, and

38-7

WHEREAS; we also want to re-emphasize the importance of public involvement in whatever alternative is selected, a clear and defined public process is necessary for public review and input for decisions that will need to be made throughout this process, especially that of the vaguely defined Phase 2 of the Phased Decision Making Alternative where regular consultation with the public will be a necessity and should be a guarantee until the day the site is completely clean and release plans are in place, and

38-6

THEREFORE; The Town Board of the Town of Concord agrees that the preferred alternative of Phased Decision Making is a prudent way to move forward in that Phase 1 activities allow for a number of valuable cleanup activities to take place including removal of the Main Plant Process building, the source of the North Plateau Groundwater Plume, and the Lagoons tin Waste Management Area 2; and that this Phase also provides time to complete necessary studies, investigate and develop improved technologies, and further characterize site waste, and

38-8

THEREFORE; The Town Board of the Town of Concord has determined that a time frame not to exceed 30 years for Phase 1 activities is far too long and should be limited to 10 years to prevent a loss of momentum toward full cleanup; this would include political, public, funding, and workforce momentum which could be lost over a 30 year period of time, now be it

RESOLVED; that the Town Board of the Town of Concord supports a combined alternative of phased decision making with an understanding of eventual sitewide removal resulting in the release of as much of the site as possible for unrestricted use at the time of release, we understand this as completing Phase 1 of the Phased Decision Making Alternative, and Phase 2 would result in a decision to move ahead with sitewide removal.

be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analyses. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

The transportation analysis has been revised and updated in this Final EIS to change the basis of the nonradiological impact analysis from a route-specific approach to a state-by-state approach. This change eliminated the influence of state-specific accident data associated with states in the Northeastern United States that have higher accident rates. This change in approach lowered the impacts from rail transport, although nonradiological impacts from rail transport are still shown as being higher than truck transport. This, in part, is due to the use of rail statistics that are in terms of railcar-kilometers. There is no literature available that provides accident and fatality rates on a train-kilometer basis. Appendix J of this Final EIS has been revised to address the changes made in the transportation analysis and further discuss uncertainty.

38-7

If the Phased Decisionmaking Alternative is selected, as discussed in response to Comment no. 38-5, a variety of studies is expected to be performed during Phase 1. Information gathering conducted during Phase 1 is expected to provide data to aid consensus decisionmaking for Phase 2 activities. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining

*Commentor No. 38 (cont'd): Mary E. Bolt, Town Clerk,
Town of Concord*

facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements.

Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

38-8 DOE and NYSERDA acknowledge the commentor's support for the Phased Decisionmaking Alternative and opinion that the Phase 2 decision should be made within 10 years. The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA also acknowledge the commentor's preference for sitewide removal as the Phase 2 decision if the Phased Decisionmaking Alternative

*Commentor No. 38 (cont'd): Mary E. Bolt, Town Clerk,
Town of Concord*

is selected. It should be noted that Phase 2 activities could include sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements.

Commentor No. 39: Bruce C. Chapman

May 8, 2009

Bruce C. Chapman

Hammond Hill Road

East Otto, NY 14729

This site needs to be cleaned up BEFORE serious ground and surface water contamination occur. Whoever decided that West Valley was a suitable storage site for radioactive waste, had no clue as to the geography of the area. It is extremely MOBILE, with shallow soils and shale substrate. Failure to remove this waste in a timely manner, will result in litigation against the Federal Govt. and State for malfeasance beyond all comprehension.

39-1

39-1

DOE and NYSERDA acknowledge the commentor's preference for site cleanup and opinion about the unsuitability of WNYNSC for long-term storage or disposal of wastes. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Commentor No. 40: Linda A. DeStefano

May 8, 2009

Linda A. DeStefano

5031 Onondaga Rd.

Syracuse, NY 13215-1403

I favor the full cleanup alternative. Although there is no totally acceptable site to store radioactive wastes that are active for thousands of years, West Valley is clearly a poor choice so another site should be found. Meantime, there should be a moratorium on all new nuclear reactors. Further, old reactors should no longer have their licenses extended beyond their intended lifetime.

40-1

40-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 41: Bob Alessi

May 8, 2009

Bob Alessi

3637 Northcreek Run

Wheatfield, NY 14120

Comment: Remove the waste from West Valley. Do not stop this project. || 41-1

41-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 42: Lori A. Pangborn, Deputy Clerk,
Cattaraugus County Legislature



Cattaraugus County
John R. Searles, Clerk of the Legislature

303 Court St.
Little Valley, NY 14755
Phone (716) 938-2577
Fax (716) 938-2760

May 20, 2009

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
Ashford Office Complex
9030 Rte. 219
West Valley, NY 14171

Dear Ms. Bohan:

Enclosed you will find a certified resolution of Act Number 258-2009, adopted by the Cattaraugus County Legislature on May 13, 2009.

If you have any questions, please do not hesitate to contact my office at (716) 938-2232.

Sincerely,

Lori A. Pangborn, Deputy Clerk
Cattaraugus County Legislature

Enclosure

Response side of this page intentionally left blank.

**Commentor No. 42 (cont'd): Lori A. Pangborn, Deputy Clerk,
Cattaraugus County Legislature**

ACT NO. 258-2009

by Mrs. Abers, Mr. Burrell, Mr. Ellis,
Mr. O'Brien, Mr. Snyder, Mr. McClune and Mr. Sprague
and Mr. Aiello, Mr. Marsh, Mr. McLarney, Mr. Murphy,
Mr. Neal, Mr. Teachman, Mr. Vecchiarella, Ms. Vickman,
Mr. Boser, Mr. Giardini, Mr. Hebdon, Mr. Padlo,
Mr. Ward and Mrs. Witte

**SUPPORTING SITEWIDE REMOVAL ALTERNATIVE IN
REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR
DECOMMISSIONING AT WEST VALLEY DEMONSTRATION PROJECT AND
WESTERN NEW YORK NUCLEAR SERVICE CENTER**

Pursuant to Section 153 of the County Law.

I. WHEREAS, the Western New York Nuclear Service Center is located at 10282 Rock Springs Road, West Valley, New York, and

II. WHEREAS, the public has been given an opportunity to comment on the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (DOE/EIS-0226-D (revised)), and

III. WHEREAS, the Revised Draft Environmental Impact Statement analyzes four alternatives:

- Sitewide Removal,
- Sitewide Closed-In-Place,
- Phased Decisionmaking,
- No Action

and

IV. WHEREAS, under the Sitewide Removal Alternative, all site facilities would be removed, all environmental media would be decontaminated, and all radioactive, hazardous and mixed waste would be characterized, packaged as necessary, and eventually shipped off-site for disposal, and

V. WHEREAS, completion of these activities would allow unrestricted use of the site, and

VI. WHEREAS, the Cattaraugus County Legislature has some concerns with the Sitewide Removal Alternative, and

VII. WHEREAS, the revised DEIS indicates that the Sitewide Removal Alternative would take 64 years to implement the decommissioning, and

VIII. WHEREAS, the County Legislature has been informed that the length of time was based on the assumption of funding the Sitewide Removal at a funding level identical to the current funding for the project, and

IX. WHEREAS, both the state and federal governments should be put on notice that funding a project at a level which would take 64 years to complete is absurd, and

X. WHEREAS, funding should be increased dramatically so that the process could be completed within 10 years, and

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42-1 Comment noted. This Final EIS retains the four alternatives, including the Sitewide Removal Alternative.

42-2 Comment noted. The duration of the Sitewide Removal Alternative is projected to be approximately 60 years and is based on funding projections. However, this EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of decisions made in DOE's Record of Decision and NYSERDA's Findings Statement, including how quickly they can be implemented, is contingent on the level of funding allocated.

42-3 The Sitewide Removal or the Phased Decisionmaking Alternative with sitewide removal selected in Phase 2 would result in the highest worker population doses. Regardless of the alternative selected, individual worker doses would be maintained as low as reasonably achievable through the use of engineering and administrative controls. Engineering controls span a broad range of technologies including use of shielding and working at a distance (including using robotics). As discussed in Chapter 4, Section 4.1.9.1, of this EIS, DOE limits dose to a worker to 5 rem per year, but an administrative control level of 500 millirem per year has been established for activities on the Project Premises. All workers working in radiation areas would be monitored to ensure their doses are within annual limits.

42-4 DOE and NYSERDA acknowledge that the commentor considers the No Action Alternative to be the least desirable due to the amount of precipitation in the area, concerns about erosion, and proximity to the Great Lakes. DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Appendix D, Section D.3.1.1, of this EIS indicates that the impact of natural cycling (periods of wetter or dryer conditions) is addressed through sensitivity analyses. Erosion studies are discussed in Appendix F.

**Commentor No. 42 (cont'd): Lori A. Pangborn, Deputy Clerk,
Cattaraugus County Legislature**

XI. WHEREAS, another concern of the County Legislature with the Sitewide Removal Alternative is the increased exposure to radiation by workers on the site, and

XII. WHEREAS, the County Legislature requests that the state and federal governments explore the increased use of remote control robotic devices to minimize, as much as possible, exposure of workers to increased radiation levels, and

XIII. WHEREAS, the County Legislature has considered the No Action Alternative, which it rejects, since the amount of precipitation in the area, the erosion probabilities, and the proximity to the Great Lakes makes the No Action Alternative the least desirable, and

XIV. WHEREAS, the County Legislature has reviewed the Sitewide Closed-In-Place Alternative and rejects that alternative for the reasons that it rejects the No Action Alternative, and

XV. WHEREAS, although the Sitewide Removal and Phased Decisionmaking phase I activities are similar in their treatment of the canisters and the process building, the County Legislature is concerned about the High-Level Waste Tanks, the NRC-Licensed Disposal Area and the State-Licensed Disposal Area, the North Plateau Groundwater Plume and the Cesium Prong, and

XVI. WHEREAS, the County Legislature is aware that those areas would generate waste for which there may be no current off-site disposal location, and

XVII. WHEREAS, the federal government should be encouraged to designate a site more suitable for this waste, with preference for a site which would have considerably less precipitation, erosion potential, or proximity to major freshwater bodies than the West Valley site, and

XVIII. WHEREAS, with regard to the North Plateau Groundwater Plume, the Phased Decisionmaking Alternative only removes the source area of the groundwater plume, while the Sitewide Removal Alternative cleans up both the source area and non-source area of the North Plateau Groundwater Plume, and

XIX. WHEREAS, due to the continued migration of the Groundwater Plume, there is the probability that the plume will migrate off-site, thereby contaminating currently uncontaminated soil and water supplies, and

XX. WHEREAS, the United States Department of Energy and the New York State Energy Research and Development Authority support the Phased Decisionmaking Process because of a disagreement relating to the long-term performance assessments, and

XXI. WHEREAS, while projecting site conditions at West Valley from between 10,000 and 100,000 years from the present date may be an interesting academic exercise, the inability to accurately project weather conditions next week makes such performance assessments a fantasy, now, therefore, be it

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- 42-5 DOE and NYSDERDA acknowledge that the commentor rejects the Sitewide Close-In-Place Alternatives for the same reasons that it opposes the No Action Alternative. Please see the response to Comment no. 42-4.
- 42-6 If this Phased Decisionmaking Alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSDERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA.
- 42-7 As described in Chapter 2, Section 2.4 of this EIS, there is currently no offsite disposal location for vitrified high-level radioactive waste canisters and certain wastes that may be generated by sitewide removal of all wastes. However, as stated in the same section, it is conceivable that the canisters and waste could be shipped off site during the time over which this alternative is implemented. The commentor's opinion regarding the characteristics of a more suitable site is noted.
- 42-8 As noted in the comment, the source of the North Plateau Groundwater Plume would be removed in Phase 1 if the Phased Decisionmaking Alternative is selected. Please see the response to Comment no. 42-6 regarding the options for Phase 2. It is correct that if the North Plateau Groundwater Plume is not removed that it would continue to migrate. Potential groundwater impacts associated with the EIS alternatives, including impacts of the North Plateau Groundwater Plume, are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.
- 42-9 DOE and NYSDERDA see the Phased Decisionmaking Alternative as a way to make substantial progress on the decommissioning and/or long-term stewardship of WNYNSC while conducting activities to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2. Section 2.4.3.3 explains how the additional data and studies would be used in making decisions for potential future activities.
- 42-10 DOE believes that this EIS presents an analysis of long-term impacts using a theoretical approach that is generally accepted by the scientific community

**Commentor No. 42 (cont'd): Lori A. Pangborn, Deputy Clerk,
Cattaraugus County Legislature**

I. RESOLVED, that the Cattaraugus County Legislature hereby supports the Sitewide Removal Alternative described in the Revised Draft Environmental Impact Statement for the above-stated reasons, and be it further
II. RESOLVED, that the Clerk of the Legislature is hereby directed to forward a certified copy of this resolution to the United States Department of Energy and the New York State Energy Research and Development Authority.

42-11

STATE OF NEW YORK)
COUNTY OF CATTARAUGUS)

I, the undersigned, Deputy Clerk of the Legislature of the County of Cattaraugus, New York, do hereby certify that I have compared the foregoing copy of Resolution ACT No. 258-2009 of the Legislature of Said County of Cattaraugus with the original thereof on file in my office and duly adopted by said Legislature at a meeting of said Legislature on the 13th day of May, 2009, and that the same is a true and correct copy of such resolution and of the whole thereof.

In testimony whereof, I have hereunto set my hand and affixed the seal of said County this 14th day of May, 2009.



Lori A. Pangborn, Deputy Clerk
Cattaraugus County Legislature

42-11

involved in such analyses. In general, DOE's position is that the agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 43: Cathie Synor, Assistant Clerk,
Niagara County Legislature



NIAGARA COUNTY LEGISLATURE
NIAGARA COUNTY COURTHOUSE
175 HAWLEY STREET
LOCKPORT, NY 14094-2470

WILLIAM L. ROSS
Chairman

MARYJO TAMBURLIN
Clerk

(716) 439-7000
(716) 439-7124 Fax

March 26, 2009

On behalf of the Niagara County Legislature I am forwarding to you a copy of Resolution # IL-030-09 which was discussed during the Niagara County Legislature Meeting on Tuesday, March 17, 2009.

Sincerely,

A handwritten signature in cursive script that reads "Cathie Synor".

Cathie Synor
Assistant Clerk of the Legislature

Enclosure

Response side of this page intentionally left blank.

Commentor No. 43 (cont'd): Cathie Synor, Assistant Clerk,
Niagara County Legislature

NIAGARA COUNTY LEGISLATURE

FROM: Legislator John D. Ceretto & Legislator DATE: 3/17/2009 RESOLUTION # 11-030-09
Clyde L. Burmaster

APPROVED BY CO. ATTORNEY	REVIEWED BY CO. MANAGER	COMMITTEE ACTION	LEGISLATIVE ACTION
_____	_____	_____	Approved: Ayes _____ Abs. _____ Noes <u>0</u>
_____	_____	_____	Rejected: Ayes _____ Abs. _____ Noes _____
_____	_____	_____	Referred: _____

RESOLUTION ON WEST VALLEY NUCLEAR WASTE SITE CLEANUP

WHEREAS, the West Valley nuclear waste site, (also known as the Western New York Nuclear Service Center & Demonstration Project) is located 30 miles south of Buffalo and contains large amounts of toxic and radioactive wastes, some of which will remain dangerous for thousands of centuries, and

WHEREAS, the site represents the nation's sole venture into commercial reprocessing of irradiated nuclear fuel, and

WHEREAS, this venture ended in 1976 when the private partner failed, leaving cleanup responsibility to government taxpayers, and

WHEREAS, contamination from this site has been found as far away as the Niagara River at Lake Ontario, and

WHEREAS, the Niagara River represents the drinking water supply source for Niagara County, and the Great Lakes represent a drinking water source for millions of people, and

WHEREAS, the Department of Energy has identified alternatives for the remediation of the West Valley site ranging from complete removal of all radioactive materials to taking no action, and proposes a partial remediation while leaving buried waste onsite, including high level radioactive waste tanks, and

WHEREAS, the Department of Energy preference would postpone a final cleanup decision for up to 30 years, and

WHEREAS, independent joint economic and scientific analysis, funding by a New York State grant, was conducted by expert consultants and academics, and

WHEREAS, these experts concluded that over time full cleanup is approximately 30% less expensive than partial cleanup and maintenance, not including any future leaks that would increase cleanup costs exponentially, now, therefore, be it

RESOLVED, that the Niagara County Legislature supports the option of full cleanup of the West Valley nuclear waste site using standards that are at least as protective as current State radiation standards and toxic standards for unrestricted use, and be it further

➤ RESOLVED, that copies of this resolution be sent to Governor David Paterson, Senator George D. Maziarz; Senator Antoine D. Thompson; Senator William Stachowski; Senator Dale Volker; Senator Michael Ranzenhofer; Senator Catharine M. Young; Member of the Assembly Jane L. Corwin; Member of the Assembly Jim Hayes; Member of the Assembly Francine DelMonte; Member of the Assembly Robin Schimminger; Member of the Assembly Stephen Hawley; Member of the Assembly Crystal D. Peoples; Member of the Assembly Sam Hoyt; Member of the Assembly Mark J. F. Schroeder; Member of the Assembly

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43-1 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

43-2 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

43-3 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS. Also, please refer to the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for a discussion of this issue and DOE's and NYSERDA's response.

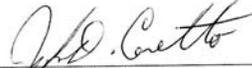
The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

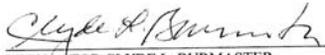
43-4 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal

Commentor No. 43 (cont'd): Cathie Synor, Assistant Clerk,
Niagara County Legislature

IL-030-09
Page 2

Jack Quinn; Member of the Assembly Dennis H. Gabryszak; Member of the Assembly Joe Giglio; Senator Charles Schumer; Senator Kirsten Gillibrand; Congresswoman Louise M. Slaughter; Congressman Brian Higgins; Congressman Christopher Lee, the U.S. Department of Energy, and the New York State Energy Research and Development Authority.

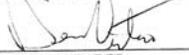

LEGISLATOR JOHN D. CERETTO


LEGISLATOR CLYDE L. BURMASTER

APPROVED FOR SUBMISSION:


CHAIRMAN

MAJORITY LEADER


MINORITY LEADER

- Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.
- 43-5 Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.
- 43-6 DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response.
- 43-7 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 43 (cont'd): Cathie Synor, Assistant Clerk,
Niagara County Legislature

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC that are embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, of this Final EIS, these regulatory requirements include RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 44: Paul R. Guenther,
League of Women Voters

May 28, 2009

Paul R. Guenther

League of Women Voters

2772 South Creek Road

Hamburg, NY 14075

I have been following the progress on this site for many years, including the glassification process of solids. I have taken my Hutch Tech High School students to observe the site and take water samples in the 1970s. We have had inaction here for far too long! A huge area depends on pure water from Lake Erie and points downstream.

44-1

44-1

The purpose of this EIS is to evaluate the environmental impacts of the various alternatives for the decommissioning and/or long-term stewardship of WNYNSC, including impacts on water resources. These impacts are presented in Chapter 4 of this EIS. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 45: Kathleen McCormick

May 28, 2009

Kathleen McCormick

53 Milton Street

Williamsville, NY 14221

Please remove all nuclear waste from the West Valley site. The threat to our water supply is too great to leave it in place.

45-1

45-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 46: Brenda Rigby Riehle, Clerk of the Board,
Allegany County Board of Legislators

ALLEGANY COUNTY BOARD OF LEGISLATORS

County Office Building * 7 Court Street
Belmont, New York 14813-1083
Telephone 585-268-9222 * Fax 585-268-9446

Curtis W. Crandall
Chairman

Brenda Rigby Riehle
Clerk of the Board

May 27, 2009

Ms. Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Dept. of Energy
Ashford Office Complex, 9030 Route 219
West Valley NY 14171

Dear Ms. Bohan:

Enclosed please find a certified copy of Resolution No. 97-09 (*Endorsing the Position of Cattaraugus County in Support of the Sitewide Removal Alternative in Revised Draft Environmental Impact Statement for Decommissioning at West Valley Demonstration Project and Western New York Nuclear Service Center*) approved by the Allegany County Board of Legislators on May 26, 2009.

Thank you in advance for your attention to this matter.

Sincerely,



Brenda Rigby Riehle, Clerk of the Board
Allegany County Board of Legislators

BRR/af
Enclosure

This letter was sent to:

Cattaraugus County Legislative Board Chair Crystal Abers
U.S. Dept. of Energy EIS Document Manager Catherine Bohan
U.S. Dept. of Energy NEPA Director Carol M. Borgstrom
NYS Energy Research & Development Authority Program Director Paul J. Bembia
NYS Energy Research & Development Authority Deputy Counsel David A. Munro
U.S. Senator Charles E. Schumer
U.S. Senator Kirsten Gillibrand
U.S. Congressman Eric Massa
NYS Senator Catharine M. Young
NYS Assemblyman Daniel J. Burling
NYS Assemblyman Joseph M. Giglio
Seneca Nation of Indians President Barry Snyder
NYS Association of Counties Executive Director Stephen J. Acquario
InterCounty Association of WNY Secretary Lisa Nicolay

Response side of this page intentionally left blank.

**Commentor No. 46 (cont'd): Brenda Rigby Riehle, Clerk of the Board,
Allegany County Board of Legislators**

Intro. No. 104 - 09

RESOLUTION NO. 97-09

Page 1 of 2 pages

County Attorney Jm

TITLE: ENDORSING THE POSITION OF CATTARAUGUS COUNTY IN SUPPORT OF THE SITEWIDE REMOVAL ALTERNATIVE IN REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR DECOMMISSIONING AT WEST VALLEY DEMONSTRATION PROJECT AND WESTERN NEW YORK NUCLEAR SERVICE CENTER

Offered by: Human Services Committee

WHEREAS, Cattaraugus County lies directly to the west of Allegany County, and

WHEREAS, environmental, economic and public health concerns that impact Cattaraugus County have the potential of also impacting the residents of Allegany County, and

WHEREAS, the potential for ground water contamination that migrates offsite poses a risk to all Western New Yorkers, and

WHEREAS, decommissioning and site cleanup at the West Valley Demonstration Project and Western New York Nuclear Service Center are deemed to have an impact on residents of Allegany County , and

WHEREAS, Allegany County is aware of the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (DOE/EIS-0226-D (revised)), and

WHEREAS, Allegany County is aware of the concerns expressed by Act No. 258-2009 of the Cattaraugus County Legislature, and

WHEREAS, Allegany County shares many of the same concerns as expressed by Cattaraugus County, and

WHEREAS, Allegany County agrees with Cattaraugus County that the Sitewide Removal Alternative is the best alternative for addressing the environmental, health and economic concerns of this region, and

WHEREAS, Allegany County agrees with Cattaraugus County that the proposed decommissioning plan of 64 years is absurd and that a ten year plan needs to be properly funded by the state and federal government so as to provide a reasonable timeframe for addressing the ongoing concerns posed by this site, now therefore be it

46-1

46-2

**46-1
cont'd**

46-3

46-4

46-1

46-2

46-3

46-4

Comment noted. The commentor is referring to a resolution passed by the Cattaraugus County Board of Legislators that is included in this CRD as Commentor no. 42. Please see the responses to Comment nos. 42-1 through 42-10 addressing the concerns expressed in that resolution.

Analysis in the EIS addresses the potential for groundwater contamination. Please see the Issue Summary "Concerns about Potential for Contamination of Water" for a discussion of this issue and DOE's and NYSERDA's response.

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The duration of the Sitewide Removal Alternative is projected to be approximately 60 years and is based on funding projections. However, this EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of decisions made in DOE's Record of Decision and NYSERDA's Findings Statement, including how quickly they can be implemented, is contingent on the level of funding allocated.

**Commentor No. 46 (cont'd): Brenda Rigby Riehle, Clerk of the Board,
Allegany County Board of Legislators**

Intro. No. 104 - 09

Page 2 of 2 pages

RESOLVED:

1. That the Allegany County Legislature hereby supports the Sitewide Removal Alternative described in the Revised Draft Environmental Impact Statement.
2. That certified copies of this resolution be mailed to the United States Department of Energy; New York State Energy Research and Development Authority; United States Senators Charles E. Schumer and Kirsten Gillibrand; United States Congressman Eric Massa; New York State Senator Catharine M. Young; New York State Assemblymen Daniel J. Burling and Joseph M. Giglio; Crystal J. Abers, Chair of the Cattaraugus County Legislature; Barry Snyder, President of The Seneca Nation of Indians; NYSAC and the InterCounty Association of Western New York.

|| **46-3
cont'd**

Response side of this page intentionally left blank.

I, Brenda Rigby Riehle, Clerk of the Board of Legislators of the County of Allegany, State of New York, do hereby certify that the foregoing constitutes a correct copy of the original on file in my office and the whole thereof of a resolution passed by said

Board on the 26th day of May, 20 09.

Brenda Rigby Riehle Dated at Belmont, New York this 27th day of May, 20 09
Clerk, Board of Legislators, Allegany County

Moved by Dibble Seconded by Allen VOTE: Ayes 11 Noes 0 Absent 4 Voice _____
Absent: Hall, O'Grady, Reynolds, Truax

**Commentor No. 46 (cont'd): Brenda Rigby Riehle, Clerk of the Board,
Allegany County Board of Legislators**

ACT NO. 258-2009

by Mrs. Abers, Mr. Burrell, Mr. Ellis,
Mr. O'Brien, Mr. Snyder, Mr. McClune and Mr. Sprague
who ask immediate consideration

**SUPPORTING SITEWIDE REMOVAL ALTERNATIVE IN
REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR
DECOMMISSIONING AT WEST VALLEY DEMONSTRATION PROJECT AND
WESTERN NEW YORK NUCLEAR SERVICE CENTER**

Pursuant to Section 153 of the County Law.

I. WHEREAS, the Western New York Nuclear Service Center is located at 10282 Rock Springs Road, West Valley, New York, and

II. WHEREAS, the public has been given an opportunity to comment on the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (DOE/EIS-0226-D {revised}), and

III. WHEREAS, the Revised Draft Environmental Impact Statement analyzes four alternatives:

- Sitewide Removal,
- Sitewide Closed-In-Place,
- Phased Decisionmaking,
- No Action

and

IV. WHEREAS, under the Sitewide Removal Alternative, all site facilities would be removed, all environmental media would be decontaminated, and all radioactive, hazardous and mixed waste would be characterized, packaged as necessary, and eventually shipped off-site for disposal, and

V. WHEREAS, completion of these activities would allow unrestricted use of the site, and

VI. WHEREAS, the Cattaraugus County Legislature has some concerns with the Sitewide Removal Alternative, and

VII. WHEREAS, the revised DEIS indicates that the Sitewide Removal Alternative would take 64 years to implement the decommissioning, and

VIII. WHEREAS, the County Legislature has been informed that the length of time was based on the assumption of funding the Sitewide Removal at a funding level identical to the current funding for the project, and

IX. WHEREAS, both the state and federal governments should be put on notice that funding a project at a level which would take 64 years to complete is absurd, and

X. WHEREAS, funding should be increased dramatically so that the process could be completed within 10 years, and

46-5

46-5

This attachment to Commentor no. 46 is identical to Commentor no. 42. Please see Commentor no. 42 for responses.

Commentor No. 46 (cont'd): Brenda Rigby Riehle, Clerk of the Board,
Allegany County Board of Legislators

XI. WHEREAS, another concern of the County Legislature with the Sitewide Removal Alternative is the increased exposure to radiation by workers on the site, and

XII. WHEREAS, the County Legislature requests that the state and federal governments explore the increased use of remote control robotic devices to minimize, as much as possible, exposure of workers to increased radiation levels, and

XIII. WHEREAS, the County Legislature has considered the No Action Alternative, which it rejects, since the amount of precipitation in the area, the erosion probabilities, and the proximity to the Great Lakes makes the No Action Alternative the least desirable, and

XIV. WHEREAS, the County Legislature has reviewed the Sitewide Closed-In-Place Alternative and rejects that alternative for the reasons that it rejects the No Action Alternative, and

XV. WHEREAS, although the Sitewide Removal and Phased Decisionmaking phase I activities are similar in their treatment of the canisters and the process building, the County Legislature is concerned about the High-Level Waste Tanks, the NRC-Licensed Disposal Area and the State-Licensed Disposal Area, the North Plateau Groundwater Plume and the Cesium Prong, and

XVI. WHEREAS, the County Legislature is aware that those areas would generate waste for which there may be no current off-site disposal location, and

XVII. WHEREAS, the federal government should be encouraged to designate a site more suitable for this waste, with preference for a site which would have considerably less precipitation, erosion potential, or proximity to major freshwater bodies than the West Valley site, and

XVIII. WHEREAS, with regard to the North Plateau Groundwater Plume, the Phased Decisionmaking Alternative only removes the source area of the groundwater plume, while the Sitewide Removal Alternative cleans up both the source area and non-source area of the North Plateau Groundwater Plume, and

XIX. WHEREAS, due to the continued migration of the Groundwater Plume, there is the probability that the plume will migrate off-site, thereby contaminating currently uncontaminated soil and water supplies, and

XX. WHEREAS, the United States Department of Energy and the New York State Energy Research and Development Authority support the Phased Decisionmaking Process because of a disagreement relating to the long-term performance assessments, and

**46-5
cont'd**

Response side of this page intentionally left blank.

**Commentor No. 46 (cont'd): Brenda Rigby Riehle, Clerk of the Board,
Allegany County Board of Legislators**

XXI. WHEREAS, while projecting site conditions at West Valley from between 10,000 and 100,000 years from the present date may be an interesting academic exercise, the inability to accurately project weather conditions next week makes such performance assessments a fantasy, now, therefore, be it
I. RESOLVED, that the Cattaraugus County Legislature hereby supports the Sitewide Removal Alternative described in the Revised Draft Environmental Impact Statement for the above-stated reasons, and be it further
II. RESOLVED, that the Clerk of the Legislature is hereby directed to forward a certified copy of this resolution to the United States Department of Energy and the New York State Energy Research and Development Authority.

**46-5
cont'd**

Response side of this page intentionally left blank.

Commentor No. 47: Marietta Bratton

June 2, 2009

Marietta Bratton

334 Crescent Ave.

Buffalo, NY 14214

I support the Sitewide Removal Alternative (full waste excavation cleanup) for the West Valley Demonstration Project as described in the Draft Environmental Impact Statement issued by the DOE and the NYS Energy & Research Authority in December 2008. This will provide a permanent and safe solution and remove the radioactive waste from an unstable site with serious erosion problems and provide the most cost-effective approach. Marietta Bratton

47-1

47-1

DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," "Concerns about Potential Contamination of Water," and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 48: Julie Nentarz

June 2, 2009

Julie Nentarz

22 Laforce Place

Buffalo, NY 14207

As a resident in the City of Buffalo I see no other option than complete removal of all toxic waste and materials from the West Valley Demonstration waste site. It is appalling that this matter is even up for debate. The toxic waste that is stored at the site has proven long term deadly effects on human lives and is dangerously close to one of the largest natural sources of water that this world has. Please consider this an act for humanity. Complete removal of all toxic materials and soil is not only essential it is quite simply the right thing to do.

48-1

48-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of the WNYNSC, a legally required step to support a decision on a course of action. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 49: Sean Brodfuehrer

June 2, 2009

Sean Brodfuehrer

University at Buffalo

187 Norwalk Ave

Buffalo, NY 14216

As a resident of WNY and the Great Lakes region I feel that it is irresponsible for the West Valley storage facility to remain. It is too close to a huge supply of water for many millions of individuals and will undoubtedly be a huge resource in the future. Leaving this kind of nuclear material so close to one of the world's largest bodies of fresh water inevitably will cause problems. Creeks flood, soil moves, everything in this site has the potential to leach and contaminate the lakes. The consequences of which no one knows. Cancer, death and the pollution of both people and agricultural lands

49-1

49-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

**Commentor No. 50: Rev. Stanford Bratton, Executive Director,
Network of Religious Communities**

June 2, 2009

Rev. Stanford Bratton, Executive Director

Network of Religious Communities

1272 Delaware Ave.

Buffalo, NY 14209

Whereas, West Valley, located 30 miles south of Buffalo where 35 million Curies of radioactive material is stored on site and whereas, two burial grounds..plaine dug trenches, unengineered and unlined, eroding creeks feeding directing in to Cattaragus creek and thence to Lake Erie. Whereas, over 2 billions dollars have been spent since 1982 and considering Lake Erie County’s water supply is threatened and whereas, the Department of Energy has considered a Phased Decision Process dealing with only 1-2% of the radioactively on site with second phase in possibly 30 years. The members of the Board of the Network of Religious Communities whose mission is to facilitate interreligious and interracial cooperation among judiacatories, congregation and religious organizations in WNY and the Niagara Peninsula of Ontario, Canada resolve and insist that the federal and state officials listen to the voice of the people and commit to a complete cleanup of West Valley nuclear waste site that would allow unrestricted land use for the people of WNY.

50-1

50-1 DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and

*Commentor No. 50 (cont'd): Rev. Stanford Bratton, Executive Director,
Network of Religious Communities*

NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 51: Barbara and Joseph Castiglia

June 2, 2009

Barbara and Joseph Castiglia

1749 Reading Road

West Falls, NY 14170

We totally agree with Congressman Higgins that the West Valley site must be totally cleared of stored nuclear waste. The Great Lakes, and especially Lake Erie, are our greatest natural resource and the Western New York areas' foremost asset. To risk contamination of the main source of drinking water for millions of people would be the greatest folly.

51-1

51-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 52: Meryl Toan

June 3, 2009

Meryl Toan

62 Hickory Hill Road

Tappan, NY 10983

Please clean up the West Valley Nuclear site using the excavation option -- the most effective means to ensure the Great Lakes Watershed will not be contaminated far into the future.

52-1

52-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 53: Andy Mager**June 3, 2009****Andy Mager****559 Buckingham Ave.****Syracuse, NY 13210**

Leaving radioactive waste buried on site is unacceptable! Please implement a comprehensive cleanup and excavation of the entire site now. Please support the Sitewide Removal Option, which will ensure comprehensive cleanup and excavation of the entire site- the safest, most cost-effective solution!

53-1

53-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 54: Richard M. Space

June 3, 2009

Richard M. Space

11 Tempo Road

New City, NY 10956

I Urge the U.S. DOE and NYSEDA to support the Sitewide Removal Option, which will ensure comprehensive cleanup and excavation of the entire site- the safest, most cost-effective solution! This is something we don't want to leave to our children. Our generation made this mess and we need to clean it up! Regards, Richard Space

54-1

54-1

DOE and NYSEDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSEDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSEDA's response.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 55: Dede Lifgren

June 3, 2009

Dede Lifgren

19 Palmyra Rd.

Brewster, NY 10509

My brother used to say, "You would never change your car's oil in your living room. God forbid you get some on the carpet." It's even worse in West Valley. Please be responsible and get rid of the radioactivity in their living space. Support the West Valley cleanup!!! Dede Lifgren

55-1

55-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 56: Barbara Grosh

June 3, 2009

Barbara Grosh

12 Whittlers Ridge

Pittsford, NY 14534

I urge you to support the Sitewide Removal Option, which will ensure comprehensive cleanup and excavation of the entire site- the safest, most cost-effective solution! It's terrible that a few brief years of operation of this site is going to contaminate our water table indefinitely. It should be contained now, not later.

56-1

56-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

*Commentor No. 57: Michele Weingart,
Special Education Parent Teacher Association (SEPTA)*

June 3, 2009

Michele Weingart

SEPTA - Special Education Parent Teacher Association

135 Onderdonk Ave

Manhasset, NY 11030

Dear Ms. Bohan: I am writing to you from Manhasset, NY a suburb on Long Island and I am highly aggrieved over our representatives lack of concern regarding the clean up at West Valley's Nuclear site. Being as you are a woman, I am sure that you aware that Long Island hold the sad record to being #1 in the rate of breast cancer in the entire nation! There are clusters of women in almost each neighborhood in each town across Long Island where plumes of contaminated water from various chemical spills have polluted the drinking water which is well water from our aquifer system. To this day, no politician has admitted such is true however, it is common knowledge and if one can afford it we all drink bottled water in our homes. It is a sad state of affairs that our land is disregarded as disposable when it is not. Furthermore, the rate of autism and other neurological disorders is as high as California and we do not have anywhere near their population numbers. It does not take a rocket scientist to determine we are poisoning ourselves as well as children not yet born to us by contaminated air, water and land conduits. When does it stop? Until 1 in 9 children have cancer? When everything becomes so polluted that nothing will grow? We have allowed the all male regime of politicians to remain ignorant for the sake of profit but at a price much too steep. I purposely vote for women in positions of power in the deepest hopes that they will bring to the table healthier common sense change to our planet, especially for the children. If not you to insist upon healthier change for the children, then who? As Martin Luther King expressed so succinctly "The time is always right to do what is right." Sincerely,
Michele Weingart Manhasset, NY

57-1

57-1

DOE and NYSERDA have prepared this EIS to evaluate the environmental impacts of a range of reasonable alternatives for decommissioning and/or long-term stewardship of WNYNSC. Chapter 4, Section 4.1.9, 4.1.10, and 4.1.12, present the impacts on the health and safety of both populations in nearby communities and workers under all of the alternatives. DOE and NYSERDA understand that potential radiological releases resulting in water contamination are a major concern in the region of WNYNSC. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for additional discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 58: Janet Bensman

June 1, 2009

Janet Bensman

135 Geneva Road

East Aurora, NY 14052

Dig Up ALL The Radioactive Waste At West Valley! Recent reports indicate that the long-term effects of global warming will make the Great Lakes area of primary importance as one of the few areas of fresh water. We must preserve this essential natural resource for future generations. Total clean up - NOW - of the West Valley radioactive waste is imperative. Please do the responsible thing -- no matter the cost.

58-1

58-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 59: Melanie Scherer,
Care for Creation

June 1, 2009
Melanie Scherer
Care for Creation
46 brookpark drive
Amherst, NY 14228

It is essential for the health and sustainability of the people living in all areas upstream from the West Valley's nuclear waste leakage that the Waste be cleaned up AS SOON AS POSSIBLE. Every month that we wait, the cost of cleanup both economically and environmentally - and in human suffering - will increase. Thank you for doing the responsible and moral thing!

59-1

59-1

DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 60: Ruth A. Stegner

June 1, 2009

Ruth A. Stegner

5775 Tonawanda Creek Road

Lockport, NY 14094

My husband, Bruce Stegner and myself, want a full clean-up of the West Valley site.

60-1

60-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 61: Janet M. Goodsell

June 1, 2009

Janet M. Goodsell

368 Tracey Lane

Grand Island, NY 14072

I have seen a picture of nuclear waste, in boxes, sitting in water, in an open trench at West Valley. It doesn't take a nuclear physicist to see that this is a looming and irreversible danger to the water and people of the Great Lakes basin. It's time the population admitted that there is no safe method for dealing with nuclear waste. Until there is, we should stop deluding ourselves that nuclear is a viable "alternative" energy source.
Janet Goodsell

61-1

61-1

DOE and NYSEDA note the commentor's opposition to nuclear power. Nuclear power is not within the scope of this EIS, which was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC. Impacts to water resources and the population near the site are presented in Chapter 4. In addition, please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSEDA's response.

Commentor No. 62: Columbia E. Miller

June 1, 2009

Columbia E. Miller

2341 Unionroad Apt. 121

West Seneca, NY 14224

I worked for Joe Benz, The concator from Dec. 1965 to Dec 1969. Burying the Powder residue ,from the spent fuel rods from the plant. We dug 50ft. Deep holes and buried them remotely.Behind a 4in. lead sheild. I was an Equipment Opeator. It don't sound real too dig it up and and ship it away. I am 85 going on 86. I wish to hear from someone, If that is possible. Columbia Miller

62-1

62-1

DOE and NYSERDA acknowledge the commentor's input. The difficulty of removing some of the waste, particularly that with a high dose rate, is recognized and considered in the analysis.

Commentor No. 63: Donald R. Scherer

June 1, 2009
Donald R. Scherer
46 Brookpark Dr.
Amherst, NY 14228
Please clean this up!

|| 63-1

63-1

DOE and NYSERDA acknowledge the commentor's desire for site cleanup. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 64: Bradley J. Mattar

June 1, 2009

Bradley J. Mattar

I would like full clean up.

|| 64-1

64-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 65: Kenneth C. Margrey

June 1, 2009
Kenneth C. Margrey
4857 Gooseneck Rd.
Delevan, NY 14042

The clean up can't be finished soon enough. I support a full clean up.

|| 65-1

65-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 66: Kathleen and Peter Sayadoff

June 1, 2009

Kathleen and Peter Sayadoff

1313 Boies Road

East Aurora, NY 14052

As stated in a Sunday May 31, 2009 Buffalo News article: “Now is our chance to protect our drinking water from intensely radioactive nuclear power and weapons waste buried upstream decades ago but still able to cause large numbers of cancers now and in decades to come,” said Diane D’Arrigo, radioactive waste project director at Nuclear Information and Resource Service. “The DOE and State won’t commit to dig it all up before it leaks further unless every one of us tells them they must,” she said. Please add my name to the list of those concerned citizens who agree that West Valley Demonstration Project needs to be FULLY and COMPLETELY cleaned up to prevent future major health impacts. West Valley is on 18 Mile Creek which flows directly into Lake Erie. Unstable soil conditions in West Valley are documented. A complete cleanup of the contaminants is crucial and critical to the health and safety of thousands who depend on the Great Lakes for drinking water. PLEASE CLEAN UP WEST VALLEY COMPLETELY!

66-1

66-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 67: David Kowalski,
Re-Energize Buffalo

June 1, 2009

David Kowalski

Re-ENERGIZE BUFFALO, www.renewnrg.blogspot.com

166 Burbank Dr.

Amherst, NY 14226

Protect our Drinking Water and Public Health, for now and for future generations. Radioactive contamination will affect drinking water drawn from Lake Erie, and downstream waterways including the Niagara River, Lake Ontario and the St. Lawrence River. Do the RIGHT thing...a FULL Cleanup of the West Valley Nuclear Waste Site.

67-1

67-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 68: Kevin Furlong

June 1, 2009

Kevin Furlong

103 EBENEZER DR.

West Seneca, NY 14224

HI THERE. PLEASE PULL YOUR HEADS OUT OF YOUR [expletive deleted]. TO EVEN CONSIDER ANYTHING BUT A FULL AND COMPLETE CLEANUP OF WEST VALLEY IS JUST PLAIN STUPID. ARE YOU PEOLPE STUPID?

68-1

68-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 69: Nancy M. Cassick

June 1, 2009

Nancy M. Cassick

7 Oakwood Ave.

Lancaster, NY 14086-2524

I am 62 years old and been hearing about West Valley for I can't tell you how long. When West Valley was built I thought it unwise at the time and whrn it was shut down was happy but I have not been happy with the delay to FULLY evcavate and clean up this site. This area poses an extreme threat to the enveronment NOW and IN THE LONG TERM. I'm just glad I don't live really close to this area. There is NO TIME FOR FURTHER STUDY! Studies have been done! The PEOPLE want this site fully excavated. The Federal and State goverments work for the People. Now do it!

69-1

69-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 70: Frank Woolever,
Pax-Christi Syracuse

June 3, 2009

Frank Woolever

Pax Christi-Syracuse

308 Crawford Avenue

Syracuse, NY 13224

A comprehensive cleaning of the entire toxic waste area is needed for the health and welfare of the neighbors and the entire State. Thank you for making this effort!

70-1

70-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 71: Melissa Scholl,
Franciscan Sisters of Allegany, NY

June 3, 2009

Melissa Scholl

Franciscan Sisters of Allegany, NY

943 N. Union St.

Olean, NY 14760

The entire West Valley Demonstration Project must be cleaned up as soon as possible. The damage to the environment, drinking water, people in the area have been at risk for too long. Delaying this will only put us all at greater risk. The DOE and NYSERDA recommend cleaning up only about 1% of the radioactivity now, and waiting 30 years before deciding what to do with the rest of the dangerous radioactive waste is totally unacceptable.

71-1

71-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 72: David Stout

June 3, 2009

David Stout

NRDC

354 Lakeside Rd

Angola, NY 14006-9551

In-ground nuclear waste MUST BE removed or containerized above ground within a building on a part of the site not subject to being eroded into Lake Erie via the local drainage (Erdman Creek) through the site. Currently significant amounts of radiation enter the Lake (NYSDEC Radiation Unit), are drawn into public water systems, cannot be eliminated by treatment, and are accumulating in the local population to no one's benefit and likely detriment. Containment of radioactive wastes landfilled in the past requires their removal from the ground. The higher level classified wastes will need to be stored on-site until an acceptable very long-term site with security is established.

72-1

72-1

DOE and NYSERDA note the commentor's preference for sitewide removal (which is evaluated in the EIS) or above ground storage. However, as explained in Chapter 2, Section 2.5.1, of this EIS, DOE and NYSERDA do not consider the use of existing structures or construction of new aboveground facilities at WNYNSC for indefinite storage of decommissioning or long-term management of waste to be a reasonable alternative for further consideration because it would not meet the Purpose and Need for Agency Action stated in Chapter 1, Section 1.3. The environmental consequences of current operations are minimal, as demonstrated by the results from the ongoing site environmental monitoring program. Additional measures to manage the North Plateau Groundwater Plume as part of Phase 1 of the Phased Decisionmaking Alternative would further reduce the consequences to humans and the environment.

This EIS addresses impacts of storage of the vitrified high-level radioactive wastes on site for approximately 30 years. The text in Chapter 2, Section 2.6.1, has been revised to provide the annual impacts of long-term storage of high-level radioactive waste at WNYNSC.

**Commentor No. 73: Carol A. Meissner, Town Clerk,
Town of Evans**

Supervisor Pordum moved and Councilman Erickson seconded,

- WHEREAS: the West Valley nuclear waste site (also known as the Western New York Nuclear Service Center & Demonstration Project) is located 30 miles south of Buffalo and contains large amounts of toxic and radio active wastes, some of which will remain dangerous for thousands of centuries and; **73-1**
 - WHEREAS: the site represents the nation's sole venture into commercial reprocessing of irradiated nuclear fuel, and whereas this venture ended in 1976 when the private partner failed, leaving cleanup responsibility to government taxpayers, and **73-2**
 - WHEREAS: contamination from this site has been found as far away as the Niagara River at Lake Ontario, and **73-3**
 - WHEREAS: Lake Erie represents the drinking water supply source for Erie County, and the Great Lakes represent a drinking water source for millions of people, and **73-4**
 - WHEREAS: the Department of Energy has identified alternatives for the remediation of the West Valley site ranging from complete removal of all radioactive materials to taking no action, and proposals a partial remediation while leaving buried waste onsite, including high level radioactive waste tanks, and **73-4**
 - WHEREAS: the Department of Energy preference would postpone a final cleanup decision for up to 30 years, and **73-5**
 - WHEREAS: independent joint economic and scientific analysis, funded by a New York State grant, was conducted by expert consultants and academics ¹. And whereas these experts concluded that over time full clean up is approximately 30% less expensive than partial clean up and maintenance, not including any future leaks that would increase clean up costs exponentially, **73-6**
- THEREFORE BE IT
- RESOLVED: that the Town of Evans Town Board supports the option of full cleanup of the West Valley nuclear waste site using standards that are at least as protective as current state radiation standards and toxic standards for unrestricted use. **73-7**

BE IT FURTHER

- RESOLVED: that copies of this resolution be sent to all state and federal elected officials representing Niagara, Erie and Cattaraugus counties, as well as the U.S. Department of Energy, and the New York State Energy Research and Development Authority.

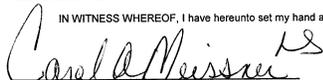
Carried.

STATE OF NEW YORK
COUNTY OF ERIE
TOWN OF EVANS

I, Carol A. Meissner, Town Clerk of the Town of Evans, County of Erie, New York, DO HEREBY CERTIFY, that I have compared the foregoing with the original resolution adopted by the Town Board of the Town of Evans at a meeting of said Board held on the 20th day of May, 2009, and the foregoing is a true and correct transcript of said original resolution and of the whole thereof, and that said original resolution is on file in my office.

I DO FURTHER CERTIFY that each of the members of said Town Board had due notice of said meeting, and that Francis J. Pordum, Supervisor, Karen Erickson, Paul T. Cooper, Michael Spence, Keith Dash, Councilmen, were present at such meeting.

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of the Town of Evans, this 29th day of May, 2009.


Carol A. Meissner
Town Clerk

¹ The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site, conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates

- 73-1** WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.
- 73-2** Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.
- 73-3** Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.
- The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.
- Please refer to the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for a discussion of this issue and DOE's and NYSERDA's response.
- 73-4** Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for

Commentor No. 73 (cont'd): Carol A. Meissner, Town Clerk,
Town of Evans

all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

- 73-5 Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.
- 73-6 DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 73-7 DOE and NYSERDA acknowledge the commentor’s support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement.

*Commentor No. 73 (cont'd): Carol A. Meissner, Town Clerk,
Town of Evans*

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, of this Final EIS, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 74: Laura Sheinkopf,
Institute for Children and Poverty

June 3, 2009

Laura Sheinkopf

Institute for Children & Poverty

59 4th Avenue

Brooklyn, NY 11217

I am writing in support of a comprehensive cleanup and excavation of the entire West Valley site.

74-1

74-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 75: Kathleen Heffern,
Diocese of Buffalo

June 3, 2009

Kathleen Heffern

Diocese of Buffalo, New York

795 Main St.

Buffalo, NY 14203

Please do everything in your power to provide for a total cleanup of the West Valley Nuclear Waste Site. Our future generations must be protected from the consequences of this situation. The level of cancer in our area is very high at present and we need to do everything in our power to significantly reduce the risk. Partial elimination is not nearly enough.

75-1

75-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

The health and safety of both populations in nearby communities and workers on site would be protected under all of the alternatives analyzed in this EIS. However, each of the alternatives would result in risks and benefits that DOE and NYSERDA will consider in making their decision. Projected short-term and long-term impacts for each alternative are presented in detail for each environmental resource area (e.g., human health and safety, ecological resources, water resources) in Chapter 4, Section 4.1, and are summarized in a comparative presentation in Chapter 2, Section 2.6, of this EIS.

Commentor No. 76: Denis Byrne,
Friends of the Edgewood Preserve

June 4, 2009

Denis Byrne

Friends of the Edgewood Preserve

30 Cliff Road

Belle Terre, NY 11777

I strongly believe that the option for complete removal and cleanup of the entire site is the only viable option. Waiting for 30 years while only removing a cursory 1% of the waste is unacceptable and will only cost more in the future as contamination spreads even further. Thank you for the opportunity to comment.

76-1

76-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 77: Walter Simpson

June 4, 2009

Walter Simpson

4 Meadowstream CT

Amherst, NY 14226

After all these years of delay and partial fixes, it is essential that all agencies support and conduct a complete, comprehensive clean up and excavation of the West Valley nuclear site.

77-1

77-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 78: Richard Bennett

June 4, 2009

Richard Bennett

4 Ivy Street

Cambridge, MA 02138

I support the Higgins/Massa West Valley cleanup. Please implement this program.

78-1

78-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 79: Sarah Gallagher

June 4, 2009
Sarah Gallagher
1136 First Avenue
New York, NY 10065

It is imperative that West Valley be cleaned entirely.

|| 79-1

79-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 80: Vic Paglia

June 4, 2009

Vic Paglia

35 West Hook Rd

HOPEWELL JCT, NY 12533

I urge you to sign the Higgins/Wassa West Valley Clean-up letter.

|| 80-1

80-1

DOE and NYSERDA note the comment.

Commentor No. 81: Lori Eaton

June 4, 2009

Lori Eaton

133 Superior Street

Jamestown, NY 14701

As a residence and tax payer of the State of New York, I demand a full clean up of the West Valley site.

|| 81-1

81-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 82: John Carey

June 4, 2009

John Carey

928 Donahoe Lane

Needmore, PA 17238

this site should be all the way cleaned up I think you should know at this point I'm generally just amazed at the stuff politicians try to get away with. It's like your a bunch of retarded two year olds with your agenda set by a satanist bent on world domination. What the **** are you going to try next?! Clean it up.

82-1

82-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 83: Alice Bartholomew

June 4, 2009

Alice Bartholomew

415 Wall Street

Elmira, NY 14905

Please support a comprehensive cleanup and excavation of the entire site.
Thank you.

83-1

83-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

*Commentor No. 84: Amy Morris,
Catholic Charities of Buffalo, NY*

June 5, 2009

Amy Morris

Catholic Charities of Buffalo, NY

1581 Bailey Ave.

Buffalo, NY 14212

Please support a comprehensive cleanup and excavation of the entire site now!

84-1

84-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 85: Gilbert L. Rulon Jr.

June 5, 2009

Gilbert L. Rulon Jr.

L.I.B.B.A., Sierra Club, W.W.F., Audubon, C.C.E. Life time member of the place called EARTH.

355 Islip Blvd

Islip Terrace, NY 11752

The fact that a company can just walk away from the mess they created that will last as long as this waste will last is beyond comprehension. They public officials that let this happen the first time should bear the same responsibility as the owners . I thought that the public officials where elected by the people to work for the people. This was not the case here. Yes I still believe that government is to work for the people. Now is your chance to stand up and not ignore this problem any longer. Clean up 1% of the waste then wait another 30 years. What is everyone thinking it will get better by itself, the contamination will just go away . Or is it that we will just ignore the wishes of the people, the safety of our children and our childrens great great children, let the next guy worry about it. Enough is enough, stop the insanity and legal B.S. and start fixing the problem. Do not miss this chance to make the world we live in a better place. In case you are wondering Yes I fish ,I hunt ,I vote, I am a member of several organizations that support the enviroment, and the world which we live in. Thank you for doing the right thing and cleaning up this mess.

85-1

85-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 86: Joseph Dimartino

June 5, 2009

Joseph Dimartino

Peace

207 vern lane

Cheektowaga, NY 14227

clean up that mess- i won't have my son getting cancer's because of your lazyness

86-1

86-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

DOE and NYSERDA have prepared this EIS to evaluate the environmental impacts of a range of reasonable alternatives for decommissioning and/or long-term stewardship of WNYNSC. Chapter 4, Section 4.1.9, 4.1.10, and 4.1.12, present the impacts on the health and safety of both populations in nearby communities and workers under all of the alternatives. DOE and NYSERDA understand that potential radiological releases resulting in water contamination are a major concern in the region of WNYNSC. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for additional discussion of this issue and DOE's and NYSERDA's response.

Section 3
Public Comments and DOE and NYSERDA Responses

*Commentor No. 87: Celia Padginton,
Orchard Park Presbyterian Church*

June 5, 2009

Celia Padginton

Orchard Park Presbyterian Church

Buffalo Street

Orchard Park, NY 14127

I would like to see the government clean up the site to prevent further contamination of the ground water, soil and into Lake Erie. If this is not done who knows what will become of this area and we could have something much worse than Love Canal on our hands.

87-1

87-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 88: Sister Michael M. Jordan, FSSJ

June 2, 2009

Dear Department of the Environment and MYS Energy Research Development Authority,

The West Valley nuclear site needs to be fully cleaned up NOW.

I attended your presentation in Buffalo regarding your proposals a few months ago. I was not impressed with any of your plans. I also felt that you were not open to outside suggestions especially the manner in which the US Air Force currently deals with nuclear waste. The idea of doing this project in phases that could take 30 years (which in New York State could mean 40 or 50 plus years) makes no sense. It has already taken years to begin to address this site, and the 14 year delay on the DEIS. The Phased Decision-Making approach is an unacceptable delay. It is passing on to the children and grandchildren of the area the reality of disease (cancer), contaminated water sources and future environmental problems.

Your plan to contain contaminates has a major flaw. The Buffalo News presented an article on Sunday, May 24, 2009 entitled, Parts of area slip sliding away. I quote, "Questions raised in 1991 about the storage of low-level nuclear wastes in the Cattaraugus County Town of West Valley, subject to serious erosion along its waterways." That was 18 years ago and there are still problems. It does not protect the environment due to erosion problems, and it poses a serious risk to residents if controls fail and waste pollutes nearby drinking water. Of course, there will never be an earthquake even though there have been slight sometimes unreported tremors. Your Department can guarantee this. Correct? I could guarantee that if the final decision were put to the public vote a full cleanup would be the result.

Clean up will be expensive. However, can anyone project how much it will cost if there is a major disaster involving not only human life but also uncontrolled nuclear waste in land, air and drinking water. I would think that as a Department concerned with the ENVIRONMENT you would agree with a 100 percent cleanup. A total cleanup that begins NOW.

Sincerely,
S. Michael M. Jordan, FSSJ
Sister Michael M. Jordan, FSSJ
5286 South Park Ave
Hamburg, NY 14074

PS. I noticed at the Buffalo presentation that members of the DEIS on stage were drinking bottled water?

88-1

88-2

88-1 DOE and NYSERDA acknowledge the commentor's support for cleanup of WNYNSC now. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

88-2 This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of the decision documented in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

This EIS analyzes the radiological and nonradiological consequences of minor and major events to postulated onsite and postulated near and distant offsite receptors. DOE and NYSERDA note the commentor's desire for prompt action to address site cleanup.

**Commentor No. 89: Patricia R. Dashnaw, Registrar, Town Clerk,
Town of Ashford Resolution 4-2009**



The Revised Draft Environmental Impact Statement for
Decommissioning and/or Long-Term Stewardship at the West Valley
Demonstration Project and Western New York Nuclear Service Center
(Decommissioning and/or Long-Term Stewardship EIS)

NYSERDA

Comment Form

Date: June 2, 2009

Name Ashford Town Board
Organization Town of Ashford
Address 9377 Route 240 P. O. Box #306
City, State, Zip Code West Valley, New York 14171
E-mail ashfordwv@yahoo.com

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the Final EIS; comments received will be included in their entirety.

Your Comments on the Draft Decommissioning and/or Long-Term Stewardship EIS

PLEASE SEE THE ENCLOSED COPY OF THE ASHFORD TOWN BOARD MINUTES FOR MAY, 26, 2009

(Over)

Thank You For Your Comments

PLEASE RETURN THIS FORM TO THE REGISTRATION DESK OR SUBMIT BY JUNE 8, 2009 TO:

U.S. Mail: Catherine Bohan, EIS Document Manager, U.S. Department of Energy, P.O. Box 2368, Germantown, MD 20874

Toll-Free Fax: 1-866-306-9094

E-mail: westvalleyeis.com

Response side of this page intentionally left blank.

**Commentor No. 89 (cont'd): Patricia R. Dashnaw, Registrar,
Town Clerk, Town of Ashford Resolution 4-2009**

1073

Work Session

May 26, 2009

Present: Christopher C. Gerwitz, Supervisor
Charles E. Davis, Councilman
John A. Pfeffer, Councilman
Beverly Hess, Councilwoman
William J. Heim, Councilman
Patricia R. Dashnaw, Town Clerk
Tim Engels, Highway Superintendent

The meeting was called to order at 7:30 p.m. with the pledge to the American Flag.

Members of the West Valley Water District Steering Committee were present. The committee has held several meetings and has reviewed with detail the Engineering Report of the Proposed Water District No. 1 for the Town Of Ashford prepared by E&M Engineers and Surveyors. The committee makes a recommendation to the Ashford Town Board that at the present time to take the third alternative, which is the "No Action Alternative." Ultimately, a public meeting will take place informing the residents and the proposed district will have the opportunity to vote on the propositions.

The Ashford Town Board thanks the Water District Steering Committee for all of the time spent with meetings and research completed.

Councilman Pfeffer made a motion to accept the recommendation of the Water District Steering Committee of the "No Action Alternative". Councilman Davis seconded the motion. (All aye)

Meg Lauerman of Continental 1 made a brief presentation on the work being completed for the US Route 219 project and the effects on areas near the completed highway.

The Town Board has directed the Town Clerk to place a notice in the Springville Journal to hold a public informational meeting at the next scheduled regular board meeting regarding the Proposed Wind Energy Facilities Law of the Town of Ashford. The SEQR Form has been completed and the board will review said form for approval at a future meeting.

May 26th correspondence:

1. Cattaraugus County-prefiled resolutions.
2. Assemblyman Joseph M. Giglio-notification that NYS Legislature has approved Assembly Bill A.6051 and Senate Bill S. 1624, which allows a person to operate a fire truck without a CDL License.
3. Ashford Youth, Inc.-sent letter in regards to Little League Baseball and Softball. The town recreation budget allows for \$150 per team and there are 6 teams this year.
4. Cattaraugus County-sent letter in support of WVDP clean up in a 10 year time frame.
5. NYS Board of Real Property Services- Tentative Equalization Rate for Ashford is 64%.

The Board reviewed an application for a peddling and soliciting license to approach residents within the Town regarding the purchase of educational books, software, and on line tutorial services for students to use as resources for school. A motion was made by Councilman Pfeffer and seconded by Councilman Davis to have the Town Clerk grant the requested license to Gena Parker (3-09). (All aye)

Councilman Pfeffer moved that the following resolution by adopted:

RESOLUTION 4-2009

Whereas, The Town of Ashford Town Board contends that the 1998 West Valley Citizens Task Force (WVCTF) final report, along with subsequent letters, comments, and testimony regarding a full cleanup and unrestricted release of the entire site constitutes the only acceptable alternative for the citizens of the Town of Ashford and Western New York, and

Whereas, The citizens of the Town of Ashford have been actively engaged in the actions of the WVDP for the last 30 years as participants in numerous citizen groups, The West Valley Citizen Task Force, and through comments in the 1996 Draft Environmental Impact Statement, and,

Whereas, The Town of Ashford has paid, and continues to pay, a massive price for the existence of the WVDP both in terms of image and economy and,

Whereas, we seek a complete cleanup and unrestricted release of the entire site as the ultimate end state for the WVDP and,

89-1

89-1

DOE and NYSERDA acknowledge the commentor's desire for a complete cleanup and unrestricted release of the entire WNYNSC and support for the Preferred Alternative with the noted caveats. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

89-2

89-2

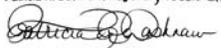
DOE and NYSERDA appreciate commentor's participation in the efforts to address WNYNSC.

89-3

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cont'd

89-3

DOE and NYSERDA note the comment.

This is to certify that
this is a true and
correct copy
Patricia R. Dashnaw, Registrar, Town Clerk


3-147

**Commentor No. 89 (cont'd): Patricia R. Dashnaw, Registrar,
Town Clerk, Town of Ashford Resolution 4-2009**

1074

Whereas, The geological profile of the West Valley Demonstration Project is not suitable for long-term storage or disposal of radioactive waste of any class. Current Nuclear Regulatory Commission (NRC) standards would not permit such a siting today, and

Whereas, Given that the preferred alternative cleans up a large portion of the site in the near future, addresses the North Plateau Groundwater Plume, and increases employment. The Town Board supports the actions of the preferred alternative with the following caveats:

1. Continue public involvement at or above the current level for both phases of the alternative, and beyond if necessary.
2. Review the analysis of current dose/cost projections for the site-wide removal alternative. We, along with the WVCTF and others contend that the results of these findings are inaccurate.
3. Investigate methods by which the tank farm, SDA, NDA, and other contaminated areas can be exhumed and temporarily stored above ground. Any investigation should include public involvement.
4. Working with NYSERDA and the Town, determine methods by which acreage not impacted by contamination, and not needed for site activities be turned over to the Town or respective public agency for reuse. Any such action should be planned in conjunction with the Town of Ashford Planning Board.
5. Seek to shorten the thirty (30) year period between phase one (1) and phase (2) of the preferred alternative to a more reasonable 10 years. This would ensure that the full attention of NY and the DOE would remain focused in a full and complete cleanup to unrestricted release standards.

Now, Therefore Be It Resolved,

The Town Board of the Town of Ashford submits this resolution as its official comments to the Department of Energy supporting the preferred alternative with the above noted caveats.

Councilman Heim seconded the motion, the Supervisor called the rolls of the Town Board with the following results:

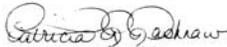
Councilman Davis	Aye
Councilman Heim	Aye
Councilwoman Hess	Aye
Councilman Pfeiffer	Aye
Supervisor Gerwitz	Aye

The Supervisor declared that the foregoing resolution was duly carried.

The Town Board advises the Town Clerk to send a certified copy of these minutes containing Resolution 4-2009 to NYSERDA as the official comments on the Draft Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project supporting the preferred alternative method with the noted caveats.

Highway Superintendent Engels reported that the asphalt grinder demonstration went well and such a machine could prove very useful to the Town of Ashford. The Town Board would like further research to be done to determine the cost per hour to operate this piece of equipment before a decision is made.

A motion was made by Heim, seconded by Hess, and carried that the meeting be adjourned at 9:45 p.m. (All aye)


Patricia R. Dashnaw - Town Clerk

89-4

89-1
cont'd

89-5

89-4 Comment noted. None of the EIS alternatives involve new onsite low-level radioactive waste burial subject to NRC's "Licensing Requirements for Land Disposal of Radioactive Waste." This EIS analyzes impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC and addresses the requirements and criteria applicable to the actions (see Chapter 5 and Appendix L).

89-5 Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

The cost and impacts for the Sitewide Removal Alternative were reviewed and revised for the Final EIS estimates. Changes include an expanded discussion of the Greater-Than-Class C waste disposal cost uncertainty and a revised estimate of nonradiological transportation fatalities.

As explained in Chapter 2, Section 2.5.1, of this EIS, DOE and NYSERDA do not consider the use of existing structures or construction of new aboveground facilities at WNYNSC for indefinite storage of decommissioning waste or long-term management of waste to be a reasonable alternative for further consideration because it would not meet the Purpose and Need for Agency Action described in Chapter 1, Section 1.3.

DOE would support any NYSERDA effort to work with regulators to determine which WNYNSC areas are neither affected by contamination nor required for site activities. Any decision on the transfer of these lands would be a NYSERDA decision.

**Commentor No. 89 (cont'd): Patricia R. Dashnaw, Registrar,
Town Clerk, Town of Ashford Resolution 4-2009**

If the Phased Decisionmaking Alternative is selected for implementation, DOE and NYSERDA agree that a prompt decision regarding Phase 2 would be preferable. The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 90: Judy Catalano

June 4, 2009

Ms. Catherine Boham
EIS Document Manager
US Dept of Energy - WVDP
PO BOX 2368
Germantown, MD 20874

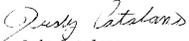
Dear Ms. Boham:

I would like to see the West Valley Nuclear Plant, in Ashford, New York, completely cleaned up and permanently shut down.

With the increased availability and affordability of green energy, there is no further need for nuclear energy. As we all know, it poses a risk to our health and environment, is outrageously expensive and the "where to bury the waste" problem is an overbearing dilemma.

It appears critical that we all focus on renewable energy - solar, geothermal and wind.

Thank you for your time.

Sincerely,

Judy Catalano
57-D Park Club Lane
Amherst, NY 14221

copy: Paul Bembia

|| 90-1 90-1

DOE and NYSERDA note the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 91: Derek Stack, Michael J. Keegan, Gordon Edwards
Great Lakes United



An international coalition to protect and restore
the Great Lakes and St. Lawrence River

Buffalo c/o Doernbecher College | 4380 Main Street | Amherst, New York | 14226
Toronto 120-215 Spadina Avenue | Toronto, Ontario | M5T 2C7
Montreal 3388 Adam Street | Montreal, Quebec | H1W 1Y1

Buffalo
(7) 716-886-0142
(7) 716-294-9521

Montreal
(7) 514-396-3333
(7) 514-396-0297

glu@glu.org
www.glu.org

June 5, 2009

Attention: Ms. Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874

RE: Draft Decommissioning and/or Long-Term Stewardship EIS Comments

Dear Ms. Bohan:

Enclosed find a copy of a resolution approved May 20, 2009 by Great Lakes United, an international coalition dedicated to preserving and restoring the Great Lakes-St. Lawrence River ecosystem, at its twenty-seventh annual meeting, regarding the disposition of West Valley, New York radioactive reprocessing, nuclear power and weapons wastes.

With the submission of this resolution, Great Lakes United urges the U.S. Department of Energy and New York State Energy Research and Development Authority to immediately select the Site-wide Waste Cleanup Removal approach at West Valley in order to effectively protect public health and the Great Lakes region from the site's hazardous radioactivity.

This resolution also conveys Great Lakes United's opposition to radioactive waste reprocessing due to its inevitable risks of nuclear weapons proliferation and environmental devastation and its astronomical costs to taxpayers.

Great Lakes United appreciates the opportunity to present this resolution as official public comment to the EIS proceeding for the West Valley Demonstration Project.

Sincerely,

Derek Stack *Michael J. Keegan*

Derek Stack
Executive Director
Great Lakes United

Michael J. Keegan
U.S. Co-Chair
Great Lakes United Nuclear Free Green Energy Task Force

91-1

91-2

91-1 DOE and NYSERDA note the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

91-2 Comment noted. Reprocessing and the risks and costs referred to by the commentor are not within the scope of this EIS.

**Commentor No. 91 (cont'd): Derek Stack, Michael J. Keegan,
Gordon Edwards , Great Lakes United**

Gordon Edwards

Gordon Edwards
Canadian Co-Chair
Great Lakes United Nuclear Free Green Energy Task Force

c.c. Frank Murray, President Governor David Paterson
 NYSERDA State Capitol
 17 Columbia Circle Albany, NY 12224
 Albany, NY 12203

Response side of this page intentionally left blank.

**Commentor No. 91 (cont'd): Derek Stack, Michael J. Keegan,
Gordon Edwards , Great Lakes United**



An international coalition to protect and restore
the Great Lakes and St. Lawrence River

Buffalo c/o Daemen College | 4380 Main Street | Amherst, New York | 14226
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Buffalo
(T) 716-886-0142
(F) 716-204-9521

Montreal
(T) 514-396-3333
(F) 514-396-0297

glu@glu.org
www.glu.org

Resolution on the disposal of West Valley, New York Radioactive Reprocessing Wastes

Whereas in 2004 Great Lakes United resolved against the abandonment of highly radioactive wastes, and in support of full exhumation and containment, at the West Valley, NY former nuclear reprocessing and dump site, 30 miles south of Buffalo, upstream of Lakes Erie and Ontario; and,

Whereas the vast majority of the long-lasting hazardous radioactive contamination at the West Valley, New York site is due to the radioactive waste reprocessing performed there; and,

Whereas a broad-based coalition of international, national, state and local environmental, religious, conservation and labor organizations including Great Lakes United are urging the U.S. Department of Energy (DOE) and the New York State Energy Research & Development Authority (NYSERDA) to immediately select the Site-wide Waste Removal cleanup approach as the decommissioning plan at West Valley in order to effectively protect public health and the Great Lakes region; and,

Whereas a recent independent, New York State-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, revealed waste excavation would cost less than \$10 billion, while leaving dangerous buried radioactive waste onsite could cost \$13 billion to \$27 billion if a catastrophic release occurred; and,

Whereas according to *The Real Costs of Cleaning Up Nuclear Waste*, West Valley's radioactive wastes, hazardous for tens of thousands of years, as a result of erosion, will be discharged downstream to Lakes Erie and Ontario in less than 3,000 years, and may be dangerously exposed to the elements in just a few hundred years, posing significant risks to residents immediately downstream, including the Seneca Nation, as well as residents along the shores of Lakes Erie and Ontario; and,

Whereas according to *The Real Costs of Cleaning Up Nuclear Waste*, just 1% of the radioactivity leaking from the West Valley site would expose Lake Erie water users to substantial radiation doses, causing hundreds of cancer deaths, and forcing the replacement of the Buffalo and Erie Counties' drinking water supply, at a cost of hundreds of millions of dollars; and,

Whereas the Phased Decision-Making approach, preferred by DOE and NYSERDA, would clean up only 1% of the site's radioactivity and delay a cleanup decision on the remaining 99% of the radioactivity for up to 30 years.

Therefore, be it resolved that Great Lakes United urges the DOE and NYSERDA to immediately select the Site-wide Waste Removal cleanup approach at West Valley in order to effectively protect public health and the Great Lakes region from the West Valley's hazardous radioactivity; and,

Therefore be it further resolved that Great Lakes United opposes radioactive waste reprocessing due to its inevitable risks of nuclear weapons proliferation and environmental devastation, as well as astronomical cost to taxpayers; and,

91-1
cont'd

91-3

91-1
cont'd

91-4

91-5

91-6

91-7

91-1
cont'd

91-2
cont'd

91-3 It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. The locations and quantities of radionuclides remaining to be addressed are described in Appendix C of this EIS.

91-4 DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response.

91-5 DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

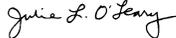
91-6 DOE and NYSERDA note that the impacts of a release of 1 percent of the site radioactivity referred to by the commentor are taken from the *Synapse Report*. Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for a discussion of the report's issues and DOE's and NYSERDA's response. See also the response to Comment no. 91-5 regarding the long-term impacts analysis addressed in this EIS.

91-7 As noted in the response to Comment no. 91-3, a large percentage of the long-lived radionuclides at WNYNSC have already been addressed. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the

**Commentor No. 91 (cont'd): Derek Stack, Michael J. Keegan,
Gordon Edwards , Great Lakes United**

Therefore be it further resolved to deliver a copy of this resolution to the appropriate DOE and NYSERDA officials by their June 8, 2009 deadline for public comments on the West Valley Draft Environmental Impact Statement and decommissioning plan, as well as to other government agencies and public officials.

I hereby certify that this is a true copy of a resolution adopted at the twenty-seventh annual meeting of Great Lakes United on May 20, 2009.



Julie O'Leary, President

Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be made as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

**Commentor No. 92: Sister Sharon Goodremote, FSSJ,
Franciscan Sisters of St. Joseph**



The Revised Draft Environmental Impact Statement for
Decommissioning and/or Long-Term Stewardship at the West Valley
Demonstration Project and Western New York Nuclear Service Center
(Decommissioning and/or Long-Term Stewardship EIS)

NYSERDA

Comment Form

Date: May 11, 2009

Name Sister Sharon Goodremote, FSSJ
 Organization Franciscan Sisters of St. Joseph
 Address 5272 So. Park Ave
 City, State, Zip Code Hamburg, NY 14075
 E-mail S.goodremote@cs.wy.gov

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the Final EIS; comments received will be included in their entirety.

Your Comments on the Draft Decommissioning and/or Long-Term Stewardship EIS

I strongly ask that NY NYSERDA + U.S. Department
 of Energy decide to clean the nuclear waste
 at West Valley completely - now - not 30 years from
 now. One of the major reasons is that fact that
 nuclear waste will & has seeped through the soil. Getting
 into our fresh water is a very serious concern to me.

From the information I received from the poster site
 provided at the Ruffalo hearing on this issue, there was nothing
 that proved to me that nuclear waste (even low) will be
 stopped from seeping through to the creek.

I have a strong moral concern as well. We cannot as
 stewards of God's creation, leave nuclear waste out

92-1

92-1 DOE and NYSERDA acknowledge the commentor's preference for prompt and complete removal of nuclear waste at WNYNSC. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

92-2

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

92-2

Please refer to the Issue Summary for "Concerns About Potential Contamination of Water" for a discussion of this issue and DOE's and NYSERDA's response.

Thank You For Your Comments
 PLEASE RETURN THIS FORM TO THE REGISTRATION DESK OR SUBMIT BY JUNE 8, 2009 TO:
 U.S. Mail: Catherine Bohan, EIS Document Manager, U.S. Department of Energy, P.O. Box 2368, Germantown, MD 20874
 Toll-Free Fax: 1-866-306-9094
 E-mail: westvalleyeis.com

Commentor No. 92 (cont'd): Sister Sharon Goodremote, FSSJ,
Franciscan Sisters of St. Joseph

the soil + even have on hundredths or millinths
possibility of it getting into Catteraugus Creek +
eventually into Lake Erie. Please do the
right + moral action - clean West Valley
Nuclear Site - All of it. - NOW - not
some now + some 30 yrs from now

92-2
cont'd

92-1
cont'd

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Commentor No. 93: Lois Ann Zendarski,
Concerned Citizens of Cattaraugus County

Concerned Citizens of Cattaraugus County

P.O. BOX 23
FRANKLINVILLE, NEW YORK 14737

June 3, 2009

Ms. Catherine Bohan, Document Manager
West Valley Demonstration Project
US Department of Energy
P.O. Box 2368
Germantown, MD 20874

Dear Ms. Bohan:

It is vitally important to the future of our region that Great Lakes and New York is protected with regard to the cleanup process at the West Valley site. Without a full sitewide cleanup/full exhumation, our drinking water, public health and economy will be affected for multiple generations to come. DOE's preferred alternative is not sufficiently protective because it provides less than a site cleanup and, over time, creates substantially greater risk for human health and the environment than other viable alternatives.

As you know, four options have been presented for cleanup and on behalf of the Concerned Citizens of Cattaraugus County, we wish to formally present to you our choice—which is a full cleanup of the West Valley site. Any other option, be it sitewide closed in place, phased decision making or no action will cause undue harm to our entire region as well as affecting the health and welfare of our Canadian neighbors. Sitewide removal is the safest solution to the problem which will remove the radioactivity from the very unstable site which has proven to have serious erosion problems. Sitewide removal prevents catastrophic radioactive releases into the region's water supplies which include Lakes Erie and Ontario as well as the St. Lawrence Seaway.

A commitment by DOE to fully clean up the West Valley site over the long term is not unreasonable, and DOE has failed to demonstrate the contrary. Because full clean up is reasonable, DOE's preferred alternative fails to meet the requirement that clean ups achieve contaminant reductions "as low as is reasonably achievable," applicable through EPA regulations. As long ago as March 22, 2000, CCCC commented to the Nuclear Regulatory Commission on this deficiency in less than comprehensive clean up goals; these comments are attached and incorporated hereto, as we believe these comments now apply to DOE's clean up goals (see especially comment 10).

The Concerned Citizens of Cattaraugus County opposes any option that would leave radioactive waste buried at the West Valley site. It must be fully captured and removed from the site. There already have been serious delays in getting the site cleaned up and any further delays would exacerbate the problem. Erosion in the area could very quickly send plumes of radioactivity downstream, making Lake Erie radioactively contaminated, not to mention the drinking water of those who live near the site. Anything other than a full site cleanup would require monitoring for perpetuity.

The Concerned Citizens of Cattaraugus County wishes to thank you for this opportunity to comment. It is our mission to help keep Cattaraugus County pristine for all to enjoy.

Enclosed also please find our previous comment dated March 22, 2000.

Sincerely,

Lois Ann Zendarski
Lois Ann Zendarski
President-CCCC

93-1

93-1
cont'd

93-2

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cont'd

93-1 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

93-2 This EIS was prepared in accordance with the requirements of NEPA and SEQR to evaluate the environmental impacts for decommissioning and/or long-term stewardship of WNYNSC. The cost-benefit analysis presented in Chapter 4, Section 4.2, of this EIS was performed to support NRC's request for cost-benefit information consistent with its as low as is reasonably achievable (ALARA) analysis guidelines. This cost-benefit analysis follows the principles in the NRC ALARA guidance presented in NUREG-1757, "NRC Consolidated Decommissioning Guidance." Regardless of the results of the cost-benefit analysis, the decommissioning action that is implemented must meet specific radiological dose criteria for protection of human health in accordance with the NRC License Termination Rule. It is noted that the attachment referred to by the commentor applied to the NRC's "Decommissioning Criteria for the WVDP at the West Valley Site" (67 FR 5003), which was issued as a Final Policy Statement.

Commentor No. 93 (cont'd): Lois Ann Zendarski,
Concerned Citizens of Cattaraugus County

Concerned Citizens of Cattaraugus County

P.O. BOX 23
FRANKLINVILLE, NEW YORK 14737

March 22, 2000

TO: Jack D. Parrott, Project Scientist
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: Draft Policy Statement on the decommissioning criteria for the West Valley
Demonstration Project and the West Valley site, 64 FR 67952 (Dec. 3, 1999)

Please accept the following comments on the NRC's Draft Policy Statement, which will replace those dated January 28, 2000, and submitted to you prior to the Commission's decision to extend the public comment deadline.

Preliminary Matters

1. Concerned Citizens of Cattaraugus County ("CCCC") is a nonprofit 501(c)(4) corporation formed in 1991 in New York State. As stated in its incorporation papers, CCCC's mission is: "To assure Cattaraugus County's air, soil, water and environment is clean and healthful, and to advocate with the public and governments that policies be implemented and that laws be passed to assure such a clean and healthful environment; to assure that local, state and federal environmental protection laws are enforced; to encourage skills for citizen advocacy for a clean and healthful environment." CCCC has over 400 individual and family members who pay regular dues to the organization. Membership is open to the public. CCCC distributes an irregular newsletter on local environmental issues to our members, area municipal official, libraries and other public places. Members of CCCC's Board of Directors sit on the Cattaraugus County Legislature's Farmersville Task Force of the Cattaraugus County Legislature and the Cattaraugus County Soil and Water Conservation District. CCCC has been a formal party to state environmental permit review proceedings in the Farmersville landfill proposal since 1993 and serves as a watchdog to Cattaraugus county citizens for environmental issues generally.

2. The Citizens Task Force ("CTF") has not included representation from CCCC. Notice of meetings of the CTF has not been provided to CCCC or to the local public. Nor were local stakeholders not included in the CTF invited to the public meeting on decommissioning criteria for West Valley held in Rockville, Maryland, in December, 1998. CCCC learned about this meeting only during the present public comment period. In view of the restricted access of local stakeholders to the ongoing work of the CTF, their absence from the December, 1998, public meeting, and NRC Staff's regular attendance at CTF meetings, (see SECY-98-251, Attachment 4), NRC should make additional efforts to reach out to local municipal officials and other stakeholders in Cattaraugus and Erie counties before deciding on a final policy for the West Valley site. These efforts should include additional opportunities for all local stakeholders to submit comments on the Commission's Policy on West Valley as it evolves.

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Commentor No. 93 (cont'd): Lois Ann Zendarski,
Concerned Citizens of Cattaraugus County

3. CCCC supports the NRC's proposed action prescribing the LTR for the West Valley site as a whole, including both the West Valley Demonstration Project ("WVDP") and the remainder of the site under NYSERDA's jurisdiction. However, the NRC's proposed action goes beyond prescribing the LTR and seeks to establish a policy for the site. Our concerns go primarily to the need to recognize under the Policy the unique features of the site as a whole.

Separate areas and separate reviews under the Draft Policy

4. The Draft Policy Statement appears to treat the site as composed of separate parts to which decommissioning standards will be applied at different times. 64 FR 67954, at p. 67953 ("Decommissioning Criteria for the NDA and SDA" (bifurcating application of criteria between the NDA and the SDA) and "Decommissioning Criteria for License CSF-1" (deferring application of criteria "to the termination of NYSERDA's NRC license on the West Valley site [until] that license is reactivated"). Treating the West Valley site as separate parts appears to be a substantial departure from NRC policy. SECY-98-251, note 1 (October 30, 1998) ("NRC, DOE, and NYSERDA have long favored addressing environmental impacts on a site-wide basis. Therefore, the EIS, the decommissioning criteria, and long-term control alternatives discussed in [SECY-98-251] cover both DOE's completion of the project and NYSERDA's closure of the site."). *See also id.*, Attachment 3 (recognizing no less than twelve distinct waste disposal areas (WMAs) inside and outside the boundaries of the WVDP and recognizing the presence of at least one "[c]ontaminated ground-water plume that crosses several WMAs"). Nothing in the WVDP Act precludes the Commission from applying decontamination and decommissioning ("DandD") criteria on a site-wide basis, since applying standards on a site-wide basis includes and therefore cannot be inconsistent with NRC's duties under the Act. Does "prescribing" DandD criteria under the Policy require those criteria be "applied" to the site as a whole? Or, will DandD criteria be applied to separate parts of the site at different times?

5. The Draft Policy "rel[ies] on the DOE/NYSERDA's EIS for [NEPA] purpose[s]." Draft Policy Statement, 64 FR 67952, at p. 67954 ("Environmental Analysis"). Will the DOE/NYSERDA EIS impose cleanup standards on the entire site, or will that EIS lead to cleanup standards applicable to only a portion of the West Valley site?

6. NRC has set forth as a general policy for decommissioning that "[t]he final status survey is the radiation survey performed after an area has been fully characterized, remediation has been completed, and the licensee believes that the area is ready to be released." DG-4006 (sect. 2, para. 1). *Cf. also id.* ("The purpose of the final status survey is to demonstrate that the area meets the radiological criteria for license termination."). Will the twelve waste disposal areas at the West Valley site each be considered separate "areas" or will the Draft Policy require a holistic final status survey that considers the entire West Valley the relevant "area" for purposes of final characterization and remediation?

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Commentor No. 93 (cont'd): Lois Ann Zendarski,
Concerned Citizens of Cattaraugus County

Additional specificity is needed for the Commission's Policy on the West Valley Site

7. NRC, DG-4006 Regulatory Position 1.1 (para. 3) contemplates that a license termination plan is an optional obligation of the licensee. The Policy should state that DOE will be required to submit a license termination plan.

8. Where, as here, groundwater contamination is present and significant, current guidance recommends survey methods tailored to the specific site. Cf. DG-4006, sect. 2.11.1 ("The MARSSIM final status survey method was designed specifically for residual radioactivity in the top 15 centimeters of soil."); id. at sect. 2.11.4. ("The nature of appropriate ground water surveys should be determined on a site-specific basis and is outside the scope of this guide.") How will the final status survey method address groundwater contamination and cleanup standards for groundwater contamination? Under the Draft Policy, will exposure standards be set for both radiological and non-radiological hazardous substances?

9. For purposes of cost-benefit analysis under the Policy, benefits of remediation of any and all areas of the West Valley site cannot be calculated on the basis of "future occupants of the site." (DG-4006, sect. 3.1.1.), for a number of important reasons. The most important of these reasons follows from the high degree of erosion at the site and the significant known groundwater contamination and, while not fully characterized, highly likely potential for further and continuing groundwater contamination. Because the area is heavily used for hunting, sports fishing, and water recreation, it is unreasonable to expect that persons engaged in such activities can be kept from direct and indirect (e.g., through consumption of plants and animals exposed to contamination from the site) exposure to surface and subsurface waters from the site. Such persons include nearby residents as well as occasional tourists. Impacts on non-occupant hunting, fishing, and other recreational users should be included in any cost-benefit analysis under the Policy. Because the West Valley site is located over a federally-designated sole source aquifer, (52 FR 36100 (September 25, 1987) (Cattaraugus Creek Sole Source Aquifer)), thousands of residents who will not be "future occupants of the site" will be potentially directly effected by levels of remediation determined under the cost-benefit analysis. Impacts, including the potential for future impacts, on these off-site resident users of the site's underlying aquifer should be included in any cost-benefit analysis under the Policy. Because members of the Seneca Nation of Indians ("SNI") use the waters of Cattaraugus Creek in special ways determined by their distinctive culture, compared to sports and recreational tourists and nearby non-Indian residents, and because these waters may be contaminated now or in the future as a result of the highly erosive conditions at the West Valley site, these special uses must be considered and the benefits of remediation for SNI members must be included in the calculation of benefits under the Policy. The Policy should state that benefits to non-occupants including the important groups discussed above must be included in any cost-benefit analysis of remediation alternatives.

10. DG-4006, sect. 3.1.6., recommends that where ground water contamination is present at a site and where the residual radioactivity is diluted in an aquifer of large volume and there is also an "existing population deriving its drinking water from a downstream supply using a downstream supply," the required calculation of the collective dose from consumption of the ground water for

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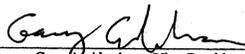
Commentor No. 93 (cont'd): Lois Ann Zendarski,
Concerned Citizens of Cattaraugus County

purposes of achieving ALARA (i.e., reduction of radiation to levels that are "as low as is reasonably achievable") should not be limited to the site critical group. (Id., quoting LTR, 62 FR 39058, at 39075). Rather, the collective dose for the existing population that relies on the contaminated aquifer for its drinking water "should be included in the ALARA calculation" and "the possibility of reducing the collective dose [to those using the aquifer] by remediation should be one of the items evaluated." Id. The West Valley site is located directly over a sole source aquifer. (52 FR 36100 (September 25, 1987)). Will the Policy on West Valley require that any collective dose calculation for purposes of a future final status survey include in its ALARA calculation the population within the area of the Cattaraugus Creek Sole Source Aquifer? If so, will this be the population at the time of the final status survey is performed?

11. License termination under restricted conditions is possible if certain requirements are met. 10 CFR § 20.1403. Neither the disjunctive ("or") or the conjunctive ("and") is used in the list of requirements, but NRC's Draft Guidance states that all the requirements must be met. DG-4006(4). The Commission's Policy on West Valley should clarify the nature of certain of these requirements beyond what is set forth in DG-4006 and the Policy should explicitly rule out the use of certain requirements set forth in DG-4006, sect. 4, due to the unique nature of the West Valley site.

12. May the licensee under the Draft Policy avoid the dose requirements under the LTR by reliance on ALARA? Or, is ALARA to be applied only for purposes of remediation that exceeds the LTR's dose limits?

Respectfully submitted for CCCC by:


Gary A. Abraham, Vice-President

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**Commentor No. 94: Anne Rabe, Coordinator,
Center for Health, Environment & Justice (CHEJ)**



Center for Health, Environment & Justice
P.O. Box 6806 • Falls Church, VA 22040 • Phone: 703.237.2249 • Fax: 703.237.8389 • www.chej.org

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
Department of Energy
PO Box 2368
Germantown, MD 20874

May 28, 2009

Dear Ms. Bohan:

Our national organization represents thousands of New York members who care deeply about protecting the Great Lakes region of Western New York. The only way that government can truly protect this precious resource is by selecting the Sitewide Removal Alternative for the West Valley site.

Our comments on the West Valley nuclear waste site DEIS cover the following points.

- 1) Support Sitewide Removal Alternative: A Waste Excavation Cleanup.
- 2) Oppose Leaving Buried Waste On Site: It is Expensive and a Serious Environmental and Public Health Risk.
- 3) Oppose Phased Decision-Making as it Delays Cleanup of an Estimated 99% of the Site's Radioactivity for up to 30 Years.
- 4) Revisions Are Needed on Flawed DEIS

Thank you for considering our comments. Please let us know if you have any questions or require additional information.

Sincerely,

Anne Rabe
Coordinator
BE SAFE Precautionary Action Campaign
Center for Health, Environment & Justice
1265 Maple Hill Rd.
Castleton, NY 12033
annerabe@msn.com

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Commentor No. 94 (cont'd): Anne Rabe, Coordinator,
Center for Health, Environment & Justice (CHEJ)

CHEJ Comments on West Valley DEIS

1) Support Sitewide Removal Alternative

We urge DOE to select Sitewide Removal as it is the only Alternative that achieves the following objectives.

- Provides a complete and comprehensive cleanup of the entire site through excavation of radioactive and toxic waste, including any off-site contamination.
- Provides a permanent and safe solution that removes radioactive waste from a site with serious erosion problems, earthquake hazards, and a sole source aquifer.
- Prevents any catastrophic releases which could cause pollute community drinking water supplies, Lakes Erie and Ontario, harm public health and cost billions of dollars.
- Significantly lowers health risks to nearby communities, leaving behind a contamination-free area after 64 years
- Provides the most cost-effective approach over the long term according to a recent study. An independent, state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, revealed leaving buried waste at the site is both high risk and expensive while a waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion while onsite buried waste costs \$13 billion, and \$27 billion if a catastrophic release occurred.

2) Oppose Leaving Buried Waste On Site: It is Expensive and a Serious Environmental and Public Health Risk.

We strongly oppose leaving buried waste on site for the following reasons.

- **Erosion is a powerful and fast moving force at the West Valley site as it sits on a geologically young landscape which is undergoing a relatively rapid rate of erosion.** Michael P. Wilson, Ph.D., SUNY Fredonia Professor of Geosciences found in the FCA study that "Nuclear wastes, radioactive for tens of thousands of years, will be consumed by erosion and discharged downstream to Lakes Erie and Ontario in less than 3,000 years and may be dangerously exposed in less than 200 or 300 years."
- **Scientists found the site poses a significant danger to people who live along nearby creeks, Buffalo residents and people living along the shores of Lakes Erie and Ontario.** If just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars.
- **The DEIS ignores the fact that the site must be maintained into perpetuity if buried waste is left on site.** In this case, perpetuity is not a dozen years, or even two or three generations—the buried radioactive waste would have to be monitored, tracked, and maintained in place for tens of thousands of years with burdensome and

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94-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative, as well as opposition to leaving waste on site and the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," "Concerns about Potential Contamination of Water," and "Conclusions of the *Synapse Report*" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

94-2 DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. As stated in the Issue Summary on "Conclusions of the *Synapse Report*," the erosion analysis in this Final EIS is considered to be consistent with state-of-the-art analytical capabilities. The uncertainties in the erosion analysis are acknowledged in the discussions on erosion in Section 2 of this CRD and Appendix F of this EIS.

94-3 Please refer to the Issue Summary "Concerns about Potential Contamination of Water" for a discussion of this issue and DOE's and NYSERDA's Response.

**Commentor No. 94 (cont'd): Anne Rabe, Coordinator,
Center for Health, Environment & Justice (CHEJ)**

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expensive maintenance costs. The EIS failed to analyze long term costs of monitoring and maintaining controls at the site for even 1,000 years.

■ **NYSERDA Raised Serious Problems with Key Aspects of DEIS.** Essentially NYSERDA stated that the DOE's environmental assessments are scientifically indefensible for long term erosion, engineering controls and health impacts, as summarized below from the *Forward of the DEIS*.

▶ **The soil erosion analysis over the long term is not scientifically defensible and should not be used for long-term decision making.** Using the current erosion models, predictions of population doses will not be accurate for the long term.

▶ **The groundwater contaminant transport analysis and modeling cannot be relied on in predicting public radiation doses and long term cleanup decisions.**

▶ **Engineered barriers performance has not been substantiated and may be overly optimistic.** Such barriers (caps, slurry walls, etc.) are critical to waste containment, and over the long term public radiation doses could be underestimated.

▶ **The DEIS should be reframed to reflect the applicable federal requirements.** The DEIS should be reframed to reflect the applicable federal requirements. The License Termination Rule (LTR) is the applicable federal regulation, not portions of NRC's low-level disposal regulations. It is not logical to assess the impacts from decommissioning actions that must meet the LTR requirements, but use other, not applicable regulations, to structure the analysis.

▶ **The waste exhumation analysis is overly conservative and based on extreme conditions, resulting in maximal costs.** Alternative methods could reduce the costs of exhumation and waste disposal.

▶ **The long-term performance assessment for the in-place Closure alternative is "seriously flawed and scientifically indefensible."**

3) Oppose Phased Decision Making Preferred Alternative

Under this Alternative, Phase 1 would include moving vitrified high-level waste to a new storage facility. The Phase 1 new cleanup work includes demolishing the process building in order to excavate the strontium plume source area, cleaning up the lagoons and installing barriers for groundwater contamination. **All of this new cleanup work addresses only 1.2% of the total radioactivity on the site. Decisions on a majority of the waste, or 99% of the radioactivity, will be addressed in Phase 2 including high-level waste tanks, and both radioactive waste burial areas (NDA and SDA), or approximately 600,000 curies.** Public participation on the Phase 2 decision making process is not explained.

We oppose the Phased Decision Making Alternative for the following reasons, as well as the reasons stated above on the buried waste option.

■ **The potential environmental and health impacts of leaving 99% of the radioactivity on site for another 30 years was not studied.** For instance, the high-level waste tanks, with 320,000 curies of radioactivity, are nearing the end of their useful

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94-4 As acknowledged in this EIS, long-term monitoring and maintenance would be required for alternatives that would leave waste on site. This EIS provides a summary description of current and potential future environmental monitoring programs. The descriptions of the alternatives were revised to further describe the use of engineered barriers and long-term monitoring and maintenance. Long-term monitoring and maintenance are described in Chapter 2, Sections 2.4.2.6 and 2.4.3.8. Long-term monitoring and institutional controls are also discussed in Chapter 6. Additional information about current and proposed monitoring and institutional controls is provided in Appendices C, H, and I. Chapter 2, Table 2-4, includes estimates of the environmental consequences if (1) monitoring and maintenance are successful (institutional controls remain in place) and (2) monitoring and maintenance programs fail (institutional controls are lost). Chapter 4, Section 4.2, of this EIS includes monitoring and maintenance costs for the alternatives that would leave waste on site.

Detailed information regarding long-term monitoring and maintenance programs and institutional controls under alternatives that would leave waste on site has not been specifically defined at this time. Such definition would occur after an alternative is selected for implementation and would include consultation with appropriate regulatory authorities. An element of these long-term programs would be development of plans and procedures for responding to emergencies that would include coordination and agreements with local police and fire departments and medical facilities.

94-5 DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analysis. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution

Commentor No. 94 (cont'd): Anne Rabe, Coordinator,
Center for Health, Environment & Justice (CHEJ)

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life (50 years) and any leaks could seriously pollute the sole source aquifer. The Decommissioning Plan (DP) claims that the high-level waste tanks will be empty at the start of Phase I, yet neither the DEIS or DP state how and when the tanks would be actually emptied.

■ **State Law Requires a Complete Plan in DEIS.** The Phased Decision Making Alternative not only fails to tell the public about key elements of Phase I, such as data collection, but it fails to tell the public about what future actions would be done in Phase 2, which could be a violation of the State Environmental Quality Review Act (SEQRA) and NEPA. These laws requires that a DEIS have a complete plan and that all potential impacts be examined in detail in the DEIS; it does not allow segmentation of an action and an incomplete plan such as the phased decision making proposal.

Basically, there is no way that DOE can do an environmental impact analysis on a final cleanup plan when it has failed to make a decision on the final cleanup. How can DOE study the impacts of the cleanup method in a DEIS when it has not been selected? Clearly, DOE would need to do another DEIS when the cleanup method has finally been selected. **But, at a minimum and from a fairness and public policy perspective, this DEIS is illegal and in violation of the basic tenets of NEPA and SEQRA since there has been absolutely no analysis of the environmental impacts of the yet-to-be-selected cleanup method.**

■ **Given the past record of decades of delay, the two phased approach with a lengthy 30 year timetable is not responsive or responsible in addressing dangerous contamination.** The site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater, and radioactivity from the site has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario demonstrating a potential for the leaking site to contaminate drinking water supplies. For instance, the buried high-level waste area (NDA) has been undergoing measures to limit water flow, and a large amount of high-level radioactive waste is buried in deep holes 50 to 70 feet deep which pose a significant risk of leaks to the sole source aquifer.

■ **The public was provided with almost no information on the data collection under Phase I, which is essential to determining the extent of future decontamination work in Phase 2.** If data collection is inadequate, a safe cleanup in Phase 2 is less likely. There is no plan for future public participation on Phase 2 activities and this is unacceptable.

4) Revisions Needed on Flawed DEIS.

■ **Information Needed on Monitoring and Institutional Controls.** The DEIS includes cleanup options where long-lasting radioactive waste is left buried on site, yet there is a serious lack of information on the monitoring and maintenance of engineering and institutional controls to ensure radioactive waste is safely contained. Funds and procedures should also be described that will be in place to respond immediately to any toxic releases. This information is absolutely critical to evaluate whether or not the site can be safely maintained if waste is left buried on site. **The full monitoring,**

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(erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

Engineered barriers: A text box has been added to Chapter 4, Section 4.1.10 to acknowledge the limited data about the long-term performance of the engineered barriers and to direct the reader to the discussion of conservative assumptions made for the EIS analysis.

Applicable Federal regulations: A text box has been added to Chapter 1, Section 1.3 of this EIS to address a similar comment in NYSERDA's View. It explains that the long-term performance assessment in this EIS meets DOE's NEPA guidance and precedent, while also using the requirements of NRC's License Termination Rule (10 CFR Part 20, Subpart E) and the WVDP Policy Statement for the long-term performance analysis for this EIS.

Cost estimates: The approach to estimating costs and the resulting cost estimate for the Sitewide Removal Alternative were reviewed and revised for this Final EIS. The revised cost estimate is presented in Chapter 4, Section 4.2.

Long-term performance assessment for the Sitewide Close-In-Place Alternative: As noted above, DOE disagrees with many of the points in NYSERDA's View, including the opinion that the long-term performance assessment for the Sitewide Close-In-Place Alternative is "seriously flawed and scientifically indefensible." Chapter 1, Section 1.8, of this EIS provides a roadmap of the DOE response to the specific issues raised in the NYSERDA View that are the basis for NYSERDA's assertion.

94-6 Please see the previously cited Issue Summaries for responses to portions of this comment. The additional issues cited by the commentor are discussed in the following paragraphs:

Percentage of activity removed under Phase 1 of the Phased Decisionmaking Alternative: It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A

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maintenance and institutional control program needs to be described in detail under each alternative.

■ **Include Climate Change Impacts.** The DEIS states that it does not anticipate there will be any climate change and climate-change related impacts for the next 10,000 years. This is unacceptable and should be corrected. Climate change is a well-established problem and CHEJ recently researched the impacts of climate change-related extreme weather conditions and its impact on Federal Superfund toxic waste sites. Clearly, these are relevant and applicable to the state's largest nuclear waste site, West Valley.

Below are excerpts from our report, *Superfund: In the Eye of the Storm*, which highlight the need for DOE to address this critical problem and its impact on West Valley in the final EIS. (Visit http://www.besafenet.com/media/superfund_2009.shtm)

Executive Summary

"Today our nation faces a new threat to the health and safety of the American people—disruption and damage at Superfund sites caused by extreme weather conditions brought on by climate change. Hazardous waste sites can discharge and release large quantities of toxic substances when subject to flooding, tornados and hurricanes. The increased costs from cleanup and disruption caused by extreme weather events place a tremendous financial burden on the already financially ailing Superfund program.

Extreme weather events brought on by climate change is a significant threat to Superfund sites, the worst contaminated sites in the country. Hurricanes, tornados and intense heavy rains leading to flooding are occurring more often and with greater intensity and have dispersed toxic contamination at Superfund sites. As these events are becoming more frequent and more intense, climate-change related weather events are posing a significant threat to the future integrity of many Superfund toxic waste sites."

Chapter 1: Climate Change and Extreme Weather Conditions

"As the climate warms in response to increasing atmospheric greenhouse gases, escalating changes in extreme weather are expected. It has been well established in recent scientific reports that the intensity of these extreme events will increase in the future. For instance, the International Panel on Climate Change (IPCC), a preminent scientific research group on climate change comprised of the world's leading scientists, has issued a series of reports on the increase of climate change-related weather events. The most recent report concluded that "warming of the climate is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea levels." Their reports join many others in demonstrating there is a scientific consensus that the earth is warming primarily as a result of emissions from human activities. This global warming will lead to serious, potentially catastrophic impacts including increased flooding, drought, and hurricane intensity.

There is growing scientific evidence that a warming world will be accompanied by changes in the intensity, duration, frequency, and geographic extent of weather and

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decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Public involvement: Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate the Phase 2 decision for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

High-level radioactive waste tanks: DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory,

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climate extremes. This is expected to lead to an increase in areas affected by drought, more frequent and intense heavy downpours with a higher total rainfall, more frequent heat waves and warm spells, and more intense hurricanes and tornados. 8,9 In recent decades, there is already evidence that extreme rainfall has increased in some regions, leading to an increase in flooding. For example, many believe the heavy rain and subsequent flooding in the Midwest in June 2008 was a climate change-related extreme weather event. The flooding there has been compared to intense rain and flooding that occurred in 1993 which were thought to be a once-in-500-years event.

These changes in extreme weather will have a significant impact on all sectors of the economy and the environment—including Superfund toxic contaminated sites—and will impact people's health and well-being. Climate change-related extreme weather conditions cause property damage, injury, loss of life and threaten the existence of some species and ecosystems. From 1980 to 2006, there were 70 weather-related disasters in the United States with overall damages exceeding \$1 billion. Such impacts are among the most serious challenges to society in coping with a changing climate. However, it may be that the more insidious impacts are harder to fully ascertain and may pose much greater risks, such as the long-term impacts of flooding hazardous waste sites and spreading highly toxic chemicals throughout a community. Despite the growing evidence, it is difficult to fully determine if a specific extreme weather event is due to a specific cause, such as increasing greenhouse gases. There are two reasons for this: 1) extreme weather events usually are caused by a combination of factors; and 2) a wide range of extreme events are a normal occurrence even in an unchanging climate. This is because some factors, such as sea surface temperatures, may be strongly affected by human activities, while others may not. Science is just not able to conclusively detect the influence of a human activity on a specific extreme weather event. Nevertheless, the scientific analysis of global warming over the past century strongly suggests it is likely that extreme weather events, such as heat waves, have increased due to greenhouse warming, while the likelihood of others events, such as frost or extremely cold nights, has decreased.

Atlantic Hurricanes

One example of escalating extreme weather conditions is the increased intensity of hurricanes. An analysis of the latest scientific research by the U.S. Climate Change Science Program, working with the National Oceanic and Atmospheric Administration, drew the following conclusions about hurricanes.

■ Since approximately 1970, the Atlantic Ocean tropical storms and hurricane destruction potential has increased substantially. For instance, over the past two decades, there has been an increase in extreme wave height characteristics associated with more frequent and intense hurricanes.

■ It is very likely that the greenhouse gas increases linked to human activities have contributed to increased sea surface temperatures in the hurricane formation region. Since there is a strong connection between Atlantic tropical sea surface temperatures and Atlantic hurricane activity, this suggests a human contribution to recent hurricane activity.

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DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying.

Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile. Chapter 2, Section 2.3.1, of this EIS, as well as text in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)*, have been clarified to acknowledge that the liquids remaining in the tanks will be dried as a result of installation and operation of the tank and vault drying system and that this drying will be complete before any Waste Tank Farm decommissioning actions are initiated.

Offsite Contamination: The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program. The decommissioning measures to manage the North Plateau Groundwater Plume and other sources of contamination at WNYNSC would reduce the consequences to humans and the environment.

Compliance with NEPA and SEQ: If the Phased Decisionmaking Alternative is selected and documented in DOE's Record of Decision and NYSERDA's Findings Statement, cleanup would occur in two separate phases. As part of the description of the decommissioning activities under the Phased Decisionmaking Alternative, Chapter 2, Section 2.4.3.3, of this EIS provides a discussion of the data collection, studies, and monitoring that would be performed during implementation of Phase 1,

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■ For North Atlantic and North Pacific hurricanes, it is likely that rainfall, wind speeds, and storm surge levels will increase in response to human-caused global warming. Hurricane activity models under climate change scenarios predict that tropical Atlantic sea surface temperatures will warm dramatically during the 21st century with temperatures in the atmosphere closest to the surface warming even more so. These hurricane models indicate that while Atlantic hurricanes and tropical storms will be substantially reduced in number, they will be stronger with significantly more intense rainfall.

As the climate-change related extreme weather events are becoming more frequent and more intense, they are posing a significant threat to the future integrity of many Superfund sites. The strong winds of hurricanes and tornados can cause significant damage such as disrupting contaminated soils and moving waste barrels long distances, or damaging protective liners covering dangerous toxic waste dumps. Flooding can dislodge buried waste, displace chemicals stored above ground, and spread contamination in soil.

Extreme weather conditions that have impacted Superfund sites include Hurricanes Ike in 2008, Katrina and Rita in 2005, and Ivan in 2004; tornadoes in Oklahoma and Iowa in 2008 and related flooding in Iowa, Kansas, and Missouri in 2008.

In the Gulf Coast region alone, 56 Superfund sites were impacted by hurricanes from 2004 to 2008. This region is one of the most heavily industrialized and polluted areas in the nation. Hurricane force winds and floodwaters stirred up toxic chemicals, oil and pesticides and dispersed them across the region."

■ **Eliminate Discounting.** The agencies inappropriately use discounting in their cost analysis of the cleanup options. The total costs of their analysis should be an undiscounted cost. The economic technique known as 'discounting' undervalues important environmental resources like the Great Lakes and sole source aquifers, as well as future generations. The economists who authored the FCA Study critiqued the use of discounting in nuclear waste cleanups over long time periods for the following reasons. In standard capital investments, a discount rate is applied to account for future interest earnings. For instance, at a 3 percent discount rate, \$103 next year has a present value of \$100 today, because \$100 is the amount one would have to put in the bank today at 3 percent interest, in order to end up with \$103 next year. But, since West Valley's waste is radioactive for tens of thousands of years, a cost analysis should start out with at least a review over the next 1,000 years as a first step.

Over periods of 1000 years, any substantial discount rate implies that the health and wellbeing of future generations has no present value—or no worth to us today. Since the cleanup options are meant to protect the public for many generations, we cannot reasonably assume that there is no value to public health in the year 1000. Also, the existence of regulatory requirements for protection of sites that will remain dangerous for 1,000 years must imply that we care today about health hazards that will be experienced in 3008. Costs and benefits incurred in that distant year must have a significant present value; otherwise, we could ignore them and we could "prove" via

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as well as the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2 actions.

DOE and NYSERDA believe that this EIS fulfills the requirements of NEPA and SEQR. The environmental impacts of implementing Phase 1 of the Phased Decisionmaking Alternative are described for each resource area in Chapter 4 of this EIS. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.

DOE has not segmented the activities proposed in this EIS; instead, DOE has prepared this single, comprehensive EIS for the decommissioning and long-term stewardship of WNYNSC. This EIS adequately analyzes the totality of environmental impacts, including costs, of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Close-In-Place, Phased Decisionmaking, and Sitewide Removal), as well as the No Action Alternative.

While the Phased Decisionmaking Alternative temporarily defers a final decision on the disposition of the Waste Tank Farm, the NDA, and the Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within this current EIS. Of course, as with all tiered decisions, DOE would continue to assess the results of any site-specific studies along with any emerging technologies to ascertain whether or not a Supplemental

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discounting that it is not cost-effective to spend anything today on our successors a thousand years down the road. At a discount rate of 1.4 percent, considered low by many economists, \$1 million in 3008 has a present value of \$1 today. Thus it would not be worth spending more than \$1 today to prevent \$1 million of harm in 3008. To validate the commonsense idea that outcomes in 3008 matter today, the discount rate must be no more than zero. **If we care about the long-term impacts of today's nuclear waste, then the only supportable discount rate is zero.** While the choice of a discount rate for short term decisions is an economic question, the choice of an intergenerational discount rate is a matter of ethics and policy. The value of future lives is a strong argument for not using an economic discount rate in this analysis.

■ **Public Disclosure is Inadequate.** There appears to be a major discrepancy in the two documents; the DEIS states that DOE will be involved in both Phase 1 & 2 of the Phased Decision Making Alternative. But, the Decommissioning Plan appears to describe a situation where DOE could leave the site and any responsibility at the end of Phase I in approximately 30 years. If this were the case, it could leave New York State with the responsibility for cleaning up an estimated 99% of the site's radioactivity. This would obviously be a major change, yet there are only a few references in the Plan. **It is critical that DOE confirm they will continue their responsibility and commitment to fully remediate the site.**

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EIS is warranted prior to any Phase 2 decision. Based upon data available to date, however, DOE believes this EIS adequately evaluates the environmental impacts associated with the range of reasonable alternatives and the Agency has vigorously resisted all efforts to “segment” this single comprehensive decommissioning EIS into separate NEPA documents.

It is NYSERDA's position that segmentation under SEQR refers to the improper division of one project into multiple smaller projects to circumvent SEQR requirements. NYSERDA does not believe that improper segmentation would be involved under the Phased Decisionmaking Alternative because the Phase 1 actions proposed under the Preferred Alternative would be independent of and would not bias actions conducted in Phase 2. In other words, the actions proposed under Phase 1 would not automatically trigger certain actions under Phase 2; to the contrary, DOE and NYSERDA could opt for any alternative or combination of alternatives during Phase 2. The test for improper segmentation is whether or not projects (in this case Phase 1 and Phase 2) are interdependent. In this case, they are clearly not.

Please see the response to Comment no. 94-4 for a discussion of monitoring and institutional controls.

Funding for emergency response to toxic releases: Although the estimated costs of monitoring and maintaining institutional controls for the Site-wide Close-In-Place Alternative are included in Chapter 4, Section 4.2, funding of these activities, including for emergency response to toxic releases, is not within the scope of this EIS.

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government programs. Implementation of the decision made in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

94-8

The analysis in this EIS recognizes the potential for climate change to influence the long-term consequences of waste management. Climate changes, whether natural or influenced by human actions, could change the nature and amount of precipitation. Appendix H, Section H.3.1, of both the Revised Draft EIS and

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the Final EIS discusses the sensitivity of groundwater flow to changes in annual precipitation. The revised erosion prediction used for the unmitigated erosion dose analysis is based on the assumption that storms could occur more frequently than indicated by current records. This prediction includes the effects of storms of greater severity than the one that occurred in the region in August 2009. The use of this higher erosion rate associated with an elevated precipitation rate is discussed in Appendix H, Section H.2.2.1. Chapter 4, Section 4.3.5, has been revised to include a discussion of how the uncertainties about future climate change are addressed in this EIS.

- 94-9** DOE and NYSERDA acknowledge the commentor's objection to discounting and interest rates used in the cost-benefit analysis included in the Revised Draft EIS. Please see the Issue Summary for "Questions about Cost-Benefit Analysis" in Section 2 of this CRD for further discussion of this issue and DOE and NYSERDA's response.

The cost-benefit analysis presented in Chapter 4, Section 4.2, of the Revised Draft EIS was performed to support NRC's request for cost-benefit information consistent with its as low as is reasonably achievable (ALARA) analysis guidelines. This cost-benefit analysis follows the principles in the NRC ALARA guidance presented in NUREG-1757, "NRC Consolidated Decommissioning Guidance." The analysis in Section 4.2 has been revised for this Final EIS and uses several relatively low discount rates (1, 3, and 5 percent) to investigate the sensitivity of the results to lower discount rates.

- 94-10** DOE and NYSERDA acknowledge the commentor's concern about continued DOE participation in the cleanup of the WNYNSC site. DOE will remain on site until it completes its responsibilities as assigned under the West Valley Demonstration Project Act. DOE would not leave the site after completion of the Phase 1 actions because it would not have completed the actions required under the Act. The description of the Phased Decisionmaking Alternative in Chapter 2 of this EIS has been revised to clarify this, and the wording in the *Phase 1 Decommissioning Plan* has been revised to avoid the implication that DOE would leave the site at the end of Phase 1.

Commentor No. 95: West Valley Citizen Task Force



THE WEST VALLEY CITIZEN TASK FORCE

May 27, 2009

Ms. Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368, Germantown, MD 20874

RE: West Valley Citizen Task Force Comments on the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center – November 2008.

Dear Ms. Bohan,

These comments on the Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center – November 2008 (DEIS) have been prepared by the West Valley Citizen Task Force.

The West Valley Citizen Task Force supports all Phase 1 activities being accomplished without delay. Further, the CTF supports the full site-wide removal alternative. In the event that the Phased Decisionmaking Alternative is selected, the CTF would support a Record of Decision for Phase 1 and insists that a supplemental EIS be required for Phase 2.

Background

After being convened by NYSERDA and DOE, the West Valley Citizen Task Force (CTF) held its first meeting on January 29, 1997. At that meeting we approved and adopted our Ground Rules. Those Ground Rules include, as a major purpose, for the CTF to "assist in the development of a preferred alternative for the completion of the West Valley Demonstration Project and cleanup, closure and/or long-term management of the facilities at the site."

The CTF met for approximately 18 months and, on July 29, 1998, issued a Final Report setting forth our Policies and Priorities and Guidelines for the Preferred Alternative. We draw your attention to the Final Report which is attached. Some elements of the Final Report have been implemented, such as vitrification, emptying the drum cell, and removal and shipment of the spent fuel assemblies. We stand by the conclusions reached in our Report for the elements which have not yet been implemented.

West Valley Citizen Task Force
c/o The Logue Group
PO Box 270270 – West Hartford, CT 06107
860-521-9122

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DOE notes the comment. See the following detailed responses.

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Since the issuance of the Report, we have met monthly with DOE and NYSERDA to stay apprised of the progress on cleanup activities and planning at the West Valley Demonstration Project (WVDP) and the Western New York Nuclear Service Center and to provide input on the development of a preferred alternative. We believe this level of active and ongoing involvement provides us with a unique and informed perspective to comment on the DEIS.

Below and attached are our comments. The General Comments, immediately following, set forth broad philosophical principles and additional examples or support for our concerns. Also attached are a number of specific comments on particular parts of the document.

The CTF appreciates the progress to date and the work of the Core Team agencies in arriving at a Preferred Alternative, something that was missing from the 1996 DEIS. The Core Team agencies are to be commended for overcoming significant differences and for working together. The CTF appreciates that DOE and NYSERDA are planning to accomplish cleanup work at the Site that the CTF deems essential including the removal of the source area of the North Plateau Groundwater Plume and a significant number of the contaminated facilities. However, for the reasons stated below we contend that further analysis will result in the sensible conclusion of the need for site-wide removal.

General Comments

There are a number of themes which run through our comments and which, if addressed, would result in changes we would like to see reflected in the Final EIS and Record of Decision.

Concerns with Phased Decision Making and Future Public Engagement

Fundamental concerns with the conclusions and assumptions in the DEIS include:

- The Phased Decisionmaking Alternative is tantamount to an Interim Remedial Action. A determination of impacts for issuance of a FINAL EIS for Phase 2 is not possible without a comprehensive determination of action and subsequent impacts. Therefore, if the Phased Decisionmaking Alternative is selected, a FINAL EIS and ROD cannot be issued for other than Phase 1 activities.
- The Phased Decisionmaking approach contained in the Preferred Alternative postpones the ultimate decision as to the level of cleanup and disposition of the wastes at the Site for an unnecessarily long time which is unacceptable. The CTF expects:
 - a. Studies should be conducted starting immediately and the final decision should be made as soon as practicable but no later than ten years.
 - b. The opportunity for public review and comment contained in this DEIS may be sufficient for the Phase 1 decisions. However, any future decisions that will result in the full cleanup and closure of the WVDP and the cessation of DOE involvement or in the possible long-term storage or disposal of wastes at the Site must be subject to additional NEPA/SEQRA public review and comment.

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95-2 DOE's position is that all of the alternatives addressed in this EIS are complete and consistent with NEPA requirements. For the Phased Decisionmaking Alternative, Phase 2 impacts are bounded by the impacts determined for the Sitewide Removal and Sitewide Close-In-Place Alternatives as presented in Chapter 4 of this EIS. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC.

If the Phased Decisionmaking Alternative is selected for implementation, DOE and NYSERDA would comply with NEPA and SEQR requirements in making the Phase 2 decision.

Also note that the term "Interim Remedial Action" is taken from CERCLA. WNYNSC is not a Federal CERCLA site.

95-3 If the Phased Decisionmaking Alternative is selected for implementation, DOE and NYSERDA agree that prompt decisions regarding Phase 2 would be preferable. The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

- c. If an ongoing assessment period occurs, there will be many interim decisions and site work which will have far reaching impacts on human health and the environment, these decisions and the planning for the work should be subject to regular ongoing consultation with the public.
- Even if full site cleanup is selected in the FEIS and ROD, important decisions remain concerning implementation. If the Phased Decisionmaking Alternative is selected even more significant decisions about the future of the Site are deferred. In either of these events, the public should not only be involved but should actively participate in influencing agency decisions. The agencies should:
 - Commit to continuing public engagement through the CTF,
 - Allow for a public representative on the Core Team, and
 - Commit in the FEIS to an appropriate EIS and NEPA process for any Phase 2 decision, if the Phased Decisionmaking Approach is selected.
- DOE and NYSERDA should make commitments in preparing for and conducting regulatory reviews, permitting and licensing processes overseen by other appropriate agencies to seek and incorporate the views of the community in making decisions regarding the future of the Site.

Long Term Risks and Site Suitability

- Site Suitability. Underlying the CTF's goal that the cleanup result in unrestricted release of the Site is the assertion that the Site is not suitable for the long-term storage of long-lived radionuclides. In the years since the Site was selected and the facilities constructed, the government and the public has come to more clearly understand the dangers associated with radioactive wastes and the conditions and criteria that will maximize protection of human health and safety and the environment during the handling, management, reprocessing, storage and disposal of radioactive materials. The Western New York Nuclear Service Center Site does not meet existing NRC licensing criteria. Because the Site does not meet current licensing criteria, a logical assumption is that it is not safe for the long-term storage or disposal of wastes. Therefore, the CTF maintains as a goal the release of the Site for unrestricted future use of the land. The Site should not be used for long-term waste storage.
- There is significant risk associated with radionuclides remaining at the Site in their present state for a prolonged period. A more thorough analysis of risks, erosion modeling, volumes of waste and transportation methods will: a) revise the current analysis, b) require revision of the EIS, and c) indicate that removal of wastes is the most prudent option. We contend:
 - Institutional controls likely may not endure for as long as projected,
 - Dose modeling seems understated compared to earlier estimates,
 - Erosion estimates seem understated,

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NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

95-4 DOE and NYSERDA activities at WNYNSC are regulated through a variety of regulatory review, permitting, and licensing processes overseen by Federal and state authorities. These processes are referenced and discussed in Chapter 1, Section 1.3, and Chapter 5 of this EIS.

95-5 DOE acknowledges the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. The site characteristics, both hydrologic and erosional, are considered in the long-term performance assessment included in this EIS. If DOE and NYSERDA choose close-in-place management for any radioactive waste remaining after completion of decommissioning activities, such closure would be coordinated with the appropriate regulatory authorities in accordance with applicable standards.

95-6 Please see the response to Comment no. 95-2.

This EIS makes no projection about the durability of institutional controls. The EIS analyses are based on the following bounding conditions: (1) ongoing institutional controls and (2) permanent loss of institutional controls after 100 years. It is expected that future impacts would lie between those two bounds, and the specific consequences would depend on the specific nature and timing of future human actions.

The projections of long-term doses are lower than the 1996 estimates because: (1) the performance assessment models have been revised to include more specific features (gully development, more realistic modeling of flow around engineered barriers) and (2) the in-place closure barrier designs have been refined to more effectively divert precipitation away from contaminants and to inhibit intrusion.

Please see the Issue Summary "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for a discussion of this issue and DOE's response.

The analysis in this EIS recognizes the potential for climate change to influence the long-term consequences of waste management. Climate changes, whether

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- The impacts of climate change and extreme weather events have not been adequately addressed,
- Impacts to engineered barriers are unpredictable,
- There is an inherent danger when dealing with radionuclides, chemical and other hazardous materials,
- Any event that causes a major release of material from the Site will contaminate the Lower Great Lakes which are a priceless natural resource, and
- Any event that causes a major release of material from the Site will contaminate one of the largest bodies of freshwater in the world, which presently serves as the water supply of Buffalo and many other communities in Western New York, as well as Ontario and other downstream communities in the United States and Canada.

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- The Policies and Priorities articulated in the CTF 1998 Final Report support the work in the proposed Preferred Alternative Phase 1. The CTF strongly encourages that this work be completed without further delay and in a manner that facilitates and does not impede future complete cleanup of the Site. The CTF desires that performance measurements for this work be clearly articulated and adhered to.

95-7

- The CTF stands by the Policies and Priorities articulated in its 1998 Final Report. Including, among others:
 - Protection of long-term human health and safety and of the environment is paramount.
 - Given the CTF's knowledge of the geologic, hydrologic and climate conditions, the Site does not appear to be suitable for long term, permanent storage or disposal of long-lived radionuclides. The level of risk from exposure is such that reliance on institutional controls over a prolonged period, hundreds or thousands of years, is not feasible.

95-8

Need for Studies and Evaluations to Support Phase 2 Decisions

- The CTF understands that not all critical information, characterizations, studies and technologies may exist at this time to make a conclusive decision on the procedures and methodologies for removal of wastes. The CTF also understands that no long-term storage or disposal solution exists for orphan and Transuranic wastes at this time. The CTF further understands that technological advances may increase the safety of waste retrieval processes with potentially lower costs. As its name implies, the West Valley Demonstration Project, because of its small size and special circumstances as a commercial and government facility, is a suitable site to develop and pilot new and emerging technologies to remove onsite buried waste and the High Level Waste Tanks. As with the vitrification process, those new techniques and technologies will

Page 4

natural or influenced by human actions, could change the nature and amount of precipitation. Appendix H, Section H.3.1, of both the Revised Draft EIS and the Final EIS discusses the sensitivity of groundwater flow to changes in annual precipitation. The revised erosion prediction used for the unmitigated erosion dose analysis is based on the assumption that storms could occur more frequently than indicated by current records. This prediction includes the effects of storms of greater severity than the one that occurred in the region in August 2009. The use of this higher erosion rate associated with an elevated precipitation rate is discussed in Appendix H, Section H.2.2.1. Chapter 4, Section 4.3.5, has been revised to include a discussion of how the uncertainties about future climate change are addressed in this EIS.

A text box has been added to Chapter 4, Section 4.1.10 to acknowledge the limited data about the long-term performance of the engineered barriers and to direct the reader to the discussion of conservative assumptions made for the EIS analysis.

DOE and NYSERDA note the comment on the inherent danger when dealing with radionuclides, chemical and other hazardous materials. This EIS accounts for the human health risks from exposure to radionuclides and chemicals; the results of this analysis are presented in Chapter 4.

This EIS analyzes the radiological and nonradiological consequences of minor and major events to postulated onsite receptors and postulated near and distant downstream water users.

Please refer to the Issue Summary "Concerns about Potential Contamination of Water" for a discussion of this issue and DOE's and NYSERDA's response.

95-7

DOE and NYSERDA acknowledge the commentor's support for the activities to be performed under Phase 1 of the Phased Decisionmaking Alternative and, if the alternative is selected, intend to conduct Phase 1 in a manner that would not preclude the selection of any Phase 2 alternative. DOE and NYSERDA are committed to protecting long-term human health and safety and the environment. Site geologic, hydrologic, and climate characteristics are considered in the long-term performance assessment in this EIS, as are long-term human health impacts in the event of loss of institutional controls.

95-8

A variety of studies is expected to be performed during Phase 1 to support a decision about Phase 2 actions if the Phased Decisionmaking Alternative is selected. These are discussed in Chapter 2, Section 2.4.3.3, of this EIS. As

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

be valuable in facilitating a proper cleanup and could serve as a stimulus for similar action elsewhere.

- The CTF insists that no additional wastes will be brought to WVDP for treatment or storage.
- The CTF recognizes a number of the decisions for the Site are impacted by national considerations and political decisions concerning the long-term disposition of high-level radioactive wastes. Consequently, some wastes could remain at the Site for a period of several decades after exhumation while awaiting relocation to a high-level radioactive waste repository. The CTF expects that all decisions regarding such wastes will be guided by the conclusion that the only appropriate, final action with regard to these wastes is for them to be removed from the Site.

During such time as this larger question of a national high-level waste repository or the ability of other facilities within the DOE complex to store wastes awaiting a determination on a national repository, the CTF insists that the WIR determination not be used and that wastes on the Site will be exhumed and temporarily stored in a manner that allows for its monitoring to readily, safely and regularly determine if the materials are leaking or migrating.

The CTF expects that all wastes be excavated and placed in a structure for temporary storage where monitoring and retrieval for repackaging and recontainment, if necessary, will be relatively easy. Short term studies should be conducted to ensure that this temporary storage can be accomplished safely.

The CTF expects that any structures built to contain wastes in the ground or above the ground at the Site will be constructed to withstand severe natural events such as tornadoes, earthquakes, and the hazards of flooding and erosion. The CTF expects that such structures also have the ability to withstand intentionally destructive acts. The CTF expects that all wastes that remain at the Site will be stored in such a way that they can be retrieved if the containment system and/or packaging fail. The CTF expects that an alternative storage system will be developed so as to be readily available should the primary containment system fail.

- Specific Commitments to Assessments and Pilot Studies. The CTF encourages DOE and NYSERDA to conduct assessments studies and pilot projects with the purpose of assessing technologies and processes for safely removing the high-level waste tanks, the NRC-Licensed Disposal Area and the State-Licensed Disposal Area. These activities should be initiated at the outset of Phase 1 so as to ensure timely planning and decision making. The public should be fully informed and consulted in these efforts.

As part of the ongoing permitting process for the Part 373/RCRA program, the New York State Department of Environmental Conservation (NYSDEC) may require mechanisms for assessments and continuation of work. Such permitting requirements might include activities such as pilot exhumation studies and projects. The CTF encourages DOE and NYSERDA to commit to such

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stated in the description of the Phased Decisionmaking Alternative, if the Phased Decisionmaking Alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements.

DOE and NYSERDA acknowledge the commentor's concerns. It is not consistent with DOE policy to bring additional waste to the WNYNSC site. Waste treatment and disposal were addressed in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (WM PEIS)* (DOE/EIS-0200-F) (DOE 1997). WNYNSC was not considered as a site for treatment and disposal in the *WM PEIS* and its Records of Decision.

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DOE and NYSERDA acknowledge the commentor's recommendations about the decision to be made regarding waste management. It may be noted, however, that the principal purpose of this EIS is to analyze the environmental consequences of alternative decommissioning approaches.

Regarding the specifics of the comment, although the Administration expressed its intent in the 2010 budget request to terminate the Yucca Mountain program while developing nuclear waste disposal alternatives, DOE remains committed to meeting its obligations to manage and ultimately dispose of high-level radioactive waste and spent nuclear fuel (see Chapter 1, Section 1.6.4, of this EIS). The Administration intends to convene a blue ribbon commission to evaluate alternative approaches for meeting these obligations and will provide recommendations that will form the basis for working with Congress to revise the statutory framework for managing and disposing of high-level radioactive waste and spent nuclear fuel.

The implementation of the waste incidental to reprocessing (WIR) process is discussed in this EIS for those waste streams to which it could possibly apply (e.g., see Chapter 4, Section 4.1.11, of this EIS). Use of the WIR process is at the discretion of DOE. A determination that waste is incidental to reprocessing and can be managed as low-level radioactive or transuranic waste depends on meeting the criteria developed to protect human health that is documented in DOE Manual 435.1, "Radioactive Waste Management Manual," and the NRC February 2002 policy statement prescribing the use of NRC's License

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

projects in the EIS and not simply through what may be required by NYSDEC. In addition, the CTF understands that the RCRA process has public participation components; nonetheless, the CTF strongly encourages NYSDEC, DOE and NYSEDA to make these processes robust and ensure public participation beyond the minimally required processes.

Other Comments

- The CTF has expressed concerns with past decreases in environmental monitoring and expects that environmental monitoring will be increased commensurate with Phase 1 and other work performed at the Site.
- Although the CTF understands that Nuclear Regulatory Commission decommissioning criteria are used to evaluate alternatives in relation to doses to a human receptor, the lack of discussion of environmental impacts associated with non-dose related radioactive releases fails to acknowledge the potential harm to other species or the cumulative impacts of slow releases.
- We acknowledge and concur with NYSEDA comments contained in the NYSEDA View.

Conclusion

Additional specific comments on the DEIS are attached, as is our 1998 Final Report. In conclusion, we reiterate the following key points:

1. We support the *proposed work* associated with the Phase 1 decision.
2. We support the Site-Wide Removal Alternative.
3. We consider the Phased Decision Making Alternative to be tantamount to an interim remedial action. In the event that the Phased Decision Making Alternative is selected, the CTF would support a Record of Decision for Phase 1 and insists that a supplemental EIS be required for Phase 2.
4. We stand by the conclusions and recommendations of our 1998 Final Report.
5. We expect that additional assessments, analyses and studies will be performed, especially with respect to long-term erosion modeling, the transportation analysis and waste volume exhumation disposal estimates, and risk assessments. We anticipate that these will result in significant recalculations of both cost and risk that will likely show full site cleanup and unrestricted release as the preferred final decision. Further, we expect that these efforts could begin immediately and a final decision made within 10 years.

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Termination Rule as the decommissioning criteria for WNYNSC (67 FR 5003). DOE and NYSEDA acknowledge the commentor's preference that the WIR process not be used.

To the extent possible, any wastes that would be excavated would be shipped off site. This EIS addresses the possibility of temporary storage of orphan waste pending the availability of disposal capacity. As addressed in Chapter 2, Section 2.5.1, however, indefinite onsite storage would not meet the purpose and need of this EIS.

Depending on the nature and quantities of the materials to be contained within the structures, any structures built to support implementation of a decommissioning alternative would be constructed to meet natural or other hazards in accordance with DOE criteria.

Please see the response to Comment no. 95-3 for discussions of Phase 1 activities and public participation prior to the Phase 2 decision.

Environmental monitoring is conducted at WNYNSC in accordance with Federal and state requirements, commensurate with the types of contaminants, contaminant transport and exposure pathways, levels of site activities, and other considerations. DOE annually publishes an environmental report for WNYNSC, which is available at <http://www.wv.doe.gov>. DOE expects that, as part of implementing Phase 1, adjustments would be made as necessary to onsite monitoring activities (e.g., installation of additional groundwater monitoring wells), as addressed in the *Phased Decisionmaking Alternative Technical Report* (WSMS 2009c).

This Final EIS addresses the long-term environmental impacts to biota. Please refer to Chapter 4, Section 4.1.6, under the long-term impacts for the Close-In Place and No Action Alternatives for a description of long-term impacts on biota. A screening-level ecological risk assessment was performed that compared predicted concentrations against published DOE Biota Concentration Guides, which are concentration limits for radionuclides to protect biota. The section has been revised in this Final EIS to reflect the revisions in the long-term performance assessment.

DOE and NYSEDA acknowledge the comment.

As noted in the description of the Phased Decisionmaking Alternative, additional studies and analyses would be conducted as part of the implementation of Phase 1. DOE and NYSEDA would review and assess the information when it is available

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

6. We expect that the public and local communities will be consulted and that meaningful methods of public engagement will be continued or established throughout the time period when decisions are made and work is performed.

95-16

Sincerely,

The image shows two columns of handwritten signatures. The left column includes signatures for Anthony Memo, Warren Johnson, Judith Arnold, and Eric W. Wolters. The right column includes signatures for William R. Dello, George S. Lombardi, and Jim Lopez.

The West Valley Citizen Task Force

Attachments – Specific Comments on:

- DEIS Chapter 1
- DEIS Chapter 2
- DEIS Chapter 4
- Appendices
- West Valley Citizen Task Force Final Report – July 29, 1998

Copy:

Senator Charles E. Schumer
 Senator Kristen E. Gillibrand
 Representative Eric J.J. Massa
 Representative Brian M. Higgins
 Representative Louise M. Slaughter
 Representative Chris Lee
 Governor David A. Paterson
 New York State Senator Catharine M. Young
 New York State Assemblyman Joseph Giglio

as part of the Phase 2 decisionmaking process. Phase 1 studies would begin after publication of DOE's Record of Decision and NYSERDA's Findings Statement.

Regarding the 30-year timeframe cited by the commentor, as stated in the response to Comment no. 95-3, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

95-16 See the response to Comment no. 95-3 above for a discussion of public participation prior to Phase 2 decisionmaking.

95-17 The stated intent to conduct analyses to address the impacts of contamination remaining after completion of Phase 1 activities is consistent with the general EIS

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

New York State Assemblyman Jack Quinn, Jr.
Bryan C. Bower, Director WVDP, DOE
Paul J. Bembia, Director, WWSMP, NYSERDA
Paul A. Giardina, EPA
Timothy Rice, NYSDEC
Gary H. Baker, NYSDOH
Rebecca Tadesse, NRC

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Commentor No. 95 (cont'd): The West Valley Citizen Task Force

General comments

Comment
<p>The DEIS regularly mentions that the impacts for the Preferred Alternative lie somewhere between the Close in Place and Sitewide Removal alternatives. Basically, it assumes that the possible range of impacts have been identified and defined by the two extremes. However, on page 2-45, under the heading of Evaluations to Determine the Phase 2 Approach, the first bullet states that the approach will be based upon "The results of analysis to estimate the impacts of residual radioactivity that would remain after completion of the Phase 1 activities."</p> <p>It may be academic, or just a bad choice of wording, but there seems to be an inherent contradiction in assuming that all the possible impacts have been identified while saying that the direction of Phase 2 is based upon some future impact analysis.</p>
<p>We are concerned that, if the Phased Decisionmaking Alternative is selected and the Phase 1 work is completed, the DEIS states that DOE will only be required only to perform "operations, monitoring and maintenance....lesser in magnitude to what is currently in place at the site." (Page C-115, Paragraph C.3.3.)</p>
<p>The DEIS regularly refers to the "Close in Place Alternative" impacts as either the upper or lower limit for impact assessment. We are unable to find where the document specifically states that any WMA's not addressed in Phase 1 will be addressed, as a minimum, as specified in the Close in Place alternative. While existing laws may dictate that course, given the unknowns for final disposition of certain waste streams, and the uncertainties associated with the passage of 30 years time, the document should specifically state that "Close in Place", and not "No Further Action", will be the default Phase 2 option should other options involving more cleanup actions not be selected. That being said, the CTF does not support the Close in Place option.</p>
<p>WMA-4 contains the CDDL which should be exhumed. There is a disposal path for this waste, stimulus funds are available for this project and would show a commitment of working toward unrestricted release of the site. This would also make a wonderful pilot project.</p>

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DEIS Chapter 1-

Page	Paragraph / Section	Comment
1-5	Para 2 Line 2	<p>"DOE also determined that the <i>Waste Management EIS</i> would be a new EIS, and that the <i>Decommissioning and/or Long-Term Stewardship EIS</i> would instead be considered the revised draft of the 1996 <i>Cleanup and Closure Draft EIS</i>."</p> <p>1) Splitting the original EIS jeopardizes the intent of the original EIS for the entire site and potentially slows work because such a decision is open to legal challenge. 2) The title change from "<i>Cleanup and Closure</i>" to "<i>Decommissioning and/or Long-Term Stewardship</i>" indicates no intention to clean up and close the site.</p> <p>See also: p. 11 Section 1.6.1 which explains the rationale behind the decision to "revise and reissue the 1996 <i>Cleanup and Closure Draft EIS</i>", changing the title to "<i>Decommissioning and/or Long-Term Stewardship EIS</i>".</p> <p>Why did DOE decide not to title the 2008 DEIS the "Revised Cleanup and Closure EIS"?</p>

95-20

conclusion that the impacts for the Phased Decisionmaking Alternative would be bounded by those for the Sitewide Removal and Sitewide Close-In-Place Alternatives. The cited bullet was intended to explain that, during implementation of Phase 1 removal activities, survey measurements and samples would be taken to record the actual field conditions upon completion of the actions. This information would be added to the body of knowledge that would be considered in the Phase 2 decisionmaking process to refine DOE's and NYSERDA's understanding of the impacts, as appropriate. The text of the bullet has been revised to clarify this.

The paragraph referenced in the comment addresses the operations, monitoring, and maintenance program that would take place after implementation of Phase 1 decommissioning actions and before implementation of the Phase 2 decision. The program would be lesser in magnitude to that currently in place at the site for those structures that are decommissioned; however, for the structures and Waste Management Areas that would not be addressed during Phase 1, the operations, monitoring, and maintenance program would continue, except where modified to address the regulations and statutes applicable at the time. The paragraph that explains this has been revised for clarification, and the rest of Appendix C, Section C.3.3, describes the operations, monitoring, and maintenance activities, as well as Phase 1 decommissioning actions, for each Waste Management Area.

In the Final EIS, NYSERDA and DOE have reconsidered the timeframe for making the Phase 2 decision (shortening the time period from up to 30 years to 10 years). NYSERDA has also clarified that for the SDA, alternatives that would be considered for Phase 2 actions, if the Phased Decisionmaking Alternative is selected, will include at least complete exhumation, close-in-place, or continued active management consistent with permit and license requirements. Unlike the West Valley Demonstration Project, the SDA does not have a decommissioning requirement. Through its rigorous monitoring and maintenance program, NYSERDA has demonstrated for the past 25 years that the SDA can be managed safely in its current configuration. However, NYSERDA also recognizes the dynamic nature of the environment at West Valley and decisions made 10 years from now, if the Phased Decisionmaking Alternative is selected, would need to reflect the knowledge gained from scientific studies and data gathering (during Phase 1) as well as continued review of routine monitoring data collected for the SDA. NYSERDA's decisions have been and will continue to be protective of human health and the environment. And, as it has done for Phase 1, NYSERDA would solicit stakeholder input on its Phase 2 decision through a formal public comment period and public hearings.

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

1-5		<p>The flexibility in allowable public dose criteria under the License Termination Rule is disturbing. The public should be able to clearly understand from the document the various possible outcomes and exposures when taking into account the per year TEDE (total effective dose equivalent) beyond 25 millirem per year plus ALARA ("as low as reasonably achievable"). The public also needs to understand the implications of language concerning the failure of institutional controls (something that the Citizen Task Force believes likely over the long term) and the latitude available to DOE in the language if "technically not achievable or prohibitively expensive." Both of these could result in significantly higher TEDE than one might assume. Under some of these circumstances, DOE could apply for alternate criteria and the TEDE may be as high as 500 millirem per year. This is not indicative of the protection of human health and safety as we understand it. Although DOE has indicated that there is no intention to apply for alternate criteria, we cannot assume in the DEIS that such an application will not be made.</p> <p>Ambiguity exists in the application and interpretation of the License Termination Rule and the West Valley Project Demonstration Act. These should be clarified.</p> <p>Would decommissioning of the High-Level Waste Tanks in the ground constitute a "disposal" decision?</p>
1-6		<ul style="list-style-type: none"> • How can the tanks be decontaminated and decommissioned in the ground? • If the material inside is dried, would it not still be radioactive? • Does the LTR apply to that material? • "Such requirements as NRC will prescribe" ... What determines the end of NRC involvement in the site? • Will the disposal requirements specified under the West Valley Demonstration Project Act apply and under what circumstances?
1-8		Can NRC disapprove of the DOE plan at some later point?
1-8		As it deals with non-DOE, non-Project and non-SDA waste, can NRC, in resuming its regulatory role, exercise any authority to force parties to take action? i.e. take any action once the West Valley Demonstration Project Act is completed?
1-10	1-5	Decisions... "...to complete WVDP and either close or manage..." Cleanup is not mentioned.

DEIS Chapter 2-

Page	Paragraph / Section	Comment
2-1	2.1	Line 2 should read "Review Act (SEQR), this revised draft environmental impact statement (DEIS) document should use "DEIS" universally.
2-1	2.1	3rd bullet - remove "the Preferred Alternative" by identifying the preferred alternative in the body of the document, especially in the introduction; it infers a pre-determination prior to the presentation of impacts.
2-1	2.1	Last paragraph: The DEIS refers to the Final EIS and Record of Decision. If the Phased Decisionmaking Alternative is selected, a FINAL EIS and ROD can only

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Please see the Issue Summary for "Modified Phased Decisionmaking Alternative" in Section 2 of this CRD for further discussion of DOE's and NYSERDA's options for the Phase 2 decision, if the Phased Decisionmaking Alternative is selected.

95-19 As addressed in Appendix C, Section C.2.4, of this EIS, the Construction and Demolition Debris Landfill (CDDL) was used for disposal of nonradioactive waste. In 1986, closure of the CDDL was approved and certified by NYSDEC; it is currently identified as a solid waste management unit subject to corrective action requirements pursuant to the RCRA 3008(h) Consent Order. Because the CDDL is located in the flow path of the North Plateau Groundwater Plume, it is possible that waste and material removed from the CDDL would require handling as radioactive waste. For this reason, if the Phased Decisionmaking Alternative is selected for implementation, it appears reasonable and appropriate to address possible removal or in-place closure of the CDDL as part of the Phase 2 decision to be made regarding the remaining portions of the entire North Plateau Groundwater Plume.

Once DOE's Record of Decision is issued, it may be possible to use stimulus funds for some of the actions. DOE will explore options for use of the funds at that time.

95-20 The commentor raises a concern that splitting the 1996 *Draft Environmental Impact Statement for Completion of the West Valley Demonstration Project and Closure or Long-Term Management of Facilities at the Western New York Nuclear Service Center (Cleanup and Closure Draft EIS)* into two EISs opens the decision to legal challenge. However, DOE has already been sued on this issue and prevailed in court. A lawsuit was brought against DOE in 2005 after it decided to split the 1996 *Cleanup and Closure Draft EIS* into two EISs. On August 31, 2009, the 2nd Circuit Court of Appeals upheld a lower-court decision that found DOE acted properly when it issued the *West Valley Demonstration Project Waste Management Environmental Impact Statement* (DOE/EIS-0337). In its opinion, the 2nd Circuit Court stated that, "separating the consideration of the waste management and the closure issues was not impermissible segmentation." The court went on to say that agencies such as DOE "must often undertake multifaceted actions that have complex, interdependent environmental impacts," and that they must make "reasonable judgments about what actions should be analyzed together and what should be analyzed separately."

Chapter 1, Section 1.2, of this EIS provides a detailed explanation of this EIS's development, including why the 1996 *Cleanup and Closure Draft EIS* was split into two EISs. This section provides a much more comprehensive discussion on this

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

		be issued for the Phase 1 decision; otherwise the Phased Decisionmaking Alternative would be tantamount to an Interim Remedial Action. A determination of impacts for issue of a FINAL EIS is not possible without a comprehensive determination of action and subsequent impacts.
2-18	2.3.2.2 Lagoon 1 paragraph	It is not clear what the "Old Hardstand" is? The term "hardstand" should be defined in context in the document.
2-27	2.3.2.11	No activity is planned for WMA 11. Is the Scrap Material Landfill to be closed in place?
2-31	2.4	4th paragraph - delete (the Preferred Alternative) per the comment above
2-32	Para 2	The document should clearly describe the conditions or situations where a Supplemental EIS would be prepared.
2-43	Section 2.4.3.1	Second bullet, the term "defense determination" and its implications should be clearly defined. Fifth bullet should explain why the cleanup of contamination greater than 0.5 meters is deferred to Phase 2.
2-46	2.4.3.2 2 nd bullet	This text should be clarified to indicate what measures in addition to the downgradient barrier wall will be taken to minimize infiltration of groundwater into the excavation needed for the below grade structure and soil removal work. DOE has indicated verbally that a sheet piling wall will be installed upgradient, this should be clarified in writing in the DEIS.
2-60	2.6.4	1st bullet - Should read: The Sitewide Removal Alternative would ultimately result in a complete release of site land available for unrestricted reuse. While it would incur the greatest....., it would provide the least long term radiological dose.

DEIS Chapter 4--

Page	Paragraph / Section	Comment
	General	The Analysis of Impacts appears to focus on non-radiological impacts from the proposed site activity according to the various alternatives. The analysis of exposures is discussed in terms of Human Health and Safety and does not address the threat to the environment in general or the impacts on other species except in the context of human consumption. The analysis should include a discussion of potential environmental impacts in terms of ecological and cumulative impacts, outside of human exposure, to current and future possible uncontrolled radiological releases.
	General	The analysis should include economic impacts from contamination to the environment. For example, limitations on fishing that would have a detrimental economic impact on business and tourism associated with recreational fishing.
	General	Will radiological releases below criteria be considered and impacts analyzed?
4-11	Table 4-3	Do the traffic volume impacts in Table 4-2 mesh with shipment projections in

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subject than Section 1.6.1. DOE does not agree with the commentor's statement that the change in title from *Cleanup and Closure Draft EIS* to *Decommissioning and/or Long-Term Stewardship EIS* somehow lessens its commitment to clean up and close WNYNSC. DOE remains committed to meeting its responsibilities under the West Valley Demonstration Act, to protecting the environment, and to ensuring the safety and health of workers at WNYNSC and the public.

This EIS will support decisions about actions to complete WVDP and to either close or manage WNYNSC. Once a decommissioning approach is selected and announced in a DOE Record of Decision and a NYSERDA Findings Statement, decommissioning would proceed in accordance with all applicable regulatory requirements, including those of NRC. NRC described its regulatory role and announced its plans for applying the License Termination Rule to activities conducted under the West Valley Demonstration Project Act, including decommissioning of the high-level radioactive waste tanks, in its February 1, 2002, *Decommissioning Criteria for the West Valley Demonstration Project* (67 FR 5003). (See Chapter 1, Sections 1.2 and 1.3, and Chapter 5 of this EIS for a discussion of the roles of NRC and other regulators and the Federal and New York State regulations that would be applied to site decommissioning.) A preliminary discussion of compliance with the principal decommissioning regulations applicable to the site is presented in Appendix L of this EIS, although, as stated in the appendix, specific compliance scenarios would be determined and justified as part of the decommissioning plan preparation, review, and approval process.

If a close-in-place decision were to be made for the Waste Tank Farm, the entire decommissioning plan would be evaluated for compliance with the WVDP Policy Statement and License Termination Rule. Contamination on the NRC-regulated portion of the site would be considered "residual contamination" (NRC 2006b).

- If in-place-closure were selected for the Waste Tank Farm, decommissioning would occur as described in Chapter 2, Section 2.4.2.1 under WMA 3, of this EIS. These decommissioning actions are described in more detail in Appendix C, Section C.3.2.3.
- The residual contamination in the tank would be radioactive regardless of whether it is wet or dry.
- The decommissioning criteria for the WVDP, which includes the Waste Tank Farm, are described in the NRC Decommissioning Criteria Policy Statement prescribing the License Termination Rule.

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

		Table 4-52 on page 4-105? If these address different analyses that should be made more clear and, if appropriate. The units of analysis should be comparable.
4-12	Para 2 Line 3	"All shipments ... assumed to be by truck" this paragraph should be clarified to reflect that the assumption of shipment by truck is for purposes of roadway impacts only. How is this assumption carried through into the calculation of risk?
4-22	Para 2 Line 2	This paragraph should be clarified, if this is in fact the case, to reflect that only non-radiological releases are being considered in this section. The document should also more clearly articulate the difference between a high risk event (we assume a radiological release) and a higher likelihood event (sedimentation). Is sedimentation the greatest risk to local surface water quality?
4-22	Para 6	Long term negative surface water impacts would be improved..... (mitigated and/or eliminated?)
4-23	Para 2 Line 2	Shouldn't the line read "implementation of the Sitewide Removal Alternative"?
4-23	Section 4.1.4.2 Para 2 line 4	Typo: "exposure surfaces" should read "exposed surfaces"
4-26	Section 4.1.4.4	This section infers that No Action would result in no impacts. While the "No Action Alternative" is not viable, wouldn't an evaluation of the long term, potentially critical impacts be more appropriate?
4-87	4 th paragraph	The paragraph concerning integration of groundwater and erosion models should be revised. Because no state-of-the-art model exists to integrate ground water and erosion models, the assumption that the impacts are cumulative is not necessarily a conservative approach. The analysis should examine the possibility of exponential or other impacts from the combined interaction of groundwater flow and erosion.

DEIS Appendices-

App.	Page/Paragraph / Section	Comment
C	Section C.2 Page C.1 et Seq	Under C.2, the DEIS provides Tables showing Estimated Chemical Contamination in kilograms. Does this represent soil, ground water or materials of construction in each facility? To report these numbers in kilograms does not provide any meaningful information to the reader. In addition, the DEIS in Table C-2, page C-5, reports 187 kg of lead in the Main Process Plant Building. Page C-50 reports 10,000 kg of lead in the leaded glass Viewing windows of the Main Process Plant Building. This inconsistency is also seen in the report for the Vitrification Facility (68kg vs. 1,360 kg in the windows) The tables showing chemical contamination show "contaminant" and "contamination" as in Table C-2, then "chemical" and "amount" as in C-13. These tables should be consistent.

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- It is expected that NRC's involvement at the site would cease once the WVDP is complete and NYSERDA's NRC license has been terminated.
 - There are no disposal requirements specified under the WVDP Act that would apply to the Waste Tank Farm if the in-place-closure option was selected.
- 95-22** This comment cites only the first sentence of this paragraph. The remainder of the paragraph specifies that the decision concerning decommissioning of WNYNSC facilities, including the NDA; exhumation or management of the SDA; and remediation and/or management of areas of contaminated soil, sediment and groundwater would involve clean up to levels specified by regulatory requirements.
- 95-23** The term "revised draft" is used in the title of the Revised Draft EIS; therefore, it was not necessary to restate it in every instance. For the Final EIS, the term "revised draft" is no longer applicable. The term "EIS" is appropriate for the final publication.
- 95-24** Section 1502.14e of the *U.S. Code of Federal Regulations* (40 CFR 1502) requires that the preferred alternative be identified in the Revised Draft EIS if one exists, and that a preferred alternative be identified in the Final EIS unless another law prohibits the expression of such a preference. Identification of the preferred alternative does not mean that DOE has not considered the impacts associated with all of the alternatives.
- 95-25** DOE determined a range of impacts for the Phased Decisionmaking Alternative that incorporates potential Phase 2 impacts. The environmental impacts of implementing Phase 1 of the Phased Decisionmaking Alternative are described for each resource area in Chapter 4 of this EIS. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

West Valley
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July 29, 1998

- to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.
- 95-26** Chapter 2, Section 2.3.2.2, of this EIS has been revised to state that the Old Hardstand was a dirt or gravel staging area used to store radioactive equipment in Waste Management Area 5.
- 95-27** Chapter 2, Section 2.4, of this EIS summarizes the activities to be conducted for the Scrap Material Landfill under each alternative. For the Sitewide Removal Alternative, the waste would be exhumed and any contaminated soil, sediment, and groundwater would be remediated to levels supporting unrestricted release. No decommissioning activities would take place for the Scrap Material Landfill under the Sitewide Close-In-Place Alternative and Phase 1 of the Phased Decisionmaking Alternative.
- 95-28** Please see the response to Comment no. 95-24.
- 95-29** Chapter 2, Section 2.4, of this EIS adequately describes when a Supplemental EIS would be prepared.
- 95-30** The term “defense determination” is explained in Chapter 2 of this EIS, along with the statement that the Waste Isolation Pilot Plant can only receive and dispose of defense waste.
- The scope of the Phase 1 removal actions is limited to excavations of 0.5 meters (2 feet) or less to provide a basis for quantifying the environmental impacts. In addition, if deeper contamination is found, then further characterization activities could be performed in Phase 1 and the areas effectively remediated in Phase 2. The assumption regarding the depth of excavations is sufficient as stated.
- 95-31** Chapter 2, Sections 2.4.1.3 and 2.4.3.5, of this EIS were revised to state that, in addition to a downgradient barrier wall, an upgradient barrier wall consisting of sheet pile would be constructed under the Sitewide Removal Alternative and the Phased Decisionmaking Alternative. This information is consistent with Appendix C, Sections C.3.1.1.7, C.3.3.1.4, and C.4.7, of this EIS.
- 95-32** Chapter 2, Section 2.6.4, of this EIS has been revised to reflect changes made for the Final EIS. The Sitewide Removal Alternative would allow unrestricted release of the WNYNSC site, as stated by the commentor. As summarized in Chapter 2 and discussed in more detail in Chapter 4, the long-term impacts of this alternative are

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

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Acknowledgments

The West Valley Citizen Task Force members wish to acknowledge the participation of two members who were unable to remain with the Task Force until the completion of these recommendations.

The Task Force dedicates this Report to the memory of Elaine Belt, who passed away in June 1998. Elaine Belt contributed greatly to the success of the Task Force; her enthusiasm and dedication to the community will be remembered.

The Task Force also extends its appreciation to Richard Timm, former Supervisor of the Town of Concord, for his participation and support.

less than the other alternatives in that onsite residents and offsite members of the public would receive lesser doses. Some short-term impacts related to the Sitewide Removal Alternative, however, would be greater than for the other alternatives (e.g., cost, transportation impacts, and worker dose). DOE will consider the short- and long-term impacts of each alternative when making its decision.

- 95-33** This Final EIS addresses potential impacts to terrestrial animals and aquatic biota due to long-term releases of radionuclides to the environment under the Sitewide Close-In-Place and No Action Alternatives. This Final EIS also contains an expanded analysis of impacts, including a screening-level ecological risk assessment.
- 95-34** To understand the potential for local adverse ecological impacts from possible long-term release of radionuclides for the alternatives that would leave waste at the site, a screening-level ecological risk assessment was performed (Chapter 4, Sections 4.1.6.2 and 4.1.6.4). On the basis of the screening analysis for the Sitewide Close-In-Place Alternative, it is concluded that long-term releases would not result in long-term ecological consequences for receptors along Buttermilk Creek and terrestrial receptors along Franks Creek. The projected water concentrations for Franks Creek slightly exceeded the DOE screening-level concentrations for aquatic biota; however, as explained in Chapter 4, Section 4.1.6.2, aquatic biota exposed to surface water in Franks Creek are unlikely to experience unacceptable risk of long-term adverse effects because the screening concentration limits are conservative. Thus it is unlikely that business and tourism would be affected if the Close-In-Place Alternative is selected.
- 95-35** This EIS estimates the potential releases that would result from implementing each of the alternatives, including those that are less than release criteria. The impacts of these releases are analyzed. Please refer to the discussion of human health impacts and long-term impacts in Chapter 4, Sections 4.1.9 and 4.1.10.
- 95-36** The waste shipments identified in Chapter 4, Table 4-52, of this EIS are included in the total traffic volumes and associated impacts identified in Tables 4-2 and 4-3.
- 95-37** The text was clarified to indicate that the assumption was made to provide an upper-bound estimate of traffic volumes. The analysis in this section addresses traffic congestion. Radiological and nonradiological risks from shipments of waste and construction materials are addressed in Chapter 4, Section 4.1.12. Please also see the response to Comment no. 95-36.

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

- 95-38** Although Chapter 4, Section 4.1.4.1, addresses possible radiological as well as nonradiological releases to surface water, it is believed that sedimentation is the greatest risk to local surface water quality during decommissioning. The next to last paragraph in the surface water section addresses releases in liquid effluents that could contain radiological constituents and would be discharged in accordance with regulatory permits. The last paragraph notes that implementing the alternative would improve long-term surface water quality because less residual contamination (which would again include radiological constituents) would be on site. With respect to higher-risk events, Chapter 4, Section 4.1.9.2, addresses public impacts that could result from accidents that could occur at WNYNSC, while Chapter 4, Section 4.4, addresses impacts that could result from intentional destructive acts at WNYNSC. The analysis performed for Section 4.1.9.2 showed that the consequences and risks of postulated accidents involving liquid releases are bounded by analyzed accidents involving the airborne release of radionuclides. A similar determination was made for Section 4.4 for an intentional destructive act that could cause a liquid release to a surface stream.
- 95-39** The text was clarified to state that, “natural features to prevent erosion would be restored.”
- 95-40** The text has been revised to state, “...implementation of the Sitewide Removal Alternative.”
- 95-41** The text has been revised as suggested.
- 95-42** Chapter 4, Section 4.1.4.4, of this EIS includes an analysis of long-term impacts to surface water quality associated with the No Action Alternative. For the Final EIS, the analysis was edited for greater clarity.
- 95-43** There is no known scientific basis for assuming an exponential change in the impact from the combination of groundwater flow and erosion.
- 95-44** The text associated with each table explains the nature of the contamination. For example, at the bottom of page C-4 of the Revised Draft EIS, the chemical contamination is described as being “present in both the above-grade and below-grade portions of the Main Plant Process Building.” In Table C-9, the chemical inventory is shown only for the contents of the tanks and process lines. The tables do not include the leaded windows. The text associated with each table of chemical inventories in Appendix C has been revised for this Final EIS to further clarify the nature of the chemical contamination, and the titles and headers for these tables

Commentor No. 95 (cont'd): The West Valley Citizen Task Force

were revised as necessary to be consistent and accurate. The format used in this EIS is to include only one set of units in each table and provide conversions to a second set of units as table notes. This is done to minimize the complexity and size of the tables.

**Commentor No. 96: John Filippelli, Chief,
Strategic Planning and Multi-Media Programs' Branch,
United States Environmental Protection Agency**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN - 4 2005

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874

Rating: EC-1

Dear Ms. Bohan:

The U.S. Environmental Protection Agency (EPA) has reviewed the revised draft environmental impact statement (RDEIS) for the Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (WNYNSC) (CEQ #20080489). The WNYNSC is a 3,340 acre site located 30 miles south of Buffalo, New York. The WNYNSC was originally licensed by the Atomic Energy Commission in 1966, and closed in 1972. The site was the home of the only operational commercial nuclear fuel reprocessing facility in the United States. This review was conducted in accordance with Section 309 of the Clean Air Act, and the National Environmental Policy Act (NEPA).

In 1980, the West Valley Demonstration Act required the Department of Energy (DOE) to decontaminate and decommission, in accordance with any requirements prescribed by the Nuclear Regulatory Commission, the waste storage tanks and facilities used in the solidification of high-level radioactive waste, along with material and hardware used in connection with the West Valley Demonstration Project. This RDEIS consists of an analysis of environmental impacts associated with a range of reasonable alternatives for decommissioning and/or long-term stewardship of WNYNSC, as well as a No Action Alternative. The preferred alternative is the Phased Decision-making Alternative.

Under the Preferred Alternative, decommissioning would be accomplished in two phases: Phase 1 decisions would include removal of all Waste Management Area (WMA) 1 facilities, the source area of the North Plateau Groundwater Plume, and the lagoons in WMA 2. Phase 1 activities would also include additional characterization of site contamination and studies to provide additional technical information in support of the technical approach to be used to complete site decommissioning. Phase 2 would support the completion of decommissioning actions or long-term management. In general, the Phased Decision-making Alternative involves near-term decommissioning and removal

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Rating noted.

**Commentor No. 96 (cont'd): John Filippelli, Chief,
Strategic Planning and Multi-Media Programs' Branch,
United States Environmental Protection Agency**

actions where there is agency consensus and undertakes characterization work and studies that could facilitate future decision-making for the remaining facilities or areas.

Based on our review of the RDEIS and the complex nature and long timeframe of the project, the EPA has rated the project and document "Environmental Concerns - Adequate" (EC-1). EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. (Rating descriptions are enclosed.)

Long-Term Storage

The Final EIS must include an update about the status of the Yucca Mountain Repository, and identify any additional environmental impacts that may occur at the WNYNSC due to the long-term storage of high level radioactive waste.

Air Quality

While Cattaraugus County is in attainment area of the National Ambient Air Quality Standards, EPA recommends that DOE utilize all possible measures to reduce emissions from off-road construction equipment. These measures could include lower-sulfur fuel exhaust retrofit technology, alternative fuels, and/or operational limitations. EPA also offers the following additional recommendations: (1) regularly maintain and tune engines and perform inspections; (2) require the use of newer diesel equipment; (3) reduce the number of heavy equipment trips; (4) reduce the amount of heavy equipment idling; and (5) avoid or minimize the siting of laydown areas near residences and sensitive receptors.

Sole Source Aquifer

As the site is located in the Cattaraugus Creek Aquifer System, designated by the EPA as a Sole Source Aquifer on September 25, 1987 (citation 52 FR36100), EPA has also reviewed the project in accordance with Section 1424(e) of the 1974 Safe Drinking Water Act, PL 93-523. Based on our review of the information provided, we do not anticipate that the preferred alternative will result in significant adverse impacts to ground water quality. Accordingly, the project satisfies the requirements of Section 1424(e).

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96-2 As indicated in the Administration's fiscal year 2010 budget request, the Administration intends to terminate the Yucca Mountain program while developing nuclear waste disposal alternatives. Notwithstanding this decision to terminate the Yucca Mountain program, DOE remains committed to meeting its obligations to manage and ultimately dispose of high-level radioactive waste and spent nuclear fuel. The Administration intends to convene a blue ribbon commission to evaluate alternative approaches for meeting these obligations. The commission will provide the opportunity for a meaningful dialogue on how best to address this challenging issue and will provide recommendations that will form the basis for working with the U.S. Congress to revise the statutory framework for managing and disposing of high-level radioactive waste and spent nuclear fuel.

Until a disposition decision is made and implemented, the high-level radioactive waste canisters at WNYNSC will be safely stored on site. Impacts of onsite storage for approximately 30 years are presented in this EIS. The text in Chapter 2, Section 2.6.1, has been revised to provide the annual impacts of long-term storage of high-level radioactive waste at WNYNSC.

96-3 Chapter 6, Section 6.4, of this EIS was modified to supplement the air quality measures already identified in this section. The mitigating measures were expanded to include the two not already identified in the discussion: reduction of the number of heavy equipment trips and minimization of laydown areas near residences and sensitive receptors.

96-4 DOE and NYSERDA note the comment.

**Commentor No. 96 (cont'd): John Filippelli, Chief,
Strategic Planning and Multi-Media Programs' Branch,
United States Environmental Protection Agency**

Surface Water

On page 3-51, Section 3.6.1.1, the text states that several surface water locations "are scheduled for sampling in 2007." This information should be updated.

EPA also recommends that any near-term vegetation mitigation, particularly near surface waters, be created with plants native to western New York.

Additional detailed comments by document section or page are enclosed. Thank you for the opportunity to comment on this project. If you have any questions concerning our comments, please contact Lingard Knutson of my staff at (212) 637-3747.

Sincerely yours,



John Filippelli, Chief
Strategic Planning and Multi-Media Programs Branch

Enclosures

|| 96-5

|| 96-6

96-5 The statement in Chapter 3, Section 3.6.1.1, was updated for this Final EIS to show that the results from sampling in 2007 were considered.

96-6 Chapter 6, Section 6.3, of this EIS was revised to call for the use of native western New York plants to the extent practicable for any short-term vegetation mitigation.

**Commentor No. 96 (cont'd): John Filippelli, Chief,
Strategic Planning and Multi-Media Programs' Branch,
United States Environmental Protection Agency**

June 2009

Additional EPA Region 2 Comments to the Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center RDEIS

Chapter 3, Section 3.13.2: EPA's National Environmental Performance Track program has been terminated; update accordingly.

Page 1-9, 1st paragraph: add ", if required," between "assess" and "the ability of..."

Page 1-9, 5th paragraph: Replace the paragraph with the following: DOE and NYSERDA are required to comply with the RCRA requirements for the management of hazardous wastes at and the remedial actions/cleanup of their respective site, as applicable. NYSDEC is the primary responsible agency for overseeing the management of hazardous wastes at the sites pursuant to the NYSDEC Part 373/RCRA requirements, and would issue a permit for the proper management of hazardous waste. NYSDEC and EPA are jointly responsible for the oversight of the site remedial actions/cleanup performed under the 1992 RCRA 3008(h) Consent Order. The aforementioned NYSDEC Part 373/RCRA permit, if and when issued, may also include applicable RCRA corrective action provisions which require remedial actions/cleanup necessary for the sites.

Section 2.2, 3rd paragraph, 2nd to last sentence: (1) replace "regulated facilities" with "hazardous wastes."; (2) replace "containing hazardous waste or constituents." with "and the implementation of remedial actions/cleanup necessary for the sites with respect to any hazardous waste constituents."

Section 2.3.2.6. Table 2.2: needs to be revised to reflect that ground underneath the Old Sewage Treatment Facility needs to be decommissioned, as noted in the second paragraph under the section.

Section 3.6.2 Groundwater, Page 3-66, 1st Paragraph: Provide information on the effectiveness of the North Plateau Groundwater Remediation System in reducing Strontium-90 discounting any effectiveness due to dilution.

Appendix L. Page L-1, First Bullet: add "and/or other relevant RCRA oversight documents, if any."

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- 96-7 Chapter 3, Sections 3.2 and 3.13.2, of this EIS were revised to note the termination of the National Environmental Performance Track program.
- 96-8 The text was revised as requested.
- 96-9 The text has been revised to state:
"DOE and NYSERDA are required to comply with the RCRA requirements for management of hazardous wastes and the remedial actions/cleanup of their respective portions of WNYNSC, as applicable. NYSDEC is the primary responsible agency for overseeing the management of hazardous wastes at the sites pursuant to the NYSDEC Part 373/RCRA requirements, and would issue a permit for the proper management of hazardous waste. EPA and NYSDEC are jointly responsible for the oversight of the site remedial actions/cleanup performed under the 1992 RCRA 3008(h) Consent Order. The aforementioned NYSDEC Part 373/RCRA permit, if and when issued, may also include applicable RCRA corrective action provisions which require remedial actions/cleanup necessary for specific portions of the site."
- 96-10 Chapter 2, Section 2.2, has been revised as recommended.
- 96-11 Chapter 2, Table 2-2, lists contamination in facilities still in existence at the starting point of this EIS, not general areas of ground contamination that may exist. Acknowledgement in Section 2.3.2.6 of the need to address possible contamination beneath where the Old Sewage Treatment Facility used to be is sufficient to describe this activity.
- 96-12 Chapter 3, Section 3.6.2, has been revised to add additional information regarding the effectiveness of the North Plateau Groundwater Remediation System in reducing strontium-90 contamination.
- 96-13 Although this specific edit was not made, this bullet was edited for clarity consistent with guidance from NYSDEC.

Commentor No. 97: Virginia W. Bradley

VIRGINIA W. BRADLEY
75 Guilford Lane, Unit 1
Williamsville, NY 14221

May 16, 2009

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874

Dear Ms. Bohan,

I am writing you in support of the Sitewide Removal Alternative (full waste excavation cleanup) for the West Valley Demonstration Project (WVDP) as described in the Draft Environmental Impact Statement issued by the DOE and the NYS Energy & Research Authority of December 2008.

This alternative provides a permanent and safe solution to the problems, it removes the radioactive waste from an unstable site with serious erosion problems, and it provides the most cost-effective solution.

I oppose the Preferred Alternative, which would delay the final cleanup for the majority of the nuclear wastes for another 30 years, leaving most of it on the site. Any delay in removal of the waste exacerbates the known threats to human health and safety. Radioactivity from the site has already been found at the juncture

97-1

97-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative and opposition to the Preferred Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established

Commentor No. 97 (cont'd): Virginia W. Bradley

of the Niagara River and Lake Ontario, and ground water contaminated by nuclear waste is moving toward local streams.

Sincerely,

Virginia W. Bradley
Virginia W. Bradley

Copy: President Barak Obama
Senator Charles Schumer
Senator Kristen Gillibrand
Rep. Brian M. Higgins
Rep. Chris Lee
Rep. Louise Slaughter
Rep. Eric Massa

|| 97-1
cont'd

standards), as demonstrated by the results from the ongoing environmental monitoring program. The decommissioning measures currently being taken to manage the North Plateau Groundwater Plume and other sources of contamination at WNYNSC would reduce the consequences to humans and the environment.

Commentor No. 98: Lawrence A. Krantz

June 8, 2009

Lawrence A Krantz

9180 Goodnuff Lane NE

Bemidji, MN 56601-9780

Complete cleanup and removal of nuclear waste at this site needs to be done now. It makes no sense, no matter how small risk, to put our Great Lakes in threat of any degree of nuclear contamination. Thank you for considering my comments.

98-1

98-1

DOE and NYSERDA acknowledge the commentor's preference for complete cleanup and removal of nuclear waste at this site now. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

**Commentor No. 99: Robert M. Graber, Clerk,
State of New York, Legislature of Erie County**

STATE OF NEW YORK

LEGISLATURE OF ERIE COUNTY
CLERK'S OFFICE

BUFFALO, N.Y., MAY 28, 2009

TO WHOM IT MAY CONCERN:

I HEREBY CERTIFY, That at the *10th Session of the Legislature of Erie County, held in the Legislative Chambers, in the City of Buffalo, on the Twenty-Eighth day of May, 2009 A.D. a Resolution was adopted, of which the following is a true copy:*

**A RESOLUTION TO BE SUBMITTED BY
LEGISLATORS IANNELLO, MARINELLI, WHYTE,
MILLER-WILLIAMS, GRANT, REYNOLDS, MILLS, KOZUB, KENNEDY,
KONST, MAZUR, WROBLEWSKI & LOUGHRAN**

WHEREAS, located thirty miles south of Buffalo, New York, the West Valley nuclear site is contaminated with vast amounts of toxic and radioactive waste, including plutonium, uranium, strontium-90 and iodine-129; and

WHEREAS, these chemicals are known to cause leukemia and cancer, even at very low doses over a long period of time; and

WHEREAS, this site was abandoned in 1976 by Nuclear Fuel Services, thereby passing cleanup responsibilities on to the government and taxpayers; and

WHEREAS, the site is located on a sole source aquifer and has been known to create radioactive groundwater which has been identified as far away as the shore of the Niagara River and Lake Ontario; and

WHEREAS, this raises the issue of potentially dangerous leakage into the drinking water supplies for millions of people; and

WHEREAS, the United States Department of Energy (DOE) and the New York State Energy Research and Development Corporation (NYSERDA) originally proposed leaving the buried waste onsite, including high level radioactive waste tanks which could leak contamination at the end of their useful lives; and

WHEREAS, a recent cost study focused on the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that a full waste excavation cleanup costs less at \$9.9 billion, and presents the least risk to the population than leaving buried waste onsite, which is \$13 billion and carries high risks of catastrophic release of radioactive waste into the drinking water supplies; and

WHEREAS, scientists have determined that erosion is a powerful and fast moving force in the West Valley region, adding to the risk factor that if leakage occurs, dangerous radioactive waste could pollute local, regional and international waterways into Lake Erie, the Niagara River and beyond; and

WHEREAS, it is feared that if as little as 1% of radioactivity leaked from the site, Lake Erie water users could be exposed to substantial radiation, cancer deaths, and the cost of water replacement could be in the millions to just Erie County and Buffalo; and

ATTEST



ROBERT M. GRABER
Clerk of the Legislature of Erie County

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WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

99-2

Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

99-3

Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

**Commentor No. 99 (cont'd): Robert M. Graber, Clerk,
State of New York, Legislature of Erie County**

STATE OF NEW YORK

LEGISLATURE OF ERIE COUNTY
CLERK'S OFFICE

BUFFALO, N.Y., MAY 28, 2009

TO WHOM IT MAY CONCERN:

I HEREBY CERTIFY, That at the 10th Session of the Legislature of Erie County, held in the Legislative Chambers, in the City of Buffalo, on the **Twenty-Eighth** day of **May, 2009 A.D.**, a Resolution was adopted, of which the following is a true copy:

WHEREAS, scientists and economists both conclude that if the radioactive wastes are left in the ground at West Valley, and should any release occur, it would have expensive and disastrous consequences irreparably contaminating the water supply of the Great Lakes region, and the costs of maintaining buried waste is far more costly than removal; and

99-8

WHEREAS, in 1997 a Citizen Task Force (CTF) was formed to assist in the development of a preferred alternative for the West Valley Demonstration Project and cleanup, closure or long-term management of the facilities at the site; and

99-9

WHEREAS, the Citizens Task Force has been meeting regularly with the DOE and NYSERDA and have arrived at a preferred alternative that DOE and NYSERDA are planning to accomplish cleanup work at the site that the CTF deems essential, including the removal of the source area of the North Plateau Groundwater Plume and a significant number of the contaminated facilities.

NOW, THEREFORE, BE IT

RESOLVED, that the County of Erie supports full cleanup of the entire West Valley nuclear waste site through waste excavation; and be it further

RESOLVED, that the cleanup process standards be as protective as current state radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water; and be it further

99-10

RESOLVED, that the County of Erie supports the work of the proposed Preferred Alternative Phase 1 work plan and that it be completed without further delay and in a manner that enhances future decisions for total cleanup of the West Valley site; and be it further

RESOLVED, that while Phase 1 removal takes place, ongoing discussions continue with the general public, the CTF, the Doe and NYSERDA, keeping in mind, the eventual goal of a full cleanup of the site; and be it further

RESOLVED, that certified copies of this resolution be forwarded to our State and Federal Representatives, the US Department of Energy and the NYS Energy Research and Development Authority.

REFERENCE: INTRO 10-3 (2009) AS AMENDED

ATTEST



ROBERT M. GRABER
Clerk of the Legislature of Erie County

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

99-4 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further

**Commentor No. 99 (cont'd): Robert M. Graber, Clerk,
State of New York, Legislature of Erie County**

reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., “fixed”) to metal surfaces and is not readily mobile.

- 99-5** DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 99-6** DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.
- 99-7** DOE and NYSERDA note that the impacts of a release of 1 percent of the site radioactivity referred to by the commentor are taken from the *Synapse Report*. Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response. See also the response to Comment no. 99-6 regarding the long-term impacts analysis addressed in this EIS.
- 99-8** The conclusions referenced in the comment are taken from the *Synapse Report*. As noted above, please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 99-9** DOE and NYSERDA acknowledge the efforts and contributions of the Citizen Task Force in addressing decommissioning of WNYNSC and development of this EIS. The agencies agree that, if the Phased Decisionmaking Alternative is selected, it

Commentor No. 99 (cont'd): Robert M. Graber, Clerk,
State of New York, Legislature of Erie County

is essential to proceed with decommissioning of the contaminated buildings and removal of the North Plateau Groundwater Plume source area.

- 99-10** DOE and NYSERDA acknowledge the commentor's support for full cleanup of the entire WNYNSC through waste excavation. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

DOE and NYSERDA acknowledge the commentor's support for the Phase 1 work of the proposed Preferred Alternative (Phased Decisionmaking Alternative). If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements.

Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

*Commentor No. 99 (cont'd): Robert M. Graber, Clerk,
State of New York, Legislature of Erie County*

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

Commentor No. 100: Charles Lamb

From: clamb9@roadrunner.com [mailto:clamb9@roadrunner.com]
Sent: Tuesday, March 24, 2009 11:48 PM
To: catherine.m.bohan@wy.doe.gov; Paul J. Bembia
Subject: West Valley Hearings

To Catherine Bohan, US DOE; Paul J. Bembia, NYSERDA

I am contacting you in support of extending the public comment period until at least October 30 with regard to the West Vally Clean Up Plan. The need to clean up this dangerous site has been important for far too long and it is time for action to be taken. In order for the public to have a good say concerning that action, please allow adequate time for people to hear about the issue, understand it, and comment.

I also hope a hearing can be held in the Buffalo area and in Niagara County. Those of us who live in Niagara County near Love Canal and Chemical Waste Management are quite aware of the danger of toxic and atomic wastes. I will comment now, myself, that I think the materials in this site need to be fully exhumed and cleaned up without further delay. Thank you for considering my opinion, and please extend the comment date. Charles Lamb 335 Walnut Lane Youngstown, NY 14174 xxx xxx
xxxx clamb9@roadrunner.com

100-1

100-1 In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009.

100-2

100-2 In response to public requests, DOE and NYSERDA held an additional public hearing in Albany, New York, and the hearing originally scheduled for Blasdell, New York, was moved to a more central downtown Buffalo, New York, location.

100-3

100-3 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 101: Susan Peterson**June 8, 2009****Susan Peterson****101 EdL Lane****Ridgeway, WI 53582**

PLEASE help save the Great Lakes from nuclear contamination by supporting a full waste excavation cleanup of West Valley nuclear waste site, located 30 miles south of Buffalo. The federal government proposal to leave vast amounts of nuclear waste at the site for up to 30 years and probably longer is just WRONG. In an independent study sponsored by CHEJ, scientists found leaving buried waste on site poses real threat to the lakes, and the safest, most cost effective way to protect the Great Lakes is to dig up the waste.

101-1**101-1**

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," "Concerns about Potential Contamination of Water," and "Conclusions of the *Synapse Report*" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 102: Elise T. McDowell

June 8, 2009

Elise T. McDowell

9078 Route 240

West Valley, NY 14171

Dear Ms. Bohan: My husband and I attended the public hearing on the Draft EIS at the Ashford Office Complex in May. After reviewing the four alternatives, talking with fellow residents, and listening to the comments offered at the public hearing, I am in support of the alternative offering a complete removal of all radioactive waste from the site. I am aware of the length of time and resources it will take, but I believe this alternative will best serve future generations in this area. I do not believe it is wise to leave in place any waste, which has the potential to leach out into our waterways or land. It is time we make decisions regarding responsible disposal of nuclear waste by-products in such a way as to have the least human and environmental impact.

102-1

102-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 103: John L. McDowell**June 8, 2009****John L. McDowell****9078 Route 240****West Valley, NY 14171**

I believe that the alternative requiring the total removal of all waste from the site be the one chosen. Furthermore, all animals should be tested for radioactive exposure for the health and welfare of wildlife and humans with whom they may come in contact. In the final contract, it should be stated that the vacant property would not be used for a subdivision or multi-family housing.

103-1**103-1**

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE's site monitoring program addresses media (air, water, crops) where wildlife and humans could come into contact with radioactive contamination. The monitoring program also obtains samples from venison and fish collected at locations where the highest concentrations of transported contaminants might be expected. Monitoring results are reported in the annual sitewide environmental reports, as well as in assessments of impacts to humans and aquatic and terrestrial biota.

NYSERDA is responsible for working with local authorities to determine the use of WNYNSC when it is released. Please note that if the Sitewide Removal Alternative is selected and the site is released for unrestricted use, use of the property for a subdivision or multi-family housing might be permissible.

**Commentor No. 104: Roberta Wiernik, National Resources Specialist,
League of Women Voters of New York**



**THE LEAGUE
OF WOMEN VOTERS**
of New York State

The League of Women Voters of New York State
62 Grand Street, Albany, New York 12207
Phone: 518-465-4162 Fax: 518-465-0812
www.lwvny.org E-Mail: lwvny@lwvny.org

August 20, 2009

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874.
<http://www.westvalleyeis.com>

RE: *Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (DOE/EIS-0226-D (Revised))*

Dear Ms. Bohan:

The League of Women Voters of New York State (League) believes that the protection of public health and safety, and of the environment, is paramount in a civilized society. The final cleanup plan for the West Valley nuclear waste site will have a major impact on the future environment and populace of the eastern Great Lakes region for years to come.

Therefore, the League strongly recommends that the Department of Energy (DOE) and New York State Energy Research and Development Agency (NYSERDA) commit to the Sitewide Removal Alternative for West Valley, the only alternative that provides for a comprehensive cleanup of the entire nuclear waste site.

The League has worked for almost ninety years to promote and ensure public participation in the decision-making process at all levels of the government. Over the years, the League has supported numerous pieces of legislation aimed at ensuring a healthy environment and citizen rights. League members believe that all sources of contamination must be eliminated if at all possible, especially those that may affect the supply of clean air and fresh water, our most precious natural resources.

The West Valley site is subject to high precipitation and aggressive erosion, rendering it unsuitable for storage of hazardous chemical and or radioactive waste underground. Such storage could result in contamination of the water system for millions of people in New York State, eastern Canada, and the St. Lawrence region.

104-1

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cont'd

104-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," "Concerns about Potential Contamination of Water," and "Conclusions of the *Synapse Report*" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Please note that under any of the action alternatives, DOE would take actions to remove or mitigate the impacts of the North Plateau Groundwater Plume.

Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

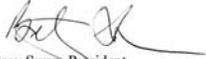
Commentor No. 104 (cont'd): Roberta Wiernik, National Resources Specialist, League of Women Voters of New York

Although the preferred alternative for this DEIS does address cleanup of one apparent source of serious contamination, it ignores the plume that is still spreading, and it defers further decision on that and other serious issues at the site for up to thirty years. This is unacceptable.

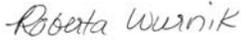
Rather than committing the DOE or NYSERDA to full cleanup of the West Valley site, the Draft Environmental Impact Statement (DEIS) proposes a "phased decision-making" with no guarantee of public participation in future decisions regarding waste, some of which will remain radioactive for thousands of generations. The people deserve a complete cleanup that would allow full, unrestricted use of the land in the future.

Although there are risks involved in removing the waste from the ground, leaving it there continues the risk ad infinitum. Removing contamination creates a short-term risk, but allows long-term safe use of the property. The state-funded study, The Real Costs of Cleaning Up Nuclear Waste (A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site) concluded that, in the long term, leaving buried waste on site is high risk and expensive, while full cleanup presents the least risk and the lowest cost. It is obvious that the most cost-effective and health-ensuring alternative for the site is full exhumation of the radioactive and chemical contaminants already in the ground, and removal of all sources of future contamination.

Respectfully submitted,



Betsey Swan, President



Roberta Wiernik, Natural Resources Specialist

**104-1
cont'd**

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*Commentor No. 105: John Allen,
New York Interfaith Power and Light*

June 8, 2009

John Allen

New York Interfaith Power & Light

401 Parsons Drive

Syracuse, NY 13219

I support the complete site-wide removal plan for clean-up of the West Valley nuclear waste site.

|| 105-1

105-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 106: Alanson D. Aird**June 8, 2009****Alanson D. Aird****41 Ely Drive****Fayetteville, NY 13066**

I support the complete “Sitewide Removal Alternative” as the most effective plan for full cleanup of the West Valley nuclear waste site. I agree with opinions in the Higgins-Massa letter to Secretary Chu, Sierra Club (Atlantic Chapter) and New York Interfaith Power and Light letters, which also support complete Sitewide Removal and cleanup. I am extremely distressed that this horrible situation developed and is threatening people and environment near and far. Please act quickly. Thank you.

106-1**106-1**

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative and request for quick action. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 107: Jeanne Fudala

June 8, 2009

Jeanne Fudala

1697 School Street

Alpine, NY 14805-9793

I believe that a complete cleanup of the West Valley nuclearwaste site is the only alternative that provides sufficient safety in the long run. I am concerned about the West Valley site's vulnerability to erosion and, consequently, that long term storage of radioactive waste there could seriously contaminate the Great Lakes over the centuries. Please clean up the site!

107-1

107-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Commentor No. 108: Lori Danison

June 8, 2009

Lori Danison

16 WoodviewCt

Hamburg, NY 14075

I support a full clean up (fully excavate, clean, and remove all contaminated buildings and soil) of the West Valley Demonstration Project. It is critical to stop the radioactive contamination of the air and water leading into Lake Erie. I also believe that too many tax dollars have been wasted with little to show. Please clean up and shut down WVDP.

108-1

108-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 109: Chris Tobin

June 8, 2009

Chris Tobin

Coldent

Hamburg, NY

Living here is a privilage, that is disapearring!!!!

|| 109-1

109-1 DOE and NYSERDA note the comment.

Commentor No. 110: Raymond C. Vaughan, Ph.D.

COMMENTS ON THE 2008 DRAFT EIS (DOE/EIS-0226-D (Revised))

Raymond C. Vaughan, Ph.D.
June 5, 2009

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APPENDIX C: DOE responses on geologic issues, January 3, 1995

APPENDIX D: Computer program to model erosion, including random gully formation, Feb. 29, 1996

APPENDIX E: Jan. 15, 2008 memo, "Issues the Core Team Needs to Address," including its appendices:

Appendix A: Fairchild, H.L. (1932). New York Physiography and Glaciology West of the Genesee Valley, published as Proceedings of the Rochester Academy of Science, Vol. 7, No. 4.

Appendix B: Gephart-Ripstein, A. (1990). "The Earth Moves," Historical Wyoming, January 1990.

Appendix C: Hansen, W.R. (1971). "Effects at Anchorage," in The Great Alaska Earthquake of 1964, Washington, DC: National Academy of Sciences.

Appendix D: Holcombe, T.L.; Taylor, L.A.; Reid, D.F.; Warren, J.S.; Vincent, P.A.; and Herdendorf, C.E. (2003). "Revised Lake Erie Postglacial Lake Level History Based on New Detailed Bathymetry," Journal of Great Lakes Research 29, 681-704.

Appendix E: Newman, W.S.; Marcus, L.F.; and Pardi, R.R. (1981). "Palaeogeodesy: Late Quaternary geoidal configurations as determined by ancient sea levels," in Sea Level, Ice, and Climatic Change, IAHS Publication No. 131, Wallingford, UK: IAHS Press.

Appendix F: Vaughan, R.C. (1994). "Geologic and Hydrologic Implications of the Buried Bedrock Valley that Extends from the Western New York Nuclear Service Center into Erie County, N.Y.," in Geology Reports of the Coalition on West Valley Nuclear Wastes, East Concord, NY: Coalition on West Valley Nuclear Wastes, 1994.

Appendix G: Vaughan, R.C. (2005). "Fault Relationships and Basement Structure, Cattaraugus Creek Watershed, Western New York State," Thesis Proposal #2, presented to Department of Geology, State University of New York at Buffalo.

Appendix H: Vaughan, R. and McGoldrick, K. (1993). "Structural Evidence for Deep, Northwest-Trending Fractures Under the Western New York Nuclear Service Center," in Geology Reports of the Coalition on West Valley Nuclear Wastes, East Concord, NY: Coalition on West Valley Nuclear Wastes, 1994.

Appendix I: Vaughan, R.; McGoldrick, K.; Rauch, J.; Kent, C.; and Mathe, G. (1993). "Confirmation of Anomalous Westward Dip Between Springville and West Valley, N.Y.," in Geology Reports of the Coalition on West Valley Nuclear Wastes, East Concord, NY: Coalition on West Valley Nuclear Wastes, 1994.

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Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

COMMENTS ON THE 2008 DRAFT EIS (DOE/EIS-0226-D (Revised))

Raymond C. Vaughan, Ph.D.
135 East Main Street
Hamburg, NY 14075
June 5, 2009

I support all Phase I activities being accomplished without delay. With respect to the alternatives presented in the 2008 Draft EIS, I support full site-wide removal. In the event that the phased decisionmaking alternative is selected, I would support a Record of Decision for Phase I, but with several additional conditions listed below that relate to Phase II decisionmaking. The conditions involve a reasonably short deadline for that decisionmaking, a clear commitment to additional studies, and continuation/implementation of public participation processes. See my additional comments below with respect to National Environmental Policy Act (NEPA) procedures for Phase II.

In accordance with positions taken by the Coalition on West Valley Nuclear Wastes and the West Valley Citizen Task Force (CTF), I consider the West Valley site to be unsuitable for long-term storage or disposal of wastes; existing wastes must be removed from the site. This conclusion is based not only on several existing erosion studies but also on my professional understanding of the factors that make the site highly susceptible to erosion. These factors include a) the site's location on unconsolidated glacial fill that is undergoing active downcutting by a geomorphically young stream network, b) the low drainage density of the stream network, implying that the network is geomorphically immature and that drainage density will increase over time, c) the presence of convex-upward stream reaches, side slopes that exceed a stable angle of repose, and generally steep stream gradients within the stream network, d) the widespread occurrence of slumping and other mass movement along stream banks within the West Valley site and throughout the Cattaraugus Creek drainage basin, e) the observed upstream migration of knickpoints (e.g., along Franks Creek), f) the existence of groundwater seepage pathways that will likely contribute to the headward advance of gullies and the stream capture of Franks Creek by Buttermilk Creek, and g) the effects of climate change and the associated increase in the frequency and/or magnitude of extreme weather events such as intense storms that will aggravate erosion at the site.

Recent erosion modeling results in the 2008 Draft EIS (DOE/EIS-0226-D (Revised)) purport to show no serious risk from erosion; however, these results are based on naive assumptions and are generally unreliable, as discussed below in more detail. The treatment of erosion is one of the more serious defects in the 2008 Draft EIS.

Although I recognize the need for full cleanup of the site to avoid erosional breaching of waste containment and consequent contamination of Cattaraugus Creek and downstream waters of the Great Lakes, I also recognize the possibility that phased decisionmaking (presented as the

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110-1 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative as well as support for accomplishing the Phase 1 activities promptly if the Phased Decisionmaking Alternative is selected. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response. The additional conditions referred to by the commentor are addressed below in response to Comment no. 110-3 which describes the conditions in more detail.

110-2 DOE and NYSERDA acknowledge the commentor's opinion that WNYNSC is not suitable for long-term storage or disposal of wastes.

The erosion analysis presented in this EIS is state-of-the-art and uses theoretical approaches generally accepted by the scientific community involved in long-term erosion predictions. The assumptions used in the analysis are not considered to be naive. The assumptions and models have been described and documented in the EIS and account for the physical processes of erosion. Please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of the methodology used to evaluate the potential impacts associated with erosion, modeling calibration and methodology, and updates to this Final EIS since the release of the Revised Draft EIS.

110-3 DOE and NYSERDA will meet the spirit of the additional conditions listed by the commentor if the Phased Decisionmaking Alternative is selected. As noted in the description of the Phased Decisionmaking Alternative, additional studies and analyses would be conducted as part of the implementation of Phase 1. The agencies would review and assess the information when it is available as part of the Phase 2 decisionmaking process. Phase 1 studies would begin after publication of DOE's Record of Decision and NYSERDA's Findings Statement.

Regarding the 30-year timeframe, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

preferred alternative in the 2008 Draft EIS) may be selected as a way to allow important work to continue at the West Valley site while Phase II decisions are made on decommissioning of the high-level waste tanks and two burial grounds. In the event that the phased decisionmaking alternative is selected, the following conditions should be met:

- Additional studies need to be done promptly and competently to support Phase II decisionmaking;
- A reasonably short and enforceable deadline of 10 years (not 30 years) needs to be set for Phase II decisionmaking;
- The following public participation processes need to be guaranteed through Phase II decisionmaking:
 - Continuation of the CTF in addition to the Quarterly Public Meetings and other processes guaranteed by the 1987 Stipulation of Compromise Settlement;
 - Involvement of a CTF member in any ongoing Core Team meetings, deliberations, and recommendations; and
 - Provision for formal NEPA procedures (Draft EIS, public comment period, etc.) for Phase II decisionmaking.

Some of the above conditions, such as the 10-year deadline, would modify the phased decisionmaking alternative as currently proposed. Such modifications are reasonable from the standpoint of public policy and are offered as a way to salvage an otherwise flawed "phased decisionmaking" alternative, in the event the alternative is selected. "Phased decisionmaking," as currently proposed, would defer and delay major decisions for decades, and it would further muddy the procedures of an EIS process that is already 21 years old. My conditions listed above would impose a time limit on the long-overdue West Valley site closure decision while providing sufficient time for adequate studies. My conditions would also ensure that the ongoing decision process includes widely recognized forms of public participation. My conditions would allow the interagency "Core Team" to continue to meet and shape West Valley site policy but would limit their ability to do so behind closed doors.

My detailed comments are set forth below. These include comments numbered 1 through 125 which I submitted almost thirteen years ago on the 1996 Draft EIS (DOE/EIS-0226-D), and also many entirely new comments which are numbered 126 onward, and also many new supplementary comments numbered 1A, etc., which are intended to supplement or update my original 1996 comments as needed.

My 1996 comments are resubmitted here for two reasons. First, despite DOE's claims to the contrary, few if any of my comments on the 1996 Draft EIS have been addressed. Good

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Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until a final decision is made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSDERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSDERDA would assess results of site-specific studies and other information during Phase 1. NYSDERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate the Phase 2 decision for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSDERDA along with public meetings to further solicit stakeholder input.

110-4 Please refer to Chapter 1, Section 1.2, of this EIS for a review of the history of the development of this EIS, as well as Appendix A for a summary of the comments received on the 1996 *Draft Environmental Impact Statement for Completion of the West Valley Demonstration Project and Closure or Long-Term Management of Facilities at the Western New York Nuclear Service Center (Cleanup and Closure Draft EIS)* (DOE/EIS-0226-D). An index of commentors is given on Table A-1.

This CRD addresses comments on the 2008 Revised Draft EIS. In the decade or more since the public comments were received on the 1996 *Cleanup and Closure Draft EIS*, actions have been taken either in response to public comments or to help answer some of the issues raised by them.

This EIS addresses different alternatives than the 1996 *Cleanup and Closure Draft EIS*. There has been additional characterization of the site, and new erosion models have been developed. Thus, comments that are specific to the 1996 alternatives, models, and regulatory status are not addressed in detail in this CRD. Where a comment on the 1996 *Cleanup and Closure Draft EIS* remains applicable to the 2008 Revised Draft EIS, the comment has been delineated and a response has been provided in this CRD.

Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

examples are my comments 17, 91, 92, and 111, but various other examples could also be cited. Except where I specifically note otherwise, I am resubmitting my 1996 comments so that they will be addressed. Second, my 1996 comments are resubmitted here because I doubt the legality of the 2008 Draft EIS, particularly its compliance with NEPA requirements such as 10 CFR 1021.314. My comments here are directed to the legally prevailing Draft EIS for West Valley site closure and decommissioning, whichever that turns out to be.

Some of my 1996 comments are expressed in the first person plural ("we"), reflecting the fact that I made those comments as a member of the Coalition on West Valley Nuclear Wastes.

ORAL COMMENTS ON WEST VALLEY DRAFT EIS (made August 6, 1996)

1. Employment graph compiled from Appendix I of the DEIS shows that Alternative I or II is in the best economic interest of the region. (See attached copy of graph.)

1A. The graph from my 1996 comments is attached as Figure 1. This graph deals with the alternatives presented in the 1996 Draft EIS, but the same point can be made for the 2008 Draft EIS: Full cleanup of the site is preferable in terms of both regional employment and environmental protection. Compared to the close-in-place alternative, full clean-up provides substantially greater employment. Such work can and should be done safely if it includes careful planning and adherence to safe work practices, as has been shown by the generally good safety record of the West Valley Demonstration Project.

2. An EIS provides the basis for decisionmaking. That's the legal function of an EIS. It compiles, analyzes, and summarizes the facts needed for decisionmaking.

3. According to law (WVDP Act), the decision on completing the West Valley Demonstration Project must be based on decontamination and decommissioning (D&D) requirements prescribed by NRC, but these do not exist yet.

3A. My 1996 statement that NRC's D&D requirements "do not exist yet" is no longer true; these requirements were published in the *Federal Register* on February 1, 2002. However, DOE still needs to address my concern that, "[a]ccording to law (WVDP Act), the decision on completing the West Valley Demonstration Project must be based on decontamination and decommissioning (D&D) requirements prescribed by NRC..." Part of the problem is that both DOE and NRC seem to treat NRC's requirements as guidance rather than enforceable requirements. Neither agency provides or recognizes an enforcement mechanism for what Congress intended to be "requirements" for decontamination and decommissioning. Part of the problem is NRC's separate process – the Decommissioning Plan – which will evaluate DOE's decommissioning proposals yet is largely divorced from the NEPA decisionmaking process that creates a Record of Decision based on Draft and Final EIS documents. There is an overall lack of enforceability, or a lack of clarity about how enforcement would work, in the event that

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110-5 As noted by the commentor, the alternative that involves complete site cleanup would have a larger impact on the local economy. As discussed in Chapter 4, Section 4.1.8 of this EIS, the Site-Wide Removal Alternative would have long-lasting elevated levels of employment, but would not significantly affect regional unemployment. As with any of the decommissioning alternatives, employment associated with the WNYNSC would be lower than current levels at the end of the decommissioning activities. Regarding environmental protection, a key element of this EIS is providing an analysis of the potential environmental impacts to aid in decommissioning decisionmaking.

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

110-6 The purpose of an EIS under NEPA and its implementing regulations is to ensure that (1) Federal agencies consider the potential environmental impacts of proposed actions in their decisionmaking processes, (2) the potentially affected public has the opportunity to review and comment on those actions, and (3) the opinions of the public are also considered in preparing the EIS, and thus, by the decisionmakers.

The Council on Environmental Quality's *Regulations for Implementing NEPA* (40 CFR 1502.22) provide guidance for addressing incomplete and unavailable information when preparing an EIS. Chapter 4, Section 4.3, of this EIS provides a discussion of the nature of incomplete and unavailable information, as well as the manner in which the environmental analysis deals with the data limitations, for five resource areas: worker exposure, transportation, waste management, public health and safety during decommissioning actions, and human health impacts resulting from long-term release and transport.

110-7 As noted in the revised comment since the comments were provided in 1996, NRC issued its "Decommissioning Criteria for the WVDP at the West Valley Site; Final Policy Statement" (67 *Federal Register* 5003). In this notice, NRC announced its decision to apply its License Termination Rule (10 CFR 20, Subpart E) as the decommissioning goal for the entire NRC-licensed site. The issuance of the West Valley Decommissioning Policy Statement and a summary of the radiological criteria that would apply in accordance with the License Termination Rule are presented in Chapter 1, Section 1.2 of this EIS.

Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

NRC finds that DOE's decommissioning proposals do *not* meet the NRC requirements.

4. The Draft EIS claims to be the basis for decisionmaking for completing the WVDP. We have asked DOE by letter how the decision can be made, and an EIS and Record of Decision issued, without the necessary D&D requirements from NRC. We have gotten no clear answer from DOE.

5. We conclude from the above information that either a) DOE is proceeding illegally to make a decision, and is going through a sham EIS process, without having the D&D requirements that are needed as a legal basis for decisionmaking, or b) DOE recognizes that existing policy statements by NRC have already set certain bounds on what NRC will allow, and DOE will make its decision accordingly within these bounds.

6. Over the past nine years we have engaged in a three-way communication with DOE and NRC, mostly through correspondence. NRC's letters and supporting documents contain some clear statements of NRC's requirements and expectations. These set some clear bounds on DOE's decision. In a letter dated April 10, 1996, NRC reaffirmed its past statements on this matter.

7. We assume that DOE has a complete file of this three-way communication among NRC, DOE, and us. We recently sent a set of photocopies to Hal Brodie to ensure that NYSERDA has a complete file.

8. It is clear from NRC's various letters and supporting documents that Alternative III of the EIS would not be allowed by NRC. DOE must therefore avoid any decision that chooses Alternative III.

9. Alternative III relies on long-term institutional control and on ongoing active maintenance of erosion-control facilities, both of which are unacceptable to NRC. In the absence of long-term institutional control and ongoing active maintenance, Alternative III produces unacceptably high radiation exposures. (See, for example, pages D-40 and D-41 of Appendix D of the DEIS.) DOE must therefore exclude Alternative III from consideration.

10. An EIS provides the legal basis for decisionmaking by compiling, analyzing, and summarizing the relevant facts. We conclude that no decision can be based on facts or analyses that are missing from the EIS.

11. As noted in my letter to DOE dated November 5, 1995, the DEIS omits entire areas of analysis (e.g., Buttermilk Creek erosion and hydrology of the bedrock-valley aquifer) that are essential to the decisions that this EIS is intended to support. We conclude that DOE must exclude from consideration any alternative that is sensitive to Buttermilk Creek erosion or to the hydrology of the bedrock-valley aquifer.

11A. Hydrogeology of the bedrock-valley aquifer continues to be omitted from the 2008 Draft EIS, so this portion of comment 11 remains relevant. Buttermilk Creek erosion is

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In addition, cost-benefit analysis has been included in Chapter 4, Section 4.2, of the Revised Draft EIS to support NRC's request for cost-benefit information consistent with its as low as is reasonably achievable (ALARA) analysis guidelines.

The decommissioning options evaluated in this EIS are all intended to comply with the criteria in the West Valley Decommissioning Policy Statement and/or the NRC License Termination Rule. The relationship between this EIS and subsequent regulatory processes, such as the NRC review of the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project*, is described in Chapter 1, Section 1.3. The nature of the NRC and DOE relationship for the WVDP is described in the West Valley Demonstration Project Act.

The alternatives evaluated in the current EIS include a Sitewide Close-In-Place Alternative and a Phased Decisionmaking Alternative that could result in an eventual decision to close in place. Please refer to Chapter 1, Section 1.2 regarding application of the NRC License Termination Rule to site decommissioning.

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This Final EIS has been revised and expanded to incorporate additional information on the valley bedrock. The updated groundwater flow model for the site incorporates and extends into the upper bedrock under the North and South Plateaus, as described in Appendix E, Section E.3, of this EIS. The revised analysis also makes use of available hydrologic and contaminant transport information. Further, sensitivity analyses were conducted to provide insight into the uncertainty in the long-term impact estimates, as described in Appendix E of this Final EIS, which has also been revised to acknowledge the commentor's 1994 report.

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Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

addressed, but not adequately, in the 2008 Draft EIS, as discussed below in more detail.

12. As noted in the DEIS, the Global Erosion Control strategy associated with Alternative III would redirect the flow of tributary streams and thereby increase the flow of water through the erosion-prone section of Buttermilk Creek. The severity of erosion along Buttermilk Creek at existing water flow rates is well known and is documented, for example, in studies by Albanese, Boothroyd, and others and in our own annual photographs. The DEIS does not assess the impact of the aggravated erosion associated with the increased flow rates of the Global Erosion Control strategy. We conclude that this EIS process cannot support any decision that relies on the Global Erosion Control strategy.

13. The aggravated erosion along Buttermilk Creek resulting from the Global Erosion Control strategy is a sufficiently large and complex problem (especially when considered in conjunction with related events such as stream capture) that any analysis must be available for review and public scrutiny. An unreviewed and unreviewable analysis in the Final EIS would not be acceptable.

14. The Global Erosion Control strategy associated with Alternative III would redirect the flow of tributary streams along the boundary between the bedrock wall of the valley and the glacial fill of the valley. This boundary is a recharge area for the bedrock-valley aquifer. No substantive studies of this aquifer have been done. We conclude that this EIS process cannot support any decision that relies on the Global Erosion Control strategy.

15. The DEIS suggests that bedrock locations such as the western side of the site near Dutch Hill and the eastern side of the site near Heinz Road may be suitable for waste-disposal facilities. (For example, see p. 3-159.) Any such bedrock location is in a recharge area for the bedrock-valley aquifer. No substantive studies of this aquifer have been done. We conclude that this EIS process cannot support any decision that involves disposal of wastes upgradient of the bedrock-valley aquifer.

16. The hydrology of the bedrock-valley aquifer is a sufficiently large and complex problem (especially when considered in conjunction with related groundwater resources such as the Springville aquifer) that any analysis must be available for review and public scrutiny. An unreviewed and unreviewable analysis in the Final EIS would not be acceptable.

17. My report on the bedrock-valley aquifer dated January 16, 1994, is not referenced in the DEIS. The report, which is included in our Geology Reports volume, is the best available summary of what is known, and not yet known, about the bedrock valley aquifer. The report is known to DOE and SAIC and was mentioned, for example, in item 42 of DOE's "Responses to Coalition Comments – Geologic Issues," sent with DOE's cover letter dated January 3, 1995. It should be included as a reference in the EIS.

17A. DOE's failure to respond to my comment 17 illustrates a wider lack-of-response

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110-10 Please see the response to Comment no. 110-4 regarding comments on the 1996 *Cleanup and Closure Draft EIS*. The Global Erosion Control strategy is not included in this EIS.

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Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

problem that applies to various comments made on the 1996 Draft EIS. This particular comment is simple and straightforward – it requests that my report on the bedrock-valley aquifer dated January 16, 1994, be included as a reference in the EIS – but the comment has been ignored. The report is not obscure; it was cited in DOE's above-mentioned cover letter dated January 3, 1995, and is also attached as Appendix F to my January 5, 2008, memo entitled "Issues the Core Team Needs to Address" (attached hereto as Appendix E and posted on CTF website as www.westvalleyctf.org/2008_Materials/2008-01-Materials/Core_Team_Issues-Vaughan_with_Appendices.pdf). The report has been sent in the past to both DOE and NRC and is also included in the above-referenced booklet entitled *Geology Reports of the Coalition on West Valley Nuclear Wastes*. Despite the availability of this report, and contrary to DOE's claim that it has responded to comments (see page 1-11 and also Appendix A of the 2008 Draft EIS), the bedrock-valley aquifer report has not been referenced, acknowledged, discussed, or rebutted in the 2008 Draft EIS.

WRITTEN COMMENTS ON WEST VALLEY DRAFT EIS (made September 21, 1996)

Issues that involve NRC and other agencies

18. In my oral comments 6 and 7, I referred to various communications among NRC, DOE, and us. Those communications, which contain a number of relevant policy and position statements from NRC, are designated Appendix A and submitted herewith as part of my comments.

19. Two additional NRC memos from 1990 and 1991 are designated Appendix B and submitted herewith as part of my comments. Both memos express NRC's intention of developing decontamination and decommissioning (D&D) requirements in conjunction with the West Valley EIS. A similar viewpoint is expressed in the NRC letter to DOE dated January 30, 1991 (Appendix A, page A61).

20. In the NRC memo dated December 7, 1990 (Appendix B, page B1), R. Davis Hurt stated that "NRC's prescription of decontamination and decommissioning requirements will have an effect on the cost and feasibility of the various site closure options ..." We believe this is true. We do not believe the alternatives presented in the Draft EIS can be properly assessed in the absence of the D&D requirements.

21. In the NRC letter dated May 17, 1995 (Appendix A, page A65), Gary C. Comfort stated that "In its current [interagency draft] form, the draft EIS does not define, and likely will not lead to, clear and specific definitions of criteria for decommissioning and decontamination (D&D) alternatives for the Project facilities. As a result, it does not provide an evident basis for NRC to discharge its National Environmental Policy Act (NEPA) responsibilities effectively. The EIS may be a useful document for DOE in developing the strategy for WVDP to pursue, including a strategy for D&D. However, until that strategy is developed further and D&D alternatives are identified specifically, the NRC has little upon which to base any conclusion regarding the

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Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

potential environmental impact of WVDP's D&D activities." This is a valid and serious concern. The public can do no better than NRC in assessing such environmental impacts.

22. Despite the missing D&D requirements, a relatively clear picture of NRC's requirements and expectations can be obtained from the various communications in Appendix A. According to many of those communications, NRC expects DOE to conduct analyses and assessments comparable to those used in developing 10 CFR Part 61.

23. In the NRC letter dated April 10, 1996 (Appendix A, page A59), Carl J. Paperiello stated that "During 1991 and 1992, NRC discussed issues regarding the prescription of D&D criteria and the definition of 'transuranic waste' through written correspondence and in meetings. Throughout these discussions, NRC has stated that, prior to NRC accepting a concentration of 100 nanocuries per gram as a definition for 'transuranic waste,' DOE must provide NRC with a performance assessment comparable to that developed for 10 CFR Part 61."

24. In the NRC letter dated August 18, 1987 (Appendix A, page A7), Malcolm R. Knapp stated that "before NRC considers accepting a concentration limit other than 10 nCi/gm for transuranic radionuclides, DOE must conduct additional analyses [which ...] should show that the mix of Project wastes expected to be disposed of will meet the performance objectives in Part 61, given the specific concentrations of radionuclides expected in that waste. Project waste disposal should be evaluated against the performance objectives in 10 CFR Part 61 to demonstrate protection of public health and safety."

25. The NRC Task Plan of April 27, 1988 (Appendix A, pages A13-A24) contains many recommendations on using analyses and performance objectives from 10 CFR Part 61 for assessing the performance of the West Valley site.

26. In the NRC letter dated June 8, 1992 (Appendix A, page A37), Robert M. Bernero refers to various sections of 10 CFR Part 61, including its performance objectives, standards for waste acceptability as stated in 10 CFR 61.23, and analyses to be conducted in accordance with 10 CFR 61.12 and 61.13.

27. The West Valley Draft EIS, on pages 3-156 to 3-161, reviews and rates the West Valley site against the site suitability and disposal facility design requirements of 10 CFR Part 61. The Draft EIS acknowledges that the West Valley site and/or facility would have difficulty meeting some of the requirements, including 10 CFR 61.50(a) (7), 61.50(a) (8), 61.50(a) (10), 61.51(a) (1), and 61.51(a) (2), such that the performance objectives of 10 CFR Part 61 may not be met.

28. DOE believes that the requirements of 10 CFR Part 61 are not strictly applicable to the West Valley site and facility. (See Draft EIS, pages 3-155 and 3-156.) While this may be true, the failure of the site and facility to meet the above requirements should serve as a red flag. The site suitability and facility design requirements were not adopted arbitrarily. They are intended to predict, with a high degree of success, whether a site is capable of isolating wastes over the

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110-11 DOE and NYSERDA agree that the strict applicability of 10 CFR Part 61 criteria to the WNYNSC is dependent on whether low-level waste burial is performed. None of the EIS alternatives involve new onsite low-level radioactive waste burial.

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lifetime of the radiological hazard.

28A. The question of whether requirements of 10 CFR Part 61 are "strictly applicable to the West Valley site" is partly dependent on whether DOE conducts low-level waste disposal under §2(4) of the West Valley Demonstration Project Act.

29. In summary, NRC expects DOE to show that the West Valley site and facility can meet the performance objectives of 10 CFR Part 61. NRC expects DOE to use assumptions, analysis methods, and performance assessments based on 10 CFR Part 61, yet such assumptions, methods, and assessments generally lead to the conclusion that the performance objectives of 10 CFR Part 61 cannot be met by alternatives that leave wastes onsite at West Valley. DOE should therefore be able to predict, with a high degree of confidence, whether Alternative III and other alternatives that leave waste onsite will meet the expectations, criteria, and requirements of NRC.

29A. Comment 29 was written prior to NRC's West Valley Policy Statement (67 *Federal Register* 5003, February 1, 2002) which specified decommissioning criteria for the site. Those criteria, rather than 10 CFR Part 61, now govern decommissioning under §2(5) of the West Valley Demonstration Project Act. However, comment 29 remains relevant to "alternatives that leave waste onsite" inasmuch as onsite disposal would invoke §2(4) of the West Valley Demonstration Project Act. Disposal must be done "in accordance with applicable licensing requirements" which, for low-level waste, would generally be 10 CFR 61 or the analogous state requirements.

30. Strictly speaking, NRC has asked DOE to apply the performance objectives, assumptions, and analysis methods of 10 CFR Part 61 to a specific category of waste at West Valley. However, NRC also has formal approval authority over most other wastes at the site, either through its statutory role in prescribing D&D requirements or through its role in reinstating, converting, or terminating the existing facility license CSF-1.

31. Based on the way NRC has dealt with D&D requirements and license proceedings at other sites, DOE and NYSERDA may be able to judge, with a high degree of confidence, whether each alternative presented in the Draft EIS will meet NRC's expectations, criteria, and requirements.

32. Strictly speaking, NRC has asked DOE to apply the performance objectives, assumptions, and analysis methods of 10 CFR Part 61 to a specific category of waste at West Valley. However, NRC has stated clearly that it expects DOE to evaluate the performance of the site as a whole (Appendix A, pages A11 and A16). From this perspective, the performance objectives, assumptions, and analysis methods of 10 CFR Part 61 are applicable to the whole site.

33. In the Task Plan of April 27, 1988 (Appendix A, page A17), NRC described the manner in which it wants DOE to evaluate the West Valley site as a whole. Specifically, NRC asked DOE to carry out two sets of analyses: "One analysis should be conducted to address only the WVDP wastes and disposal facilities for those wastes. A second analysis should evaluate the incremental

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110-12 Please see the response to Comment no. 110-7 regarding the NRC's West Valley Decommissioning Policy Statement and application of the NRC License Termination Rule. DOE has been and will continue to work with NRC to assess the compliance of planned WNYNSC decommissioning actions with the requirements of the NRC policy statement on decommissioning criteria for the WVDP.

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impacts of the disposal of WVDP wastes with the impacts from all other wastes disposed at West Valley. The impacts should not exceed the 10 CFR Part 61 performance objectives.”

34. In the Task Plan of April 27, 1988 (Appendix A, page A18), NRC specifically stated that the assumptions used by DOE in its pathway analyses should include the following: “Institutional control over the site is lost after 100 years allowing an inadvertent intruder to have access to the site.”

35. The Draft EIS shows clearly that alternatives which leave waste onsite at West Valley cannot meet the performance objectives of 10 CFR Part 61 if institutional control is lost after 100 years. DOE should therefore be able to predict, with a high degree of confidence, that Alternative III and other such alternatives will not meet the expectations, criteria, and requirements of NRC.

36. In the Task Plan of April 27, 1988 (Appendix A, page A18), NRC specifically stated that the assumptions used by DOE in its pathway analyses should include the following: “After 500 years intruder barriers and engineered erosion control measures are no longer effective.”

37. For Alternative III and other alternatives that leave waste onsite at West Valley, the Draft EIS relies heavily on the effectiveness of engineered erosion control measures. Time periods well beyond 500 years are assumed. See, for example, pages D-26 and D-38 of the Draft EIS. Loss of effectiveness of these erosion control measures has severe consequences, resulting in radiation exposures that greatly exceed the performance objectives of 10 CFR Part 61. See, for example, pages D-40 and D-41. DOE should therefore be able to predict, with a high degree of confidence, that Alternative III and other such alternatives will not meet the expectations, criteria, and requirements of NRC.

38. The NRC Task Plan of April 27, 1988 (Appendix A, page A19) lists items that must be considered in evaluating the West Valley site’s ability to meet the 10 CFR Part 61 performance objectives. The list includes “Long term stability effects of the site on the dose pathway models.” In other words, if the exposure pathways change as the site deteriorates, any such changes must be taken into consideration.

39. In the NRC letter dated June 8, 1992 (Appendix A, page A37), Robert M. Bernero cites 10 CFR 61.13 as useful guidance for DOE’s analyses of the West Valley site. In part, 10 CFR 61.13 requires that “Analyses of the long-term stability of the disposal site and the need for ongoing active maintenance after closure must be based upon analyses of active natural processes such as erosion, mass wasting, slope failure, settlement of wastes and backfill, infiltration through covers over disposal areas and adjacent soils, and surface drainage of the disposal site. The analyses must provide reasonable assurance that there will not be a need for ongoing active maintenance of the disposal site following closure.”

40. The Draft EIS clearly demonstrates that the West Valley site has poor long-term stability. Alternative III and other alternatives which leave wastes onsite at West Valley cannot meet the

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110-13 The NRC’s West Valley Decommissioning Policy Statement and License Termination Rule, not 10 CFR Part 61, apply to the decommissioning of the WNYNSC. This EIS evaluates a variety of scenarios and the long-term impacts to offsite and onsite receptors. The scenarios include consideration of an intruder, loss of institutional control, and unmitigated erosion.

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performance objectives of 10 CFR Part 61 without ongoing active maintenance. See, for example, pages 5-83 and 5-84. DOE should therefore be able to predict, with a high degree of confidence, that Alternative III and other such alternatives will not meet the expectations, criteria, and requirements of NRC.

Other agencies, including DEC, EPA, Corps of Engineers

41. There are at least two water-quality issues which are not adequately addressed in the Draft EIS. Both involve agency approvals. One such issue is the diversion of tributaries of Buttermilk Creek under the Global Erosion Control strategy. The other is the protection of groundwater within the Cattaraugus Creek Basin Aquifer.

41A. Diversion of tributaries of Buttermilk Creek under the Global Erosion Control strategy was proposed in the 1996 Draft EIS but not the 2008 Draft EIS; hence this portion of comment 41 and subsequent comments does not apply to the 2008 Draft EIS. However, comments pertaining to protection of groundwater within the Cattaraugus Creek Basin Aquifer remain relevant under either Draft EIS.

42. Inadequate representation or misrepresentation of relevant issues and impacts in an EIS hinders good decisionmaking. Those who submit comments (whether they be government agencies or members of the public) are deprived of the opportunity to comment on matters of substance but must instead point out errors and omissions, which, when rectified in the Final EIS, do not usually have the benefit of substantive comments from agencies and the public.

43. We presume that the affected agencies will comment on the same two water-quality issues that we find inadequately addressed in the Draft EIS. While those agencies can speak for themselves regarding their expectations and areas of involvement, we offer our own comments as well.

44. The proposed diversion of tributaries of Buttermilk Creek under the Global Erosion Control strategy would apparently require approvals from both New York state DEC and the U.S. Army Corps of Engineers. The nature and substance of each such approval should be (but are not) discussed in the Draft EIS.

45. In addition to DEC and the Corps of Engineers, EPA approval would also apparently be required for diversion of the tributaries of Buttermilk Creek. Probable leakage from the diverted tributary streams into the bedrock-valley aquifer (see my oral comment no. 14) would require EPA involvement as part of EPA's role in reviewing federally financed projects within the Cattaraugus Creek Basin Aquifer.

46. We believe that the stream diversion proposed under the Global Erosion Control strategy of Alternative III would require at least a SPDES permit from DEC and some type of approval from the Corps of Engineers. A major factor in the approvals from both agencies would be the

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110-14 As noted by the commentor, the issue pertaining to diversion of Buttermilk Creek tributaries is not relevant to this EIS. The comments that pertain to the 2008 Revised Draft EIS, including comments pertaining to groundwater, are addressed in some of the responses below. Chapter 3, Section 3.6.2.2, of this EIS describes the Cattaraugus Creek Basin Aquifer System, while Section 3.6.2.1 addresses groundwater at WNYNSC that was contaminated due to past activities. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4 (Sections 4.1.4 and 4.1.10) and Appendix H of this Final EIS.

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110-15 DOE and NYSERDA made the 2008 Revised Draft EIS available to Federal and state agencies and the public for review and comment. As they deemed appropriate, the agencies commented on subjects in their areas of responsibility or expertise. All comments from the agencies and the public, including those identifying substantive issues, errors, omissions, or preferences were considered in finalizing the EIS.

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radioactive and other contamination carried into Buttermilk Creek at a point further upstream from the current point of entry. As a result, approximately two additional miles of Buttermilk Creek would be newly exposed to radioactive and other pollutants. In deciding whether such diversion would be acceptable, both DEC and the Corps would need to look at long-term as well as short-term site performance.

47. The omission of important issues from the Draft EIS (e.g., agency approvals for stream diversion) is inappropriate and irresponsible. DOE tends to argue that the EIS process covers only broad alternatives and that further details will be evaluated after a decision has been made to pursue one of the broad alternatives. We maintain that any EIS must evaluate reasonably foreseeable impacts of reasonably foreseeable details; otherwise the EIS process is segmented and cannot support informed decisionmaking. In this case, the diversion of tributary streams is such an integral part of Alternative III that the major issues, including agency approvals, should have been included in the Draft EIS. To omit or defer consideration of these issues is segmentation.

48. The roles of DEC and EPA in protecting the Cattaraugus Creek Basin Aquifer are described in the Draft EIS, pages B-1, B-5, and B-6. However, the Draft EIS fails to provide any meaningful basis for analyzing impacts of the proposed actions on the aquifer. DEC, EPA, and the public will therefore have no opportunity to make substantive comments.

49. On page 4-74, the Draft EIS misrepresents the federally designated Cattaraugus Creek Basin Aquifer by claiming that "the area designated as the sole source aquifer is a drainage basin comprising many unconnected water-bearing zones ..." The claim that the water-bearing zones are "unconnected" is a misrepresentation. At best, it is unsupported by available information.

50. It is clear from available information that the bedrock valley beneath the West Valley site (see, for example, page 4-19 of the Draft EIS) continues northward into Erie County and is the same bedrock valley that contains the Springville aquifer. For a cross-section of the valley at Springville, see Figure 17 of Miller & Staubitz, Hydrogeological Appraisal of Five Selected Aquifers in Erie County, New York, 1985, USGS Water-Resources Investigations Report 84-4334. Whether a hydraulic connection exists is unclear and should be considered an open question.

51. It is clear from available information that the portion of the Western New York Nuclear Service Center west of Rock Springs Road serves as a recharge area for the bedrock-valley aquifer beneath the site. See page 4-26 of the Draft EIS for a brief description. See also arrow on page 4-19 that shows groundwater flowing diagonally downward along the edge of the bedrock valley. Page 4-26 provides some idea of the flow; it cites a yield of 9.5 gallons/minute from a well on the site that was drilled into the edge of the bedrock valley. Thus, the recharge rate into the bedrock-valley aquifer does not appear to be trivial.

52. The fate of water that enters the bedrock-valley aquifer is unknown. See discussion in my

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110-16 The subject passage describing the aquifer as comprising unconnected water-bearing zones is not included in this EIS. The Cattaraugus Creek Basin Aquifer is described in Chapter 3, Section 3.6.2.2.

110-17 DOE notes the commentor's observation and suggestion. As described in Appendix E, Section E.2.3.2, of this EIS, the possibility of a continuous weathered bedrock aquifer has been considered by DOE. As further noted in response to Comment no. 110-9 and described in Appendix E, the updated groundwater flow model of the site incorporates and extends into the upper bedrock. DOE notes that the principal sources of potential groundwater contamination at WNYNSC are all to the east of Rock Springs Road. Groundwater in the bedrock west of Rock Springs Road is very much up-gradient of source materials found on site, i.e., to the left of and uphill as shown Chapter 3, Figures 3-6 and 3-7 and Appendix E, Figures E-31 and E-32 of this EIS. Bedrock groundwater is not monitored since it is not considered to be at risk from potential contamination at the site.

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report on the bedrock-valley aquifer dated January 19, 1994, as cited in my oral comments, no. 17. It is clear that there is no massive or direct hydraulic connection to the Springville aquifer, but a tortuous connection cannot be ruled out, nor can a direct connection to deeper water-bearing layers directly below the shallow Springville aquifer. Either of these possibilities should be of interest to DEC and EPA, given their mandate to protect aquifers within the Cattaraugus Creek Basin.

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53. Since there is essentially no radioactive material on the portion of the Western New York Nuclear Service Center west of Rock Springs Road, there does not appear to be an immediate threat of radioactive contamination of the recharge into the bedrock-valley aquifer. However, it should be noted that there is currently no monitoring to confirm or disprove this. As indicated on page 4-26 of the Draft EIS, "no bedrock wells are monitored."

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54. There are several foreseeable ways in which alternatives considered in the Draft EIS, especially those that leave waste onsite at West Valley, could threaten to introduce radioactive contamination into the recharge of the bedrock-valley aquifer. One such threat would be contaminated leakage from diverted tributary streams, as noted above in comment 45 and in my oral comment 14. A second possible threat would be intentional placement of waste in recharge areas, as noted in my oral comment 15. A third possible threat would be human-induced or naturally occurring changes in the topography or hydraulic gradients along the contact or boundary between the bedrock hillside and the glacial fill of the valley, i.e., more or less along the course of Rock Springs Road. Such changes in topography or hydraulic gradient could bring contaminated surface water or groundwater from existing facilities (if they remain east of Rock Springs Road) into the recharge flow of the bedrock-valley aquifer. Any of these possibilities should be of interest to DEC and EPA.

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55. Our primary concern regarding the bedrock-valley aquifer is that, despite our requests, DOE has refused to study the aquifer to obtain quantitative data. See, for example, Appendix C submitted with these comments, page C14, §42. The result is that DEC, EPA, and the public cannot review the detailed information needed to make an informed decision.

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56. Our secondary concern regarding the bedrock-valley aquifer is that the Draft EIS does not describe, summarize, or refer to the best available information. (It makes no reference to my report dated January 16, 1994, nor to any other good summary.) As a result of DOE's decision to withhold this information, DEC, EPA, and the public cannot easily judge what is known, and what is not yet known, about this aquifer system.

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Structural geology

Deficiencies in structural-geology report by Gill

57. Page 4-10 of the Draft EIS refers to regional subsurface mapping done by geologist Bradley Gill in order to "determine if faulting could be mapped based on available subsurface well data."

110-18

110-18 This EIS reflects the latest and best available data and analyses relative to the characterization of subsurface faulting and seismic conditions in the vicinity of WNYNSC. As observed by the commentor, the geologic report cited as "Gill 1995" in the 1996 *Cleanup and Closure Draft EIS* has also been revised (Gill 2005). Preparation of this 2005 report included updating subsurface geologic maps (current through December 2003) to incorporate drilling data obtained since the original mapping was completed in 1998. If new wells had been drilled in Gill's study area to the Onondaga, Medina, and Theresa geologic horizons and the geophysical well data had been released from confidentiality and made available, these data were used. With regard to the criticisms of data interpretation raised here and elsewhere by the commentor, the following discussion is offered to provide a general overview of the pitfalls associated with generating subsurface geological maps and drawing conclusions regarding subsurface faulting based solely on geophysical well log and drilling data.

When constructing and reviewing such maps, it is important to understand that there are various inaccuracies inherent in the exploration and drilling process that, both individually and in concert with each other, can significantly affect the final mapped interpretation. These become even more problematic when one tries to micro-analyze the mapped horizon, as it is only intended to represent a projection of the subsurface based on the available data, the accuracy of which is limited to various factors. These issues are addressed by various Geographic Information Systems (GIS) mapping programs by incorporating numerous optional gridding algorithms that generally reflect the data averaged over distances instead of mapping actual data points. While mapping software usually offers an option of "honoring" the data, this practice often results in highly irregular and geologically questionable mapped surfaces. GeoGraphix® mapping software defaults to "not honoring" the data and using the minimum curvature algorithms that have been used in this mapping project. Maps prepared by and used for the Gill 2005 geologic report were generated using GeoGraphix Explorer®, one of the most widely accepted, industry-standard brands of mapping software used in the oil and gas industry today.

Generally, GIS mapping applies a blanket-type grid over the data points and maps the averaged values between points. This involves applying a "smallest-feature" radius and radius of influence that determines how many columns and rows and resulting X-Y spacing will be defined in the grid settings. This can result in certain contours appearing to be on the wrong side of the data point and, in the strictest sense, they are. However, given the discrepancies inherent in the data, attempts to

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Based on Gill's analysis, the Draft EIS concludes that "there was no evidence for faulting based on the regional mapping." We find this conclusion unsupported by the data that Gill set out to analyze.

57A. My rather polemic comments 57 through 82 need to be interpreted in combination with post-1996 evidence of faulting near the West Valley site. New evidence of two deep-seated faults – one at Sardinia and one at the north end of the US 219 bridge over Cattaraugus Creek near Springville – was released in 2001 in the seismic study entitled *Seismic Reflection Survey to Identify Subsurface Faults near the West Valley Demonstration Project*, prepared for West Valley Nuclear Services Company by Bay Geophysical, Traverse City, MI. Questions that still need to be answered about these faults include their strike, geographic extent, surface expression (if any), and evidence of most recent activity or reactivation. These questions can and should be addressed in new studies that would support the Phase II decision in the event that phased decisionmaking is the chosen alternative. Regardless of these outstanding questions, the existence of the two newly recognized faults resolves some – but not all – of the points raised in my comments 57 through 82. Curiously, an updated version of Gill's analysis, cited as Gill (2005) in the 2008 Draft EIS, shows no awareness of the two newly recognized faults that are identified in *Seismic Reflection Survey to Identify Subsurface Faults near the West Valley Demonstration Project*. Gill (2005) discusses the Attica Splay of the Clarendon-Linden Fault (CLF) on pp. 9-13. On p. 9, he notes a lineament system that extends southwesterly from the CLF in central Genesee County through Wyoming County toward the southeastern corner of Erie County, and he remarks that "This is roughly coincident with the area that the Attica Splay is believed to exist, and is possibly an expression of that splay fault system." Another report cited in the 2008 Draft EIS (URS, 2002, "An Update of the Structural Geology in the Vicinity of the Western New York Nuclear Service Center, West Valley, New York") provides a more comprehensive view of the Attica Splay in relation to NE-trending lineaments and in relation to the Sardinia fault identified in *Seismic Reflection Survey to Identify Subsurface Faults near the West Valley Demonstration Project*. See esp. URS (2002), p. 24-29. Returning to Gill (2005), it appears likely that the "distinct structural anomaly" seen in Sardinia near the Krolick #2 well at all three of his mapped horizons (see Gill's Packer Shell and other structure-contour maps) is associated with the Attica Splay, even though he does not recognize it.

58. Gill's mapping and analysis are compiled in his report entitled *Regional Geologic Mapping Analysis of Certain Horizons in the Vicinity of the Western New York Nuclear Service Center, Town of Ashford, Cattaraugus County, New York*. The report was prepared August 25, 1995, and is listed on page 4-105 of the Draft EIS. Inspection of Gill's report shows several deficiencies that, in my opinion, affect the validity of his conclusions. These deficiencies include careless errors and the practice of forcing data to fit a preconceived conclusion.

59. It is evident from the careless errors that Gill's report was not subject to the same high standards of Quality Assurance and Quality Control that NYSERDA required for the recent

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honor each data point can result in artificial geologic features that do not actually exist due to errors that are impossible to prove or disprove. The trade-off is a balance between adhering to the data and wrongly believing that it is 100 percent accurate, resulting in a false interpretation of the mapped surface, or acknowledging that the data are not entirely accurate because they contain inherent errors, and creating a structure map that addresses this reality through the methodology by which the data are recognized and mapped. When conducting regional mapping, it is generally advisable to accept and adhere to the latter.

Some of the causes for such data discrepancies are as follows. Surveying and site construction during the permitting phase of oil and gas operations often produce significant discrepancies of up to about 5 meters (15 feet) or more in subsurface elevations. These can be the result of inaccurate surveying, significant construction alterations of the surveyed ground surface after the survey, moving the actual staked location, and human error when reporting the elevations and datum used. The drilling and logging phases contain a myriad of other possible errors, including incorrect estimations of rig floor, casing head, rotary table, or Kelly bushing distances from the ground, use of the wrong datum for logging and, to a very limited extent, fatigue-induced stretch in the wirelines. A more common cause of depth error is the drilling rig causing the hole to "corkscrew" instead of drilling straight, which is usually caused by too much weight on the drill string, thus adding considerable apparent depth to the logs. For the latter case, an example is found in a Medina well in Chautauqua County, New York, where the borehole is so deviated that the formations appear to be thicker by more than 60 percent, causing it to appear to be reverse-faulted and considerably deeper than usual. Upon further investigation, it is apparent that this well corkscrewed and the logs were never adjusted for true vertical depth.

Another example is a recently-drilled (and still confidential when analyzed) deep well located within 16 kilometers (10 miles) of WNYNSC, where the formations are off by about 13 meters (44 feet) at depth and the well is deviated by about 40 meters (130 feet) at total depth from where it is located at the surface. This is not a designated directional well, and any attempt to map the available log data would result in a one-well anomaly that would be misconstrued as a fault or small depression, as nearby offsets show drastically different subsea values. These factors are of particular concern when structure contour mapping and are often the cause of these one-well anomalies that generate excitement about false geologic features that have alternative explanations. This is why faults should not be assumed from such anomalies until all possibilities have been eliminated and evidence for faulting has

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Clarendon-Linden study in Allegany County.

60. One careless error in Gill's report is the inclusion of a false data point (well 31-009-11722 or G. Schichtel #1) on Gill's two structure contour maps and one isopach map. This well was abandoned at a depth of 322' due to quicksand; it never penetrated either the Tichenor or the Packer Shell. Gill erroneously shows this well as a data point and uses it to construct contours on both horizons as well as his isopach map.

60A. Comment 60 involves a careless error of my own. Gill's maps show the G. Schichtel #1 well as "P&A" (plugged and abandoned), reflecting the fact that the well was initially drilled under API number 31-009-11722 but was abandoned at a depth of 322' due to quicksand; it never penetrated either the Tichenor or the Packer Shell. I now recognize that the G. Schichtel #1 well was redrilled under a new API number (31-009-19765) to a total depth of about 3200' and thus penetrated both the Tichenor and the Packer Shell.

61. Another apparent careless error involves well 31-029-12983 (R. Michalek #1). Gill failed to use the revised Kelly-bushing elevation of 1565' (as shown on a revised completion report in the DEC file), resulting in a 20' error in his Tichenor and Packer Shell elevations for this well.

62. Another apparent careless error involves well 31-029-12920 (H. & J. Emerling #1). Gill's elevation for the base of the Packer Shell in this well should be 1410' - 2791' = -1381'. He uses a value of -1391', which is apparently in error by 10'.

63. A more serious error is Gill's practice of drawing structure contours in areas where data points are absent or sparse or not easily reconciled to a smooth surface. I will address three such areas: the Ashford Hollow area in Ashford, the Spooner Creek area in Concord, and the Beech Tree Road area in Ashford. In all three of these areas, Gill draws unfaulted structure contours in the absence of supporting data. This practice begs the question of whether faults do, or do not, exist in these areas.

64. A telltale sign of Gill's practice of forcing data to fit a preconceived conclusion is the abrupt way in which the widths of his contour intervals change. Near the 31-009-20908 or Miller #1 well on his Packer Shell structure-contour map, for example, the interval from -1875' to -1900' is drawn 1.3" wide, while the adjacent interval from -1900' to -1925' is drawn 0.65" wide. Various other examples can be found as well.

65. The whole purpose of Gill's mapping was to determine if faulting could be either identified or ruled out, based on available well data. In the vicinity of the Miller #1 well on his Packer Shell map, for example, Gill had a choice of A) drawing a fault, B) drawing unfaulted contours, or C) declaring that the data was insufficient to decide between "A" and "B". In choosing "B", despite the odd way he had to bunch up and spread out his contour lines, Gill is forcing the data to fit a preconceived conclusion. In doing so, he begs the question that he set out to answer.

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been found to exist in the well logs in the form of repeated or missing sections or is supported by multiple anomalous data points.

Dr. Katherine J. Beinkafner (1983) points out five criteria applied in judging where a fault was present when contouring within her study area: (1) a change in regional gradient, found by comparison of four or more wells; (2) a minimum displacement of 12 meters (40 feet) (presumably to eliminate smaller, more common errors as previously discussed); (3) interpolation of similar displacement in two separate regions along structural trends; (4) proximity to fold axes mapped at the surface; and (5) fault traces on previous workers' maps.

While these represent Dr. Beinkafner's criteria for judging when to incorporate faulting into a geologic interpretation, they parallel the methods of subsurface mapping of most professional geologists. It is for these reasons that the maps for Gill 2005 were generated using the previously mentioned algorithms and do not reflect a widespread interpretation of faulting based solely on available geophysical log data. Faults most certainly exist to some degree within the study area defined in Gill 2005, but with the exception of the Onondaga faults found in the Bass Island Trend, seismic reflection surveys are necessary to adequately identify them. Since the time that the original mapping was conducted, seismic data have been acquired that provide evidence for faults in various horizons and specific locations.

Further, as partially noted by the commentor, the structural mapping results reported in Gill 2005 have been supplemented by a number of other studies that were considered and are cited in Chapter 3, Section 3.3.1.2, of this EIS. Both of these reports incorporate and reference the seismic reflection survey results from the 2001 report from Bay Geophysical (URS 2002, URS 2004).

110-19 As further described in the response to Comment no. 110-18, this EIS has been revised from the 1996 *Cleanup and Closure Draft EIS* in part to incorporate Gill's updated 2005 analysis, as cited in the EIS. Gill's revised report specifically addresses a second phase of mapping that involved an expansion of the original study area to the north and northeast to determine whether or not faulting could be identified in subsurface geologic strata in that direction. The commentor's suggestion that a preconceived conclusion existed prior to undertaking the study is incorrect, as no data were forced to fit a preconception. The contouring was computer-generated without applying a geologic bias trend. Any deficiencies associated with the Gill 1995 report have been reviewed and determined to be minor in nature, with minimal impact on the outcome of the mapping project.

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66. Given the sparse data, it is difficult to decide conclusively whether a fault exists near the Miller #1 well and, more generally, in the vicinity of Ashford Hollow. Despite the uncertainty, the available evidence favors a fault. Figure 2 submitted with these comments shows a portion of Gill's Packer Shell map on which a line A-A' has been drawn through four wells. Figure 3 is a cross-section through A-A' which implies a 50' to 80' fault, down on the south, in the 0.9-mile gap between the Miller #1 and Glazier #1 wells. This interpretation of the data is less forced than Gill's.

67. If a fault exists between the Miller #1 and Glazier #1 wells, the available well data suggests that the fault trends more or less to the northeast. This tentative conclusion needs to be examined in combination with another piece of evidence mentioned in the Draft EIS, page 4-10: East-northeast trending lineaments "can be discerned on high-altitude aerial photographs in the area between Route 219 on the west and Rock Springs Road on the east, but not all lineaments have a structural origin." We now see possible evidence of a deep structural origin for the lineaments, i.e., a fault on the Packer Shell between the Miller #1 and Glazier #1 wells. Both types of evidence need to be examined together.

68. If an ENE-trending fault passes between the Miller #1 and Glazier #1 wells, it may also be expressed in the ENE-trending valley of Gooseneck Creek. Structural control of Gooseneck Creek should be examined as an additional piece of evidence.

69. Given the sparse data, it is difficult to decide conclusively whether a fault passes between the Miller #1 and Glazier #1 wells. A seismic line should be run to obtain a more definite answer. The cost would be a tiny fraction of the overall site evaluation cost.

70. In the Spooner Creek area, Gill draws unfaulted structure contours on his Packer Shell map. He draws these contours across a gap of almost four miles between the H. & J. Emerling wells in Concord and the Blesy #1 well in Ashford. His contours are unsupported by data in this area.

71. The area in question here (lower Spooner Creek watershed) is situated along the Bass Island Trend, but the structure contours in question are on the base of the Packer Shell, below the salt. Knowing whether the Packer Shell shows a fault beneath the Bass Island Trend is important, both in terms of the site and in terms of the traditional explanation of the Bass Island Trend. Gill begs the question by drawing unfaulted contours where no data points exist.

72. There is insufficient data in the Spooner Creek area to support a definite conclusion. Nevertheless, as in the Ashford Hollow area, the available evidence favors a fault. A line B-B' (similar to line A-A' described above) can be drawn through four wells: Emerling WN-1500, H. & J. Emerling #2, Blesy #1, and Mahl #1. A cross-section along B-B' implies an 85' to 150' fault, down on the south, between the H. & J. Emerling wells in Concord and the Blesy #1 well in Ashford. A similar conclusion can be reached if the line B-B' is drawn through the Emerling WN-1500, H. & J. Emerling #2, Blesy #1, and Harvey #1 wells.

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In two cases, revised elevations in the 2005 update made a difference of only a meter or two (several feet) in the geologic mapping. In one instance, the resulting revision allowed the contouring to be spaced more equally, and in three cases, the contours were revised to eliminate closed contours, resulting in a more uniform mapped surface and regional dip.

110-20 The updated Gill 2005 geologic report, as further described in the response to Comment no. 110-18, is but one of the reference documents that were used by DOE to enhance the geologic and seismologic characterization of WNYNSC since 1996, as reflected in this EIS. Nevertheless, the research, review, and mapping performed by Gill (2005) were done in a manner consistent with generally accepted industry standards. The author in question is certified with the American Association of Petroleum Geologists and has over 25 years of experience in the oil and gas industry in New York State. To compare two entirely separate and unrelated studies on the basis of quality standards is not reasonable without also knowing the scope of each project with respect to the original project structure and scope, funding, and resulting time allocated.

110-21 DOE notes the commentor's error in the original comment. Indeed, another G. Schictel #1 well, American Petroleum Institute (API) #31-009-19765, was drilled near the first Schictel well on March 5, 1985, and reached a total depth of about 984 meters (3,229 feet) in the Queenston Shale. Using coordinates from the NYSDEC database, the well was used in the generation of the maps prepared for Gill 2005, as cited in this EIS. The well penetrated the mapped horizons and supplied valid data points for the mapping effort.

110-22 The Michalek #1 well (API #12983) was originally permitted at coordinates 457.2 meters (1,500 feet) south of latitude 42.32.30 and 914.4 meters (3,000 feet) west of longitude 78.42.30. These coordinates result in a topographic ground elevation of 467.9 meters (1,535 feet) with an assumed Kelly bushing elevation of 470.9 meters (1,545 feet). The survey plat contains notations referencing verbal approval from NYSDEC to move the location 30.5 meters (100 feet) north. Additional notations refer to the new location as being 61 meters (200 feet) north and 30.5 meters (100 feet) east, resulting in coordinates of 396.2 meters (1,300 feet) south of latitude 42.32.30 and 883.9 meters (2,900 feet) west of longitude 78.42.30. If this is where the well actually is drilled, it should yield a ground elevation of 472.4 meters (1,550 feet) with a Kelly bushing elevation of 475.5 meters (1,560 feet). However, the completion report shows a ground-level elevation of 474 meters (1,555 feet) and a Kelly bushing elevation of 477 meters (1,565 feet).

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73. In the absence of data, it is impossible to decide conclusively whether a fault exists on the Packer Shell between the H. & J. Emerling wells in Concord and the Blesy #1 well in Ashford. A new well being drilled in Concord (31-029-22603 or Dzara #1) lies more or less between the H. & J. Emerling wells and the Blesy #1 well. Data from this new well should be obtained to help determine whether a fault exists below the salt in this area.

73A. Data from the Dzara #1 well has been available since 1998. It clearly shows a fault *above* the salt (as can be seen on the gamma log, which shows a 114' repeated section, apparently Bass Island thrusting, at the base of the Onondaga). The presence of a fault below the salt cannot be inferred directly from this well; however, a fault is now known to exist below the salt at a nearby location. The deep-seated fault known as the "Cattaraugus Creek feature," located at the north end of the US 219 bridge over Cattaraugus Creek near Springville, was identified in the 2001 seismic study entitled *Seismic Reflection Survey to Identify Subsurface Faults near the West Valley Demonstration Project*.

74. In addition to the Dzara #1 well data, a seismic line should be either run or purchased. Geodata (018) 584-3366 apparently has two or three commercial seismic lines available in the Spooner Creek area. Such a line should resolve the question of whether a fault lies below the salt in this area.

75. To the east-northeast of the site, in the direction of Beech Tree Road, there are essentially no wells for four miles. Despite the absence of data in this large area, Gill draws unfaulted structure contours on his Packer Shell map. Once again, he begs the question of whether faults exist. (Lacking data, he must assume that no faults exist before he can draw unfaulted contours in this area. Once he has drawn the contours, he uses them to "show" that no faults exist. The logic is circular and the conclusion is worthless.)

76. The nearest well to the north of this area is Schweickert-Scharf #1 (31-009-21860). All the formations penetrated by this well, including the Packer Shell, are anomalously high. Gill mentions this in his report and draws a dome-like bedrock high on his Packer Shell map, but he goes no further, leaving many questions unanswered.

77. What is the structural explanation for such a deep, localized dome? It extends down at least to the Medina. Does it extend all the way to basement? This question should be answerable in the near future, given the unusual depth of the Schweickert-Scharf #1 well and the existence of a few other deep wells, including the recent Ardent well(s), to which Schweickert-Scharf #1 can be compared.

78. Evidence for this bedrock high comes mainly or entirely from the Schweickert-Scharf #1 well. Is the bedrock high really a dome rather an anticline that persists for several miles? Is it really a dome rather than the upthrown side of a fault? What evidence favors any of the three interpretations? These issues should have been discussed in Gill's report.

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The logging operations are performed last, long after the well has been surveyed, relocated, and drilled, and these amended coordinates are still not shown on the log header. This is suspicious, because these coordinates have been applied to the log header on a label, which is not a typical practice of the loggers, but possibly were applied by NYSDEC. This is why these coordinates were utilized in the original mapping, assuming they would be more accurate. NYSDEC modified the location and elevation data on April 11, 2003, to reflect a location of latitude 42.53809, longitude -78.71911 (decimal degrees), with a datum elevation (log measured from [LMF]) of 477 meters (1,565 feet). This data was incorporated into the latest mapping in support of Gill 2005 and results in elevations that agree with the original mapping.

The coordinates and elevation on the amended completion report may be correct, but the more important point here is to understand that elevation and location discrepancies such as this are not uncommon in oil and gas drilling operations, as previously discussed in the response to Comment no. 110-18. As evidenced by the commentor's raising of this issue, these discrepancies can be used to discredit the validity of any geologic mapping, when in fact they have minimal bearing on the outcome of the work. In this case, the Michalek well lies in the extreme northwest corner of the study area and is almost 11 kilometers (7 miles) away from the central portion of WNYNSC. Any differences between the data sets used might change the contouring slightly by eliminating the slightly anomalously high value for the Michalek well and the resulting closed contour, but they would have no effect on the overall geologic picture.

110-23 DOE assumes that the commentor is referring to H. J. Emerling well #1-1462, whose correct API designation is 31-029-12970 rather than 31-029-12920. There are at least four different sets of coordinates for this well: one found in the old NYSDEC database, one handwritten on the log header, one typed on the log header, and another found on the completion report. Each of these sets of coordinates results in different elevations. Based upon the original NYSDEC information, the Kelly bushing elevation that was used in the mapping performed by Gill (2005) is, in fact, 429.8 meters (1,410 feet), as opposed to 426.7 meters (1,400 feet). These are the original data made available by NYSDEC and are presumed correct. Subsequently, on April 11, 2003, NYSDEC modified its database to reflect a location of latitude 42.52984, longitude -78.73573 (decimal degrees), with a datum elevation of 426.7 meters (1,400 feet). Assuming this elevation is measured from the ground, it yields the same log measured from a datum of 429.8 meters (1,410 feet). Using a drilling depth of 850.7 meters (2,791 feet), this gives a

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79. About 6 years ago, Mitchell Oil Co. ran a seismic line along an overland route, more or less from the Schweickert-Scharf #1 well to Riceville. This seismic line should be acquired to determine whether a deep fault exists in the Beech Tree Road area immediately east of the site.

110-39

80. If the Attica Splay of the Clarendon-Linden Fault approaches the West Valley site, it must approach from the direction of this "empty quarter" where no well data exists. The Mitchell Oil seismic line is in exactly the right location to detect faults that approach the West Valley site from that direction. For this reason, the Mitchell Oil seismic line is very important and should be acquired.

110-40

81. In summary, Gill's report and maps have not helped answer the question of whether faults exist in areas immediately east, northwest, and southwest of the site (nor whether faults pass directly under or adjacent to the site). As explained above, his structure contours are not reliably drawn in these areas. His work is a useful step in characterizing the local structural geology but additional work, including the three seismic lines indicated above, remains to be done. Ground elevations of several crucial wells used by Gill should be verified.

110-41

Structural geology in general

82. The Attica Splay has been mapped southwestward only as far as Varysburg or Java. Reliable mapping must be conducted further to the southwest to determine the southwestward extent, precise location, offset, and other structural details of this fault. If the Attica Splay dies out before reaching Ashford, how and where does it do so?

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82A. See comment 57A above.

83. The EIS should acknowledge, compile, and address the evidence for the degree of fracturing of bedrock under the West Valley site. Near-surface bedrock in Western New York is often fractured, but rarely to the degree found under the site. The main evidence is the frequency (nearly 100%) with which test bores that penetrate more than 10 feet into bedrock have encountered vertical or high-angle fractures. It is unusual for vertical or high-angle fractures in bedrock to be so closely spaced that virtually every vertical bore encounters them. Borings that encountered vertical and/or high-angle fractures include the NX#1 core well (31-009-06740) that was drilled as part of the [sic] 1969-1971 ORNL injection-well test program; the Dames & Moore 74-DMB36, 74-DMB37, and 74-DMB42 wells; and the Dames & Moore HLW-1 well.

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84. The Dames & Moore report on the HLW-1 well, for example, contains the following description: "Weathered bedrock was encountered in boring HLW-1 at approximately 110.5 feet below ground surface. More competent rock was encountered at 118.5 feet. Rock core obtained from 118.5 through 149.5 feet possessed low RQD values (i.e., 0 to 16%) and was described as very broken to broken showing slight to moderate degrees of weathering." (From page C-5 of Geotechnical Investigation, High Level Waste Transfer System, West Valley Demonstration Project, Dames & Moore, August 24, 1992.)

110-43

subsurface value of minus 420.9 meters (1,381 feet). While this is a correction from the original mapping performed by Gill (1995) and the current mapping supporting Gill (2005) has been revised to reflect the correction, like the Michalek well discussed in response to Comment no. 110-22, this is another case where the resulting value does not change the overall geologic interpretation.

110-24 DOE disagrees with the characterization of the mapping practice employed by Gill (2005), as further described in the response to Comment no. 110-12. It is important to point out that the maps created for the study in question were prepared on a regional geologic basis. In at least two areas, specifically Ashford Hollow and Spooner Creek, New York, the contours were extended across sparse data to tie into control that exists just outside of the study area. The areas certainly could have been contoured with dashed lines to acknowledge a lack of data, but that still would not have supported an interpretation of a fault. When structure contour mapping, it is generally accepted that there should never be an assumption of faulting without some evidence in favor of it. If several data points work in concert to constitute an anomaly such as a closed high, rapid change in strike, abrupt increase in the rate of dip, etc., a fault should be considered. Also, if a fault is identified in a well log, then faulting will have to be incorporated into the geologic interpretation. However, these criteria did not exist for the data evaluated. The most definitive identification of faults, without evidence of repeated or missing geophysical log sections, is done through the acquisition and proper interpretation of adequate seismic data.

110-25 At the time the original mapping was generated, contour spacing around the Miller #1 well did in fact change slightly, increasing in the approach to the vicinity of the Hebdon #1 well to the south. At that time, however, this did not constitute a preconceived conclusion, but instead a drawing of the contours to fit the data. In the vicinity of the Miller #1 and the Glazier #1 wells, only four data points were available at the time the original map was created. Given the areal extent, that was not enough information upon which to base a fault. Additional drilling would most certainly provide a clearer understanding of this dip increase, but this interpretation was made using available data. Since publication of the original mapping, additional wells have been drilled and geophysical data have been released from NYSDEC.

Currently, there are more data to the north and northeast of the Miller well, resulting in perfectly spaced computer-generated contours of 0.4 inches on both sides of the

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85. A summary of the evidence for, probable cause of, and future implications of the highly fractured bedrock should be given in the EIS. This is part of the site description and site evaluation needed for an informed decision.

86. The EIS does not refer to the report by Vaughan & McGoldrick entitled "Structural Evidence for Deep Northwest-Trending Fractures under the Western New York Nuclear Service Center," dated September 13, 1993. This report, which is included in our Geology Reports volume, should be noted in the EIS. If DOE or SAIC has done any field work that reinforces or rebuts its conclusions, such work should be described as well.

Unresolved geology issues (for which DOE indicated a need for further resolution)

87. See Appendix C submitted with these comments for DOE's January 3, 1995, responses to a number of geology questions we had raised in 1994. Several of the DOE responses refer to studies that were being conducted that might resolve, or help resolve, the concerns we had raised. In many cases the Draft EIS makes no reference to the outcome or the existence of the studies that were being done, nor is there any citation of a post-1994 source that might contain the necessary information. It is unacceptable for DOE to drop these various issues without explanation or comment. DOE acknowledged that these issues were important in 1995.

88. In §§3 and 4 (page C2) of Appendix C, DOE said that the Attica Splay "is still being evaluated as a possible seismogenic source for the site" and that "As part of the preparation of the EIS, a continuing survey of the Attica Splay and Clarendon/Linden fault zone will include a survey of structural studies, models, and maps." We see nothing in the Draft EIS to indicate that this work was done. Information on the Attica Splay and its relation to the site remains inadequate.

89. In §24 (page C8) of Appendix C, DOE indicated that the EPRI earthquake catalog would be compared with updated catalogs. We see no indication in the Draft EIS that this has been done. The Draft EIS continues to rely on the outdated and inferior EPRI catalog.

90. In §§25 and 26 (page C8) of Appendix C, DOE said that modeling of earthquake amplification would be done and that the results would be used to determine effects on structures, soil liquefaction, and mass wasting. The draft EIS (page M-4) indicates that the first half of this work, i.e., the amplification modeling, has been done. There is no indication that the second half of the work has been done. This is a serious omission, especially in relation to landsliding, slumping, and mass wasting.

91. In §§11(b), 32, 33, 35, and 37 (pages C4, C10, C11, and C12) of Appendix C, DOE refers to work being done to better understand and quantify the processes of gully formation and propagation. It is clear from the Draft EIS that this important work has not been done and that gully processes are not integrated into the erosion models used for comparing alternatives. As a result of not integrating gully processes into its erosion models, the Draft EIS underestimates the

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Miller datapoint, as reflected in the mapping to support Gill 2005. There is still a general lack of data to the southwest of this well.

110-26 DOE and NYSEDA believe that Gill's (2005) reliance on existing data to draw the most reasonable conclusions supported by that data are both reasonable and appropriate. Using generally accepted mapping techniques and industry data, Gill found evidence to be insufficient to draw faulted structures on the three mapped horizons with confidence, with the exception of the Bass Island trend in certain horizons. In the vicinity of the Miller #1 well, there is no sound evidence or geologic reasoning to support the inclusion of faulted strata. Using existing information, a fault cannot be interpreted with any degree of confidence or accuracy with respect to its location, vertical or horizontal extent, lateral continuity, apparent displacement, dip direction, or strike. As discussed in the response to Comment no. 110-25, this position is further supported with the latest generation of mapping, which utilized additional data points where the contours reflect a uniform dip around the Miller well, with the exception of the Dutch Hill Onondaga Reef to the northeast, as discussed in Gill 2005.

110-27 See the responses to Comment nos. 110-25 and 110-26.

110-28 The available well data cannot suggest a northeasterly trend as suggested by the commentor because they don't support the existence of a fault. As stated previously in the response to Comment nos. 110-25 through 110-27, there were only four data points in the immediate vicinity of the Miller #1 and Glazier #1 wells at the time of the original mapping. Since that time, additional geophysical well data has further condemned the interpretation of faults based solely on subsurface mapping. Again, the most definitive identification of faults, without evidence of repeated or missing geophysical log sections, is the acquisition and proper interpretation of adequate seismic data.

110-29 DOE believes that the commentor's assumption is erroneous based on the work of Gill 2005. As pointed out in the responses to Comment nos. 110-25 through 110-28, the data do not support a fault; therefore, the data cannot suggest a known strike to a fault as hypothesized by the commentor. The suggestion that a fault "may also be expressed in the ENE-trending valley of Gooseneck Creek" is again, based on the unsubstantiated assumption that a fault exists there. Any further evaluation of Gooseneck Creek with respect to structural control would have to be based on more concrete evidence for faulting, such as from seismic reflection profiling.

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severity of erosion.

91A. DOE has not addressed comment 91 in any meaningful way; the 2008 Draft EIS provides no credible analysis of gully growth. See comments 174-182 below.

92. In §29 (page C9) of Appendix C, DOE stated that “The capture of Franks Creek by Buttermilk Creek is currently being evaluated as part of the study of stream downcutting and gully head migration rates. The role that the aforementioned lacustrine or overbank deposits might play in the capture of Franks Creek is also being evaluated.” There is no indication in the Draft EIS that this work has been done. Stream capture, if and when it occurs, will cause a dramatic increase in erosion of the site. By not evaluating stream capture, the Draft EIS is underestimating the severity of erosion. The lacustrine or overbank deposits may contribute to stream capture and must be evaluated as well.

92A. DOE’s failure to respond to my comment 92 illustrates a wider lack-of-response problem that applies to various comments made on the 1996 Draft EIS. See comments 187-188 below with respect to stream capture or stream piracy.

93. In §33 (page C11) of Appendix C, DOE said that the lithology of the stream banks was being evaluated. We see no evidence that this work has been done. DOE also said that the need for additional field work on soil stability was being evaluated. We see no indication of any decision. In general, we see very little resolution of the various soil stability issues that we brought to DOE’s attention. In §35 (page C11) of Appendix C, DOE acknowledges the importance of soil stability to long-term site performance. However, DOE seems unable or unwilling to integrate soil stability into realistic assessments of site performance.

94. My above comments cover a relatively small number of DOE’s responses in Appendix C. There are additional DOE responses in Appendix C which I disagree with but do not have time to comment on here.

Geomorphology, soil stability, and seismology

95. The Draft EIS provides a realistic model of the growth of the existing ravines of Quarry Creek, Erdman Brook, and Franks Creek. However, such ravine growth is only one of several geomorphic processes that will erode and shape the site over time. The Draft EIS fails to provide a realistic overall model of erosion because it fails to integrate ravine enlargement with A) gully growth, B) geomorphology of the Buttermilk Creek watershed as a whole, C) stream capture, D) exceptionally high stream flow rates, and E) earthquakes. All of these processes act in combination with one another in the real world. By not including and integrating them, the Draft EIS substantially underestimates the severity of erosion.

96. Some of the processes listed in comment 95 are low-probability, high-consequences events. Stream capture, exceptionally high stream flow rates, and earthquakes fall into this category. The

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110-30 DOE agrees with the commentor’s observation that data are sparse in the vicinity of the area in question, but disagrees that a single seismic line would necessarily provide definitive answers. A seismic line here may or may not provide answers to such important questions. The glacial till prevalent in this vicinity might be a factor, limiting the data acquisition and affecting quality. If data were acquired, they may not provide the resolution necessary to detect a fault here. Permission may not be granted in all areas necessary to shoot such a line. What is the primary horizon of interest, and can the acquisition parameters succeed in obtaining data of sufficient quality over this horizon? What geologic implications for the site will be derived from faulting, even if interpreted in certain horizons? DOE must consider all of these questions.

The commentor’s assumption regarding the cost to run the seismic line may be only looking at part of the picture. Undoubtedly, one line here would not be enough data for various reasons such as an anomaly near the end of the line, or the need for an additional line to establish a trend, or bad data making another line necessary. A seismic line shows only a small section of the subsurface for a considerable expense. Before a line would be proposed, DOE must responsibly determine exactly which questions are to be answered and the best possible way to proceed.

110-31 The mapping done for Gill 2005 was performed across a large study area on what is considered to be a semiregional basis, with a contour interval of about 6.1 meters (20 feet). It ties into data to the west, just outside the limits of Gill’s study area. It is true that the contours could have been dashed across this area or omitted entirely, but if dashed, they still would not indicate the presence of faulting.

On the Packer Shell and the Tully horizons, faulting in well logs is very rarely seen. The commentor’s reference to drawing “unfaulted structure contours on his Packer Shell map” across this area suggests that faulted contours on this horizon would be normal and unfaulted contours the exception. The opposite is true.

The Packer Shell has been widely used as a mapping horizon across many areas of Western New York, with folding seen at this horizon. These folds can propagate associated fracturing, and they are often shown as a “nosing” on the contour maps. While these contoured folds might reflect very high-angle, small displacement, normal faults, direct evidence for this occurrence is rare in well logs. Structure at this level can be a reflection of deeper events, and mapping this horizon can be useful as an exploration tool for fracture porosity in the Medina strata. Evidence for reverse or normal faults at the Tully horizon is also rare outside of the Bass Island Trend.

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EIS must evaluate them by developing a realistic estimate of whether (or how many times) they occur during the 10,000-year performance-assessment period. Will Franks Creek be captured by Buttermilk Creek within 10,000 years? Yes, probably in a much shorter time than 10,000 years. Earthquakes and probable maximum flood conditions should be evaluated in terms of recurrence intervals. The performance-assessment period (presumably 10,000 years) will be dictated by the duration of the radiological hazard. Since the West Valley site contains relatively large quantities of long-lived radionuclides such as Tc-99, I-129, and Pu-239, the radiological hazard will continue for at least 10,000 years.

97. All of the processes listed in comment 95 must be integrated with the growth of the Quarry Creek, Erdman Brook, and Franks Creek ravines in order to develop a realistic picture of the geomorphology of the site. This will not be an easy task, but it is an essential part of predicting long-term site performance. In the context of 10 CFR Part 61, it is part of what 10 CFR 61.50(a)(2) requires: "The disposal site shall be capable of being characterized, modeled, analyzed and monitored."

98. The Draft EIS (page 4-33) states that initiation and growth of gullies "appears to be the quickest mechanism for eroding into the north or south plateau and ultimately disturbing the site facilities." However, the Draft EIS does not use this information in any meaningful way. At the bottom of page L-5, the Draft EIS states that "Methods for predicting the long-term erosion rates of gullies are not available; therefore, gully advance for the 1,000-yr period was not predicted." Thus, as already noted, the Draft EIS bases its erosion models on ravine widening alone; it fails to integrate gully initiation and growth into these models. This omission is unacceptable, especially since the gully processes appear to be the quickest mechanism for eroding into the north and south plateaus and disturbing waste facilities.

99. It is clearly a difficult challenge to develop a defensible quantitative model of erosion that integrates the processes of gully initiation and growth with the processes of stream downcutting and ravine widening. If the West Valley site is too geologically complex for a credible model to be developed, then the EIS should provide a clear statement that the site is not capable of being characterized, modeled, and analyzed.

100. Monte Carlo methods provide one way of developing an erosion model that integrates gully processes with ravine widening. See Appendix D for a computer program that I wrote in February and showed to DOE, NYSERDA, and SAIC staff in April. The program models erosion at the West Valley site in a way that integrates gully processes with ravine widening. Gully initiation occurs randomly in the program at a mean rate that can be controlled by the user of the program. Thus, each time the program is run, the gullies form and develop in a different pattern. This program is rudimentary but could be made more sophisticated and realistic by including other features such as adjustable weighting factors that would vary the probability of gully initiation at different locations along the existing ravine edge. In any case, the program shows the general feasibility of Monte Carlo modeling, i.e., of running the program hundreds or thousands of times and summing the results to obtain a quantitative erosion risk for each point on

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At present, projecting unfaulted contours on this horizon across areas of sparse data is not unrealistic, considering the general absence of documented faults at this horizon.

110-32 As evidenced by the clearly unfaulted log sections and resulting contours directly to the northeast of the Spooner Creek watershed area, as mapped in Gill 2005, the Packer Shell is typically unaffected by the faulting responsible for the Bass Island Trend.

The name "Bass Island" is a misnomer for this complex fault system, as the majority of the faults are productive from the Onondaga Limestone. While oil and gas production can occur anywhere in the section from just above the Onondaga to the upper Salina Group, production is most often realized from the Akron, Bois Blanc, and Onondaga. The name "Bass Island" is simply the Canadian terminology for the Akron Dolostone, the geologic formation in which the first highly publicized blowout occurred.

The Bass Island faulting exists because of the "pinching out" of the lower-most salt member of the Salina Group (the B-Salt). The numerous salt members present to the southeast of the trend act as a "glide plane," absorbing energy and prohibiting the overlying strata from overthrusting. As the salt thins to the north and west coming out of the basin, individual salt zones pinch out. The B-Salt is the last zone to pinch out across central Chautauqua, northern Cattaraugus, and southern Erie Counties. In these areas, the lack of salt to the northwest provides the resistance necessary for overthrusting. The Bass Island fault system is comprised of numerous imbricate, subparallel, reverse faults with predominately low-angle, southeastern dips. The limits of the Bass Island Trend are very well defined, with the southeastern-most limit located more than 8 kilometers (5 miles) away from the central portion of WNYNSC and WVDP.

The decollement occurs within the salt zone; therefore, beds below this horizon, such as the Packer Shell, are relatively unaffected by this structure. As stated in the response to Comment no. 110-31, the Packer Shell is generally unfaulted. Evidence in the well logs for faulting at this horizon is generally lacking across Western New York.

110-33 See the response to Comment no. 110-18 regarding the methodology employed by Gill (2005) for performing subsurface mapping and evidence standards for making conclusions about faulted geologic strata.

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the north and south plateaus. (Regarding the program in Appendix D, note that it needs to run in conjunction with two additional files: a one-line random-number-seed file and a file of xy data points defining the existing ravine edge, with x and y expressed in feet and the coordinate origin centered on the plant building. These files are available upon request.)

101. In order to cover all failure modes, a fully integrated erosion model must combine the type of Monte Carlo modeling suggested above in comment 100 with the type of probabilistic/recurrence interval modeling outlined in comment 96. Other methods that produce the same results may also be available.

102. The Draft EIS does not adequately cover the long-term geomorphic effects of exceptionally high stream flow rates. Page 4-18 indicates that the probable maximum precipitation event would cause the reservoir dams to fail. Such an event would also severely erode existing stream channels, gullies, and ravines. Such erosion should be analyzed in the EIS and integrated into an overall erosion model, not only for the probable maximum flood but also for intermediate-probability, intermediate-intensity precipitation events. For perspective, see page 4-21 for a comparison between the probable maximum flood flow rate and the peak flow rate observed between 1990 and 1991. The PMF flow rate is 40 times greater than the peak stream flow observed in 1990-1991. The PMF erosion effects would be more than 40 times greater than the 1990-1991 erosion, given the sensitivity of erosion to peak flow rates.

103. On page 4-18, the Draft EIS indicates that a design basis earthquake would cause failure of the reservoir dams. On page 4-28 (Table 4-4), the Draft EIS indicates that 3 out of 8 slopes on the north and south plateaus would be unstable in a strong earthquake. On page 4-17, the Draft EIS describes liquefaction potentials ranging from 1% to 30% for certain areas of the north plateau in an earthquake of MMI VII-VIII, and also states that "There is an increased potential for liquefaction with stronger earthquakes." These isolated pieces of information need to be fully quantified and integrated into an overall 10,000-year erosion model for the site.

104. On page 4-17, the Draft EIS states that the areas with the greatest seismic liquefaction potential "do not contain facilities with large inventories of radioactive material." This may be true, but it misses the point that seismic events will accelerate the overall loss of site integrity by causing large-scale landsliding, slumping, and mass wasting. Such seismically-induced geomorphic processes must be integrated into the overall model.

105. One possible indication of soil instability and mass movement near the southeast corner of the West Valley site can be found in a 1950-vintage blueprint atlas of Buffalo, Rochester & Pittsburgh Railroad maps that is in the possession of a member of the Western New York Railway Historical Society. Since the atlas is not easy to photocopy, I have sketched a copy of the relevant map and am submitting it as Figure 4 with these comments. Arrangements to look at the original atlas can be made upon request. Figure 4 and the atlas itself show places throughout the Buttermilk Creek valley where the track location (as of the year 1950) deviated from the location originally surveyed when the line was built ca. 1880. Most of the deviations are small (a fraction

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110-34 The Dzara #1 well was in fact drilled to the Medina, but was originally planned as a Bass Island prospect. It was logged on June 13, 1996. Data from the Dzara logs and completion report have been incorporated into the most recent geologic mapping performed for Gill 2005.

This well is a Bass Island discovery well, with a reverse fault in the uphole carbonate sequence; however, there is nothing at all unusual about the section below the salt. The entire interval from the Lockport down through the Queenston Shale is entirely normal, with no evidence on the logs of faulting whatsoever. Since the time that this well was drilled, two more wells have been drilled: the Wittmeyer #1 and #2 wells. One of these wells also is a Bass Island discovery, with reverse faulting in the strategic carbonate interval. No evidence of faulting exists below the salt on these well logs.

The structure contour maps on the Tully and Onondaga horizons reflect the disturbance caused by the underlying Bass Island faulting in the carbonate section and overlying shales. However, no faulting is evident on the geophysical well logs at the Packer Shell horizon or throughout the Packer Shell to the B-Salt interval on any wells in this immediate vicinity.

Again, the updated structural mapping results reported in Gill 2005 have been augmented in this EIS by a number of other studies that have been considered and are cited in Chapter 3, Section 3.3.1.2, (URS 2002, URS 2004). Both of these reports incorporate and reference the seismic reflection survey results from the 2001 report cited by the commentor.

110-35 DOE notes the commentor's suggestion. While it is true that Geodata (and others) have commercial seismic data available in the vicinity of Spooner Creek, such data may or may not resolve the question of whether or not faulting is present below the salt in this area.

While faults may be seen on this data, the resolution may not be sufficient to identify such faults with minimal displacement.

110-36 The commentor is correct in asserting that Gill, in preparing the Packer Shell contour map as revised in support of Gill 2005, drew unfaulted structure contours in the area cited by the commentor. Gill assumed that no major faults exist at this horizon because of both the lack of faulting seen elsewhere within the study area at the Packer Shell horizon and the general absence of evidence for faulting in the Packer Shell horizon in well logs. DOE disagrees with the commentor's

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of a foot), but the atlas shows an apparent northward shift of 12 feet over a long, straight section of track between mileposts 36 and 37. The track in question runs generally parallel to Fox Valley Road and is located a short distance south and east of the Fox Valley Road crossing. It is difficult to see how a long, straight section of railroad track can have shifted sideways 12 feet unless the ground underneath has undergone a slow mass movement. The section of track between mileposts 36 and 37 should be resurveyed and compared to the original survey on file at the Cattaraugus County offices in Little Valley to see if any discrepancy exists. Any discrepancy in excess of 12 feet should be considered likely evidence of mass movement. (If a 12-foot discrepancy was noted between about 1880 and 1950, the discrepancy should have increased since 1950 if due to mass movement.) The possibility of a survey error cannot be ruled out here, but the implications of a real discrepancy due to mass movement are sufficient to warrant careful investigation.

105A. See also comment 203 below.

North Plateau groundwater hydrology

106. In evaluating any alternative that leaves the HLW tanks in place, the assumption must be made that groundwater will have free access to the residual contents of the tanks within a few decades. The various barriers to groundwater ingress and egress will eventually fail when erosion reaches them. In a much shorter time, the steel and concrete barriers of the tank, pan, and vault can be expected to fail. The outer barrier consists of backfilled till which cannot be considered a reliable barrier.

107. The Draft RFI for the HLW Storage and Processing Area, WVDP-RFI-024, page 30, states that "the HLW tank excavation is isolated, or nearly isolated, from the 'sand and gravel' stratum by secondarily emplaced compacted clay-silt till backfill." The phrase "nearly isolated" should be noted. The backfilled till cannot be considered a reliable barrier.

108. The Dames & Moore report entitled Geotechnical Investigation, High Level Waste Transfer System, West Valley Demonstration Project, August 24, 1992, page C-4, describes "two soft zones" encountered when boring through the backfilled till. The backfilled till cannot be considered a reliable barrier.

109. The plume of Sr-90-contaminated groundwater migrating under the north plateau should be arrested by removing the high activity groundwater and soil that feed the plume. This is the first necessary step. Contaminated material along the plume, like other facilities and areas of contamination on the site, must be removed as part of the overall site closure plan.

109A. Regardless of whether this comment has been ignored in a response-to-comments sense, it has received no substantive response in the thirteen years since I made it. Thirteen years of agency inaction in dealing with the plume, and in dealing with the high activity groundwater and soil that feed the plume, have allowed radiological contamination

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implication that faulting should be assumed even when such a conclusion is unsupported by the available data.

Dashed or omitted contours could have been used across the area, but when mapping on a regional or semiregional basis such as this, where it is important to get a feel for the larger picture (including regional dip), projecting contours across areas of little data is often done. Examples of this can be seen in various New York State geological publications, where regional mapping is done on very few data points across the state or in large study areas within the state. If the contours were dashed or omitted where data were not available, there would be more area left uncounted than there would be mapped area. The reason contouring is sometimes drawn across these "open" areas is to provide a picture of what a logical geological interpretation would produce based on knowledge of the area and certain assumptions. Also, geological contouring methods dictate that faulting is one of the last assumptions to be made, and only in conjunction with evidence as discussed in response to Comment no. 110-18. Contours across the area in question do not "show" that faults do or do not exist, but they do reflect a reasonable geological assumption that can then be modified as data become available. This is the approach that was taken. This differs from the "circular logic and worthless conclusions" asserted by the commentor.

110-37 As observed by the commentor, the Schweickert-Scharf #1 well (also Schwertk-Scharf in the NYSDEC database) appears to be anomalously high on several horizons, as noted in Gill 2005. Because of the lack of drilling around this well, it is a one-well anomaly and was treated as such. Accordingly, in the original mapping, a dome-like anomalous high was drawn around this data point to indicate that this well is, in fact, high. In the latest version of computer-generated mapping, it is not drawn as a closed contour, but rather a one-well "high" causing the contours to swing down-dip. They recover both north and south of this well in the absence of additional datapoints.

There are certainly questions regarding this high, but there are only data in this immediate vicinity for this one well. It lies in an area with very little drilling information for several kilometers. The Cambro-Ordovician section has been reviewed in this vicinity, but not as part of a detailed geologic evaluation. The deep section in the Schweickert-Scharf #1 well appears to be normal in thickness; however, it was not drilled as deep as some of the other wells in the area—for example, the Hebdon #1 well. A more detailed study of the deep horizons would be necessary to determine whether or not this well exhibits a high in the deep section.

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to spread into previously uncontaminated soil and fill, especially in and near the construction and demolition debris landfill. This unnecessary contamination has substantially increased the volume of material that will require disposal as radioactive waste. The problem is not technical (the source of the plume could have been addressed by directional drilling and/or drilling through the floor of the process building) but is a result of inadequate NRC oversight of a site whose license was put into abeyance based on NRC's assurance that its sister agency, DOE, had the necessary expertise to manage the site properly.

Source-term uncertainties

110. There are many unresolved differences among different records and sources regarding the quantities of radioactive materials at the West Valley site, especially those in the SDA and NDA. The EIS should be conservative and should accept the highest of the credible values when discrepancies exist. This approach is needed to support decisionmaking in a way that protects health and safety.

110A. See comment 112A below.

111. One of the greatest source-term discrepancies is the quantity of Pu-239 buried in the NDA. Before the Draft EIS was issued, the most thorough analysis of the plutonium source term in the NDA was by Nicholson & Hurt, Information on the Confinement Capability of the Facility Disposal Area at West Valley, NY, NUREG-1164, September 1985, esp. pages 14-17. Nicholson & Hurt conclude that "a conservative estimate of total long-lived plutonium inventory [i.e., total Pu-239, Pu-240, and Pu-242 in the NDA] would be about 5.5 kg, with an uncertainty of about 2.0-2.5 kg." See their page 17 for further information. The Draft EIS indicates that the NDA contains a much greater inventory of Pu-239. On page C-42 (Table C-9), the Draft EIS indicates that the NDA contains 2600 curies of Pu-239, mostly on filters buried in the NDA. If the figure of 2600 curies is correct, it means that the quantity of Pu-239 buried in the NDA is 42 kilograms, or more than seven times the quantity estimated by Nicholson & Hurt. This is an incredibly large discrepancy for a material as dangerous, as fissionable, and as closely controlled as Pu-239. In April of this year [i.e., April 1996] I talked to several senior DOE and SAIC staff people about this discrepancy, but all of them tended to attribute it to poor record-keeping in the NERF era. None of them considered it an unusual or resolvable problem. I see it as a major barrier to any type of informed decisionmaking. The difference between 5.5 and 42 kilograms of buried Pu-239 is of great importance when deciding whether to exhume the NDA or "stabilize" it in place. It certainly affects the long-term impacts.

111A. DOE's failure to respond to my comment 111 illustrates a wider lack-of-response problem that applies to various comments made on the 1996 Draft EIS. More importantly, however, it illustrates an incredibly lax attitude toward the quantity of onsite plutonium-239 and associated questions of public health, environmental protection, NEPA compliance, and nuclear security. Experts in various fields would consider either a 42-kg

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110-38 See the response to Comment no. 110-37 answering the question of whether the observed bedrock high is an anticline that extends for several kilometers (miles) or the upthrown side of a fault is not possible with the existing geophysical well log information. The evidence doesn't favor any particular interpretation, but in the absence of additional control, the existing data supports the interpretation of a localized high. It is quite possibly much larger than depicted, but without seismic or additional drilling, the current interpretation is valid.

Given the information that is known about the deep horizons across Cattaraugus and Wyoming Counties, a large, deep-seated structural high could very well underlie the Schweickert-Scharf well. There are numerous basement faults across these counties, some of which are quite large, with considerable areal extent. The feature could be an anticline that extends for several kilometers or the upthrown side of a fault, but to draw the contours to reflect one of these scenarios based on data from only one well would be presumptuous. Depicting the feature as a bedrock high on the Packer Shell contour map for Gill 2005 is appropriate and serves to bring it to the attention of the reviewer and prompt further consideration.

110-39 The Mitchell Oil Co. seismic line cited by the commentor was unable to be located as part of the preparation of Gill 2005, if it was run at all. Mitchell Energy in Houston, Texas, is not known to have run such a line in the area cited. Both Mitchell Oil Company and Mitchell Producing and Drilling Company are located and only operate in the state of Illinois, and neither of these companies is known to have run lines in New York. Neither Geodata nor Evans Geophysical has a record of such a line.

110-40 See the response to Comment no. 110-39 regarding the seismic line referenced by the commentor. In addition, it is correct that any faults to the northeast of the site are more difficult to identify using the limited subsurface well data in that direction. Seismic data in this vicinity will most likely help to delineate any existing deep structures to the east and northeast of the site. Nevertheless, the results of additional studies related to the bedrock geology of the region and to the Attica Splay in particular have been included in Chapter 3, Section 3.3.1.2, of this EIS. This includes the study cited as URS 2002.

110-41 As further described in the response to Comment no. 110-18, Gill 2005 is but one of the reference documents used by DOE to enhance the geologic and seismologic characterization of WNYNSC as reflected in this EIS. Nevertheless, the research, review, and mapping performed by Gill (2005) were done in a manner consistent

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quantity of Pu-239, or an inability to account for 36.5 kg of Pu-239, to be a significant concern. The 2008 Draft EIS sheds no light on this discrepancy but simply substitutes its own new estimate of 579 curies (roughly 9 kg) of Pu-239 in the NDA. This new estimate, presented in Table C-10 on page C-31 of the 2008 Draft EIS, neither acknowledges nor refutes the 2600 curies (42 kg) estimated in the 1996 Draft EIS. It thereby creates a new discrepancy of about 33 kilograms of plutonium-239 in the NDA. Does the NDA contain 42 kg of Pu-239, as indicated by DOE's best estimate in 1996, or does it contain 9 kg, as indicated by DOE's best estimate in 2008? The lack of any explanation or justification for the change, combined with my April 1996 conversation described above, suggests that either value is a "guesstimate" whose error bounds are poorly constrained. Granted, a public document such as a Draft EIS is not the best forum for debating quantities of plutonium at a nuclear waste site, yet a poorly constrained estimate is detrimental to public policy and nuclear security alike. The difference between 9 and 42 kilograms of buried Pu-239 is of great importance in deciding whether to exhume the NDA or "stabilize" it in place.

112. My educated guess is that the 2600-curie figure for Pu-239 is an error. If so, it casts a lot of doubt on the credibility of other numerical data in the Draft EIS. If it is not an error, its implications need to be discussed in the EIS. The most troubling aspect of this 2600-curie value is that no Draft EIS author or internal reviewer noticed that this was an unusual number that needed to be checked and/or discussed.

112A. My educated guess notwithstanding, the quantity of Pu-239 in the NDA needs better resolution. This problem of poorly constrained estimates and lack of candor – or lack of informative discussion – about error bounds is not unique to Pu-239 in the NDA but also applies to other radionuclides and other waste management areas at the West Valley site. Both the NDA and the SDA, for example, have been subject to several separate studies that have attempted to estimate the quantities of buried waste in each disposal area. Results of these studies tend to be "all over the map" (meaning that the results for either disposal area may vary by a factor of four or more), and new studies typically produce new "guesstimates" without any consultation of prior studies as a means of assessing error bounds. My use of the word "guesstimate" is not meant to be unduly pejorative but reflects the large (and largely unexplained) study-to-study variation and the lack of any clear superiority of new study methods over old study methods. For the NDA, see J.L. Ryan, NDA Inventory, PNL, 1992, p. 42; also the NDA Waste Characterization Report, Rev. 1, WVDP-EIS-021, WVNS, ca. 1996, p. 24; also the 1996 Draft EIS, pages C-41 and C-42; also the NDA Waste Characterization Report, URS/Dames & Moore, August 2000, page ii. For the SDA, see Stiles et al., Profiles for characterization of SDA, PNL, October 1994, page 3.5; also the SDA Waste Characterization Report, Rev. 2, WVDP-EIS-022, WVNS, ca. 1996; also the 1996 Draft EIS, page C-55; also the SDA Radiological Characterization Report, URS, September 2002.

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with generally accepted industry standards. In response to the various points made in this comment, it should be noted that the purpose of the Gill 2005 work was not to answer the question of whether or not faults exist in areas around or under the site. It was to determine whether or not evidence for faulting is present in well log information and, if so, to generate subsurface mapping that would interpret the faults appropriately. Given the density of subsurface data in portions of this study area, it is difficult to determine whether or not faults exist in certain areas. DOE cannot support preconceived conclusions about faulting, as an interpretation of faulting should be based on concrete evidence such as repeated or missing log sections or multiple data points working in concert to support a faulted interpretation; not projecting a fault based on a single well anomaly.

In reviewing the subsurface mapping performed for Gill 2005, it is essential to understand the scope of the project and the limitations inherent with sparse well data.

- 110-42** DOE notes the commentor's concerns and observations regarding the degree of bedrock fracturing beneath WNYNSC. Chapter 3, Section 3.3.1.2, of this EIS presents a revised description of the bedrock geology and structure of WNYNSC from that presented in 1996.
- 110-43** DOE and NYSERDA note the commentor's observations.
- 110-44** DOE and NYSERDA have reviewed the report "Structural Evidence for Deep Northwest-Trending Fractures under the Western New York Nuclear Service Center" by Vaughan & McGoldrick. The report was considered in DOE-generated site characterization studies and reports. The more useful information for this EIS has been the more recent geologic characterization information on bedrock and till fractures and seismic characterization, including Jacobi and Fountain 2002; Gill 2005; Ouassaa and Forsyth 2002; Tuttle, Dyer-Williams, and Barstow 2002; USGS 2002; USGS 2008; URS 2002; URS 2004; and Fakundiny and Pomeroy 2002. These references are listed in Chapter 7 of this EIS.
- 110-45** DOE notes the commentor's concerns regarding the Attica Splay and the Clarendon-Linden fault zone. The results of additional studies related to the bedrock geology of the region and to the Attica Splay and Clarendon-Linden fault zone in particular have been included in Chapter 3, Sections 3.3.1.2 and 3.5.2, respectively, of this EIS. These studies include, but are not limited to, the studies cited as URS 2002 and Young and Jacobi (1998).

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Uncertainties and omissions in dose assessments

113. Transportation impacts in the Draft EIS are calculated much more conservatively than radiological impacts from non-transportation activities and actions. This difference in conservatism, even though it is standard DOE procedure, is improper. Radiation doses during transportation are estimated by assuming that a standard amount of radiation “shines” through the side of the vehicle, with little or no regard to the activity of the waste being shipped and little or no regard to ALARA requirements for shielding. The Draft EIS must use equally conservative methods for transportation and non-transportation impacts.

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114. The Draft EIS does not provide enough information on radiation doses resulting from the Erosional Collapse Scenario. Under Alternative III, erosional collapse is a virtual certainty during the radiological hazard period of the wastes. Impacts resulting from erosional collapse therefore need to be presented openly and fully for Alternative III.

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115. The Primary Impact Area in the Draft EIS is inappropriately configured for the Erosional Collapse Scenario. Erosional collapse will affect residents downstream along Buttermilk Creek, Cattaraugus Creek, Lake Erie, etc. The near-certainty and the severity of impacts resulting from erosional collapse (see, for example, pages D-40 and D-41 of Draft EIS) require full evaluation of this scenario. All affected residents should be considered to be within the Primary Impact Area.

116. The Erosional Collapse Scenario does not appear to be considered in the Environmental Justice Assessment on pages 5-132 to 5-137 of the Draft EIS. This appears to be a deliberate attempt to evade the intent of Executive Order 12898. Residents of the Seneca Nation will receive high doses from erosional collapse; the doses need to be calculated and included in the EIS. A rough estimate of the peak erosional collapse dose to a Seneca Nation resident can be obtained by scaling the doses given on page D-25 for other scenarios ($0.32/1.1 = 0.29$ and $0.64/2.8 = 0.23$) to the peak erosional collapse doses shown on pages D-40 and D-41 for a Buttermilk Creek resident. The result, albeit approximate, indicates that a Seneca Nation resident would receive a peak dose of about 18,000 mrem/year from erosional collapse resulting from failure of the global erosion control strategy, or about 78,000 mrem/year from erosional collapse resulting from failure of the local erosion control strategy. I calculate these numbers in an approximate fashion because the Draft EIS does not provide them. The Final EIS must provide erosional collapse doses for all affected residents who live on and/or drink water from Cattaraugus Creek, Lake Erie, the Niagara River, etc.

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116A. Erosional collapse doses provided in the EIS must also be reasonably accurate, i.e., calculated in a defensible manner. Doses calculated in the 2008 Draft EIS do not appear to meet this criterion due to severe miscalibration of the erosion model used there.

117. The Draft EIS gives no doses resulting from erosional collapse for those who drink City of Buffalo water, nor for those who drink Erie County Water Authority water from the Sturgeon

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110-46 While earlier seismic hazard studies, such as Dames and Moore (1992) which relied on data and methodology from the Electric Power Research Institute/Seismicity Owners Group, continue to be cited, this EIS also incorporates new (post-1996) data relative to the seismic hazard to the site. Most notably, as described in Chapter 3, Section 3.5.3, of this EIS, URS Corporation performed a comprehensive site-specific probabilistic seismic hazard analysis for the site (URS 2004). As historical seismicity is the best guide to overall seismic hazard for locations in the Eastern United States, additional information has been included in Section 3.5.1 from the U.S. Geological Survey and other sources regarding the location, frequency, and intensity of previous seismic events to affect the West Valley region.

110-47 The comment is not on the Revised Draft EIS, but on older correspondence between the commentor and DOE. This EIS uses the site-calibrated CHILD model for analysis of the consequences of erosion, one component of which is mass wasting. This analysis is consistent with methods generally accepted by the scientific community involved in long-term geomorphological analysis.

There would be no consequences following a seismic event for the Sitewide Removal Alternative. Prompt radiological consequences are not considered to be reasonably foreseeable for the Sitewide Close-In-Place Alternative, given the mound-like nature of the closed-in-place structures. It is estimated that any seismic-induced damage to the closed-in-place structures could be repaired without significant environmental consequences. The analysis of the consequences of seismic events is considered to be consistent with the requirements and spirit of NEPA.

110-48 The approach to erosion analysis and gully modeling has made major advances since the mid 1990s. A site-calibrated landscape evolution model (CHILD) was used for the analysis described in this EIS. The top-scoring site-specific calibrations of CHILD show good agreement between observed and predicted topography, both visually and in terms of quantitative measurement of landscape and drainage networks, including the effect of gully development and advancement. The fastest predicted gully propagation rates are comparable to those observed at the site. Overall, the modeling results support the view that gully erosion represents the greatest threat to areas containing waste. The nature of the erosion analysis is fully consistent with the requirements and spirit of NEPA. Please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSEKDA’s response.

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Point pumping station, nor for the various communities that take drinking water from the Niagara River, nor for the various communities that take drinking water from Lake Ontario or the St. Lawrence River. Erosional collapse will put detectable quantities of radionuclides into all these bodies of water; the impacts must be assessed for each affected group. Population doses as well as individual doses must be calculated, and Canadian municipalities must be included.

118. The degree of mixing of Cattaraugus Creek water with Lake Erie water is hard to model (but see, for example, the 1982 West Valley Final EIS for HLW, DOE/EIS-0081, pages 3-15 to 3-17, which indicates that near-surface flow tends to hug the south shore of the lake as it moves eastward). For Erie County Water Authority water pumped at Sturgeon Point, the degree of mixing and dilution will be smaller than at the City of Buffalo intake. Unless City of Buffalo water engineers indicate otherwise, full mixing with the Niagara River flow should not be assumed at the Buffalo intake (but full mixing may be a valid assumption further downriver). In any case, the Draft EIS must fully evaluate doses to Erie County residents (and others in the Great Lakes basin) whose drinking water will be affected by erosional collapse at West Valley.

118A. See also A. Napoleon et al., *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Site*, 2008, esp. pp. 71-73.

119. On page S-12 of the Executive Summary, the Draft EIS claims that that [sic] dose estimates have "conservative biases." We find this claim to be without substance, especially in view of the exposed populations omitted from analysis (e.g., those who drink Erie County Water Authority water), the unrealistic assumptions made about the design life of the Global Erosion Control strategy, and various other unconservative biases.

General

120. We disagree with the DOE position expressed on page 1-21 of the Draft EIS: "... DOE does not consider this immersion test applicable to the RTS drum cell because it is specifically designed to prevent the accumulation of water which could immerse the waste." DOE must adhere to the terms of the Stipulation of Compromise Settlement with regard to the 200 to 300 drums that fail the immersed sample compression strength test. DOE cannot unilaterally decide to reinterpret the terms of the Stipulation. Furthermore, we see no evidence that disposal in the RTS drum cell would prevent immersion of drums.

120A. This comment is no longer relevant; the RTS drum cell waste has been removed.

121. Some of my substantive scoping comments are not addressed in the Draft EIS. These must be addressed in the Final EIS.

122. As stated in my letters to DOE dated November 5, 1995, and April 3, 1996, false population

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- 110-49** The potential for Buttermilk Creek capture of Franks Creek is analyzed using the site-calibrated erosion model. The results of this analysis are presented in Appendix F, Section F.3.1.6.12, of this EIS. Please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.
- 110-50** The comment is not on the Revised Draft EIS, but on older correspondence between the commentor and DOE. This EIS uses the site-calibrated CHILD model for analysis of the consequences of steam bank stability, which is consistent with methods generally accepted by the scientific community involved in long-term geomorphological analysis. The method is also considered to be consistent with the requirements and spirit of NEPA.
- 110-51** It has been demonstrated that landscape evolution models such as CHILD are capable of capturing the effect of multiple individual erosion processes. The calibration effort demonstrates CHILD's ability to reproduce the major features associated with the geomorphology of Buttermilk Creek. While CHILD does not specifically handle the effects of earthquakes, the calibration approach captures the effect of previous earthquakes on site erosion over the calibration timeframe (approximately 17,000 years). The calibrated model is considered to be the appropriate tool for assessing long-term unmitigated erosion, including the effects of more severe storms on local erosion and the potential for stream capture. Please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue.
- 110-52** The basic requirement for this EIS is to develop estimates of the environmental consequences of the alternatives presented in the EIS. This EIS develops such estimates using methods that are generally accepted by the appropriate scientific communities. There are no requirements for the specific type of information listed in the comment, and the development of such specific estimates would require extensive speculation without improving the quality of the assessment of environmental consequences.
- 110-53** As stated in the response to the referenced comment, a well-calibrated landscape evolution model such as CHILD is capable of capturing the effect of multiple individual erosion processes.

The regulation cited in the comment applies to the selection of a new low-level radioactive waste disposal site. This EIS does not include the selection of a

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figures are being used for the Primary Impact Area in the Draft EIS. We do not think the Primary Impact Area is properly configured (see comment 115 above), but DOE should at least use a reasonably correct population figure for the area it chooses. Both the Erie County and the Cattaraugus County populations within the chosen area are wrong. The error is apparently due to a misunderstanding of political subdivisions in New York State. It must be corrected in the Final EIS.

123. On page 4-52 of the Draft EIS, the phrase "reserved for the Tuscarora Indians" is incorrect if it is intended to refer to the Tonawanda Reservation.

124. On page 4-52, the Draft EIS improperly calls the reservations "federal land."

125. On pages 5-130 and 5-131 (Figures 5-12 and 5-13), the Draft EIS points to the wrong location for the Oil Springs Reservation.

NEW COMMENTS ON 2008 DRAFT EIS (DOE/EIS-0226-D (Revised))

Legal sufficiency of the 2008 Draft EIS

126. The 2008 Draft EIS does not meet the requirements of applicable law.

127. Applicable law includes the National Environmental Policy Act (NEPA) and associated NEPA regulations which have the force of law, including the Council on Environmental Quality (CEQ) regulations at 40 CFR 1500 et seq. and DOE implementing regulations at 10 CFR 1021.

128. The main problem involves the manner in which DOE has replaced the 1996 Draft EIS with the 2008 Draft EIS. NEPA regulations allow for the possibility that an earlier Draft EIS may need to be supplemented or replaced, and they set forth a process for doing so. The general presumption, however, is that the earlier draft EIS is an official document which cannot just be swept under the rug; it serves as the point of departure for any supplement or replacement.

129. The NEPA regulations set forth processes by which a draft EIS can be either revised or supplemented. DOE, in issuing the 2008 Draft EIS, does not appear to have followed either process. Failure to follow the prescribed process may invalidate the document.

130. The NEPA process for a "revised" draft EIS is governed by 40 CFR 1502.9(a): "If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." In replacing the 1996 Draft EIS with the 2008 Draft EIS, DOE has not adhered to this process in two respects. First, DOE has never claimed or presented evidence that the 1996 Draft EIS "is so inadequate as to preclude meaningful analysis." As discussed below, it would be difficult for DOE to make such a case. Second, the type of revision allowed by 40 CFR 1502.9(a) is "a revised draft of the appropriate portion" (emphasis added). An agency should not presume to undertake a wholesale revision of a

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low-level radioactive waste disposal site. The decommissioning requirements for WNYNSC are guided by the License Termination Rule.

110-54 This comment, made on the 1996 *Cleanup and Closure Draft EIS*, does not apply to this EIS. The models used in the erosion analysis for this EIS, described in Appendix F, do predict the initiation and growth of gullies. These predictions are used in the environmental analysis.

110-55 This EIS develops unmitigated erosion predictions using analytical methods that are generally accepted by the scientific community involved in long-term erosion modeling. These models provide estimates of future gully initiation and growth and the results are used in the environmental analysis.

110-56 The code used for this EIS develops predictions of gully formation and growth for the unmitigated erosion scenario. These predictions are described in Appendix F and are used in the environmental analysis.

110-57 The unmitigated erosion analysis was conducted using methods that are generally acceptable to the scientific community involved with long-term erosion modeling. The analysis in this EIS is based on predictions from an erosion model that was calibrated using Monte Carlo methods. Appendix F has been revised.

110-58 The erosion analysis considers the effects of more intense storms that would result in higher stream flows and higher erosion rates. Please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue.

110-59 The calibration method used for the CHILD model implicitly includes the effects of seismic events that occurred during the calibration period. The effect is therefore captured in the erosion projections developed for and used in the *Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (Decommissioning and/or Long-Term Stewardship EIS)*.

110-60 DOE and NYSERDA acknowledge the comment. The long-term data used to calibrate the CHILD model is considered more useful for purposes of developing a scientifically defensible model that can be used to predict unmitigated erosion in the region of the North and South Plateaus.

110-61 The long-term analysis for the Waste Tank Farm does not take any credit for the steel of the tank or pan for the analysis where institutional controls are assumed

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draft EIS without good evidence that the entire document had been "so inadequate as to preclude meaningful analysis" – which was certainly not the case with the 1996 Draft EIS.

131. If DOE had intended to show that the 1996 Draft EIS was "so inadequate as to preclude meaningful analysis," it should have said so promptly and clearly. One obvious place to look would be DOE's *Federal Register* notices on the West Valley EIS process between 1996 and 2008, but these do not reveal any DOE claim that the 1996 Draft EIS was "so inadequate as to preclude meaningful analysis." On the contrary, in 66 *Federal Register* 56090 at 56092 (November 6, 2001), DOE indicates that it had "developed or modified a variety of analytical tools" specifically for the 1996 Draft EIS and that it "has continued to refine many of these analytical tools" and "intends to apply these improved analytical tools to the preparation of the Decommissioning and/or Long-Term Stewardship EIS." It would be difficult to interpret these words as a wholesale rejection of the 1996 Draft EIS or its analytical tools, or as a conclusion that either of these was "so inadequate as to preclude meaningful analysis." No such conclusion can be found, either in this *Federal Register* notice or in the later notice published on March 13, 2003. Both notices show DOE's rethinking of the 1996 Draft EIS as an evolutionary process, not as a rejection of its contents as "so inadequate as to preclude meaningful analysis."

132. The NEPA process for a "supplemental" draft EIS is governed generally by 40 CFR 1502.9(c) and specifically by 10 CFR 1021.314. As set forth in 10 CFR 1021.314:

- (a) DOE shall prepare a supplemental EIS if there are substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns, as discussed in 40 CFR 1502.9(c)(1).
- (b) DOE may supplement a draft EIS or final EIS at any time, to further the purposes of NEPA, in accordance with 40 CFR 1502.9(c)(2).
- (c) When it is unclear whether or not an EIS supplement is required, DOE shall prepare a Supplement Analysis.
 - (1) The Supplement Analysis shall discuss the circumstances that are pertinent to deciding whether to prepare a supplemental EIS, pursuant to 40 CFR 1502.9(c).
 - (2) The Supplement Analysis shall contain sufficient information for DOE to determine whether:
 - (i) An existing EIS should be supplemented;
 - (ii) A new EIS should be prepared; or
 - (iii) No further NEPA documentation is required.
 - (3) DOE shall make the determination and the related Supplement Analysis available to the public for information. Copies of the determination and Supplement Analysis shall be provided upon written request. DOE shall make copies available for inspection in the appropriate DOE public reading room(s) or other appropriate location(s) for a reasonable time.
- (d) DOE shall prepare, circulate, and file a supplement to a draft or final EIS in the same manner as any other draft and final EISs, except that scoping is optional for a supplement. If DOE decides to take action on a proposal covered by a supplemental EIS, DOE shall

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to fail after 100 years. The analysis assumes degraded properties for the concrete vault and the barrier wall. See Appendix H, Section H.2.2.1, of this EIS for a discussion of the degraded engineered barriers assumptions used in the long-term analysis.

- 110-62** Information on the condition of the backfill in the region of the Waste Tank Farm was obtained from the Draft Remedial Feasibility Investigation (RFI) and other sources and used in the long-term analysis. This analysis recognizes the degraded hydraulic properties of the backfill.
- 110-63** Information on the condition of the backfill in the region of the Waste Treatment Facility was used in the long-term analysis. This analysis recognizes the degraded hydraulic properties of the backfill.
- 110-64** The removal of the plume source area is one of the activities that would be undertaken as part of Phase 1 of the Phased Decisionmaking Alternative, the Preferred Alternative in this EIS, as well as the Sitewide Removal Alternative. Increased isolation of the plume source would occur under the Sitewide Close-In-Place Alternative.
- 110-65** The uncertainty regarding the NDA and SDA inventory estimates is recognized. Conservatism about inventory is one of the many elements of conservatism used in the environmental consequence analysis.
- 110-66** The inventory of the NDA was revised in 2000 (URS 2000), and this is considered the best reasonably conservative estimate for the NDA inventory. The uncertainty in this and other inventory estimates is acknowledged in this EIS.
- 110-67** A description of the conservatism associated with the transportation analysis is presented in Chapter 4, Section 4.3.2, and Appendix J, Section J.11, of this EIS. Conservatism is built into the analysis to account for uncertainties. Assumptions for the transportation analysis are applied to all alternatives so that a meaningful comparison among alternatives can be made.

Assumptions made for a particular type of analysis depend on the input data available and the parameters for that analysis. Where possible, assumptions are consistent among the different types of analyses. For example, both the transportation analysis and the human health and safety analysis for decommissioning activities assume no radiological decay.

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prepare a ROD in accordance with the provisions of § 1021.315 of this part.
(e) When applicable, DOE will incorporate an EIS supplement, or the determination and supporting Supplement Analysis made under paragraph (c) of this section, into any related formal administrative record on the action that is the subject of the EIS supplement or determination (40 CFR 1502.9(c)(3)).

133. The 2008 Draft EIS does not meet the requirements of 40 CFR 1502.9(c) and 10 CFR 1021.314 with respect to labeling or identification. If the 2008 Draft EIS is a supplemental draft EIS, it should be identified as such. It should not be labeled a "Revised" draft EIS. As described above, it does not qualify as a revised draft EIS.

134. The 2008 Draft EIS does not appear to meet the requirements of 40 CFR 1502.9(c) and 10 CFR 1021.314 with respect to procedure. The question involves the choice presented in §1021.314(c)(2) about *whether an existing EIS should be supplemented or a new EIS should be prepared*. Preparation of a new EIS is the more radical option and should presumably require justification beyond the fact that an agency didn't like the old EIS and wants to prepare a new one. In accordance with 10 CFR 1021.314(c), the justification would normally be found in a Supplement Analysis which would contain sufficient information for DOE to determine whether an existing EIS should be supplemented or a new EIS should be prepared – but DOE failed to prepare a Supplement Analysis in this case. Indeed, neither 40 CFR 1502.9(c) nor 10 CFR 1021.314 provides for preparation of a new EIS *except* within the Supplement Analysis procedures set forth in 10 CFR 1021.314(c). In this case, DOE has not provided either a Supplement Analysis or any other justification for wholesale replacement (as opposed to a supplement) of the 1996 Draft EIS.

135. In the event that DOE considers the 2008 Draft EIS to be properly issued as either a "revised" or "supplemental" Draft EIS, I request that DOE ask the Council on Environmental Quality to review the questions raised here and provide written confirmation that the 2008 Draft EIS is properly issued in accordance with the NEPA requirements for either a "revised" or "supplemental" Draft EIS.

136. In the event that DOE and CEQ agree that the NEPA requirements are sufficiently flexible to allow the 2008 Draft EIS to be properly issued at the present time as either a "revised" or "supplemental" Draft EIS, I ask both entities to confirm that DOE could, at the present time, make a binding commitment to provide formal NEPA procedures (Draft EIS, public comment period, etc.) for future Phase II decisionmaking without making that commitment contingent on a future Supplement Analysis.

137. An additional concern about the legal sufficiency of the 2008 Draft EIS and its preferred alternative of "phased decisionmaking" is the question of whether a *decision to defer major decisionmaking for a few decades* constitutes an action and/or a decision in the context of NEPA and its implementing regulations. This has important implications for the availability and timing of various steps that normally provide public participation within the NEPA process.

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For the transportation analysis, each type of radioactive waste assumed to be shipped is assigned an external dose rate based on its radiological characteristics, as described in Appendix J, Section J.5.1. All assumed dose rates are smaller than those allowed under existing transportation regulations and are considered appropriately conservative.

110-68 Please see the response to Comment no. 110-4 regarding comments on the 1996 *Cleanup and Closure Draft EIS*. This EIS presents information on the geohydrologic analyses (Appendix E of this EIS) and erosion studies (Appendix F) that are used in evaluating the long-term human health impacts in Appendix H. The scenarios in Appendix H include loss of institutional control and unmitigated erosion of the WNYNSC site.

110-69 This EIS includes analysis of dose to a postulated Seneca Nation of Indians receptor for the unmitigated erosion scenario. This information is part of the basis for the Environmental Justice analysis presented in this EIS. The doses calculated for the unmitigated erosion scenario are considered to be conservative. Major conservative factors also include the use of higher erosion rates, the assumption that all the released material is soluble, the assumption that no radionuclides are deposited in surface streams, the assumption that there is no water treatment, and the assumption that of any fish consumed by the receptor was raised in the same water used for drinking and irrigation. An expanded discussion of the basis for the belief that the long-term dose analyses are conservative is presented in Appendix H, Section H.2.2.1, of this EIS.

110-70 The comment addresses the 1996 *Cleanup and Closure Draft EIS*. Both the Revised Draft EIS and this Final EIS present doses to Lake Erie and Niagara River water users for the unmitigated erosion (erosional collapse) scenario. This Final EIS presents both individual and population doses; long-term dose impacts are summarized in Chapter 4, Table 4-23.

110-71 This EIS calculates the water consumption dose to 951,000 users from water treatment plants located downstream of Cattaraugus Creek at Sturgeon Point on Lake Erie and on the Niagara River. The analysis of the Sturgeon Point water users takes no credit for Lake Erie dilution of Cattaraugus Creek. Niagara River flow is used in dilution of the water intakes on the Niagara River. The dose analyses are considered to be conservative, as discussed in Appendix H, Section H.2.2.1, of this EIS.

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138. An additional question about the legal sufficiency of the 2008 Draft EIS and its preferred alternative of "phased decisionmaking" involves the adequacy of notice. The Notice of Intent for the 2008 Draft EIS (68 *Federal Register* 12044, March 13, 2003) lists five alternatives, none of which corresponds to or provides any hint of the "phased decisionmaking" which is now the preferred alternative in the 2008 Draft EIS. According to 40 CFR 1508.22(a) and 10 CFR 1021.311(a), the Notice of Intent must describe "the proposed action" and possible alternatives. The notice requirements do not appear to be met with any reasonable degree of specificity.

Geomorphology and erosion modeling

Documentation issues and overview of geomorphology/erosion issues

139. Human radiological exposures under loss-of-institutional-control conditions are *drastically different* in the 1996 Draft EIS and 2008 Draft EIS. In the absence of a Supplement Analysis prepared in accordance with 10 CFR 1021.314(c), and in the absence of any comparative presentation or discussion within the 2008 Draft EIS, most readers and reviewers of the 2008 Draft EIS have no basis for understanding the changes in procedures and assumptions that have drastically lowered the predicted doses. For example, for exposures from the high-level waste tank farm under the close-in-place alternative, the 1996 Draft EIS shows a future intruder dose of 89,000,000 mrem/yr, while the 2008 Draft EIS shows a future intruder/resident farmer dose of only 556 mrem/yr. See 1996 Draft EIS, Table D-11, page D-36; 2008 Draft EIS, Table 4-33, page 4-76. As other examples involving exposures to a Buttermilk Creek resident from burial-ground wastes released by erosion under the close-in-place alternative, the 1996 Draft EIS shows a future dose of 47,000 mrem/yr from the NDA and 280,000 mrem/yr from the SDA; the 2008 Draft EIS shows a future dose of only 342 mrem/yr from the NDA and only 87 mrem/yr from the SDA. See 1996 Draft EIS, Table D-14, page D-39; 2008 Draft EIS, Table 4-40, page 4-85.

140. These major differences in predicted dose illustrate why it would have been important for DOE to provide either a Supplement Analysis in accordance with 10 CFR 1021.314(c) or some level of comparative presentation and discussion in the 2008 Draft EIS. Without these, readers cannot readily determine whether the changes were justified, or whether the preparing agency just didn't like the old EIS and wanted to replace it with a new one. Readers can obtain some insight from NYSERDA's strong objections to certain aspects of the 2008 Draft EIS (see 2008 Draft EIS, pp. v-xxiii, including pp. viii-x on soil erosion issues, pp. xiv-xv on long-term performance assessment, and pp. xix-xx on waste tank farm issues).

141. With respect to both the predicted radiation doses and the underlying erosion prediction methods, the 2008 Draft EIS provides no meaningful presentation or discussion of the major differences between the 1996 Draft EIS and the 2008 Draft EIS. Although the issue is mentioned in one paragraph of the 2008 Draft EIS (bottom of page F-10), this paragraph misrepresents or misstates the main point at issue, thereby precluding any meaningful comparison of the 1996 and 2008 approaches. The main point at issue is the predicted rate of erosion and its effect on the West Valley site, as depicted in Figure L-2 (page L-12) of the 1996 Draft EIS and Figure F-20b

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110-72 The comment was submitted for the 1996 *Cleanup and Closure Draft EIS*. The analyses in this EIS have been extensively revised. Appendix H, Section H.2.2.1, discusses the basis for the selection of the parameters used in the impact analysis. Chapter 4, Section 4.3.5, presents a summary of the impacts of incomplete and unavailable information on the calculation of human health impacts resulting from long-term release and transport, as well as a discussion of the basis for considering that the calculation of impacts is conservative.

110-73 Comment noted; as stated, the drum cell waste has been removed from the site.

110-74 Chapter 1, Section 1.7.3, of the 2008 Revised Draft EIS presents a summary of the issues raised during the 2003 scoping process and how they were addressed in the development of this EIS.

110-75 The population sizes presented in the socioeconomic analysis are taken from the most up-to-date estimates for Cattaraugus and Erie Counties that were available from the Census Bureau at the time of publication. Potentially impacted populations presented in the environmental justice analysis and used as inputs to analyze the human health impacts due to radiological air emissions are calculated using data from the 2000 Decennial Census. The Decennial Census is the only data set produced by the Census Bureau that provides spatial resolution at the Block Group level, which is the smallest geography in which low-income data is disseminated, and is therefore the only data set that can be used to accurately calculate the distribution of the population within 80 kilometers (50 miles).

110-76 Comment noted; incorrect references to the status and location of Indian Reservations and Tribal names have been remedied in this EIS.

110-77 This comment questions the validity of the 2008 Revised Draft EIS on the grounds that the Council on Environmental Quality's NEPA regulations and DOE's NEPA Implementing Guidelines were not followed, specifically because the 2008 document is titled a Revised Draft rather than a Supplemental Draft, or that a Supplement Analysis was not prepared prior to preparing the 2008 Revised Draft EIS. DOE believes that this EIS satisfies the statute, regulations, and guidelines and fully informs both the public and decisionmakers.

The commentor cites regulatory language as support for his opinion that the 2008 Revised Draft EIS has circumvented the NEPA process. DOE disagrees and believes that the 2008 document was properly issued as a revised draft under the circumstances that occurred subsequent to the publication of the document and is

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(page F-55) of the 2008 Draft EIS. The erosion projection in Figure L-2 of the 1996 Draft EIS is explicitly based on analysis of the return intervals of storms of various magnitudes (see pages L-8 through L-12, including Tables L-1 and L-2), yet the 2008 Draft EIS makes the false or misleading claim that the surveyed-stream-profile method used in the 1996 Draft EIS “does not take into account the wider range of precipitation values that are likely to occur over the long term, and thus, it is not considered to be representative of long-term conditions.” (Pages F-10 to F-12.) As noted, this statement in the 2008 Draft EIS is false or misleading, and it effectively blocks any meaningful comparison of the 1996 and 2008 approaches.

142. Part of the aforementioned problem is the segmented treatment of the 1996 Draft EIS in the 2008 Draft EIS. The latter document fails or refuses to take seriously the logic of the 1996 Draft EIS; instead, it recites the various parts of the 1996 Draft EIS in isolation from one another. The reference in the 1996 Draft EIS to a downcutting rate of 0.6 meters per 10 years (which is criticized in the 2008 Draft EIS for failing to take into account the wider range of precipitation values likely to occur over the long term) is followed directly in the 1996 Draft EIS by the allegedly missing range-of-precipitation analysis. The 1996 Draft EIS provides this information in context (pages L-3 through L-12) while the 2008 Draft EIS takes it out of context (see separate portions on pages F-10 to F-12 and pages F-26 to F-28), thereby preventing any meaningful comparison of the 1996 and 2008 approaches.

143. The 2008 Draft EIS recognizes the importance of erosion issues at the site and points out, in general terms, how these issues must be addressed – but the EIS then fails to follow its own advice on how to address erosion issues. For example, the following statements from the 2008 Draft EIS show DOE’s recognition of the issue and the important questions that need to be addressed and resolved:

The three small stream channels (Erdman Brook, Quarry Creek, and Franks Creek) that drain the Project Premises and the SDA are being eroded by the stream channel downcutting and valley rim-widening processes. The streams appear to be incising rapidly, as suggested by convex-upward longitudinal profiles, steep V-shaped valley-side profiles, and the paucity of floodplains over a major portion of their length. The streams within the plateau areas flow over glacial till material that is highly erodible. As channel downcutting progresses, two specific mechanisms contribute to stream rim-widening. Streambanks are undercut, causing localized slope failures (i.e., slumps and landslides). This process commonly occurs at the outside of the meander loops and produces a widening of the stream valley rim. Even in locations where there is no bank undercutting, downcutting of the stream will produce a steeper creek bank that is subject to slumping. This second mechanism also produces widening of the floodplain.

Gully advance is the third type of erosion process that results from local runoff and reflects soil characteristics... (Page F-4.)

Glacial recession from the Lake Erie basin appears to be the ultimate cause of stream incision within the Cattaraugus valley and its tributaries. For purposes of erosion

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completely within the regulatory framework and intent of NEPA. The commentor also takes exception to the fact the 1996 *Cleanup and Closure Draft EIS* was never issued as a final EIS. The procedural history after the 1996 *Cleanup and Closure Draft EIS* is well documented, including the reasons for revising the 1996 *Cleanup and Closure Draft EIS*. There is no requirement that the 1996 *Cleanup and Closure Draft EIS* be completed, only that an EIS be completed and a Record of Decision be issued before a major Federal action significantly affecting the environment is implemented. The requirements of 40 CFR 1502.9(c) and 10 CFR 1021.314 that an EIS that is “so inadequate as to preclude meaningful analysis” must be reissued as a revised draft do not preclude issuing a revised draft for other reasons. Likewise, a Supplemental Analysis is not required prior to preparing a new or supplemental EIS. Rather, Supplement Analyses are used to assist in determining whether or not additional NEPA analysis is required when the need for a new document is in question, i.e., when it is possible that there is sufficient existing NEPA documentation for the action under consideration.

The purpose of an EIS under NEPA and its implementing regulations is to ensure that (1) Federal agencies consider the potential environmental impacts of proposed actions in their decisionmaking processes, (2) the potentially affected public has the opportunity to review and comment on those actions, and (3) the opinions of the public are also considered in preparing the EIS, and thus, by the decisionmakers. DOE has more than met its obligations under NEPA in both the letter and spirit of the law. DOE has been transparent in meeting its NEPA responsibilities for activities at WNYNSC, including ensuring timely notification of proposed NEPA documents and opportunities for public participation. In addition, an 18-member Citizen Task Force sponsored by both DOE and NYSERDA was formed in 1997 and has met regularly since 1998 to discuss issues regarding facility closure and long-term management, including future site use, long-term stewardship, and regulatory issues. Further, DOE holds quarterly public meetings to discuss activities at WNYNSC and progress on decommissioning of the site, including the NEPA process to further those activities.

Regardless of any disagreement over the title of the 2008 Revised Draft EIS, DOE has conducted the same level of analysis and provided the same opportunities for public involvement as would have been done if this EIS had been titled as a supplemental EIS. Chapter 1, Section 1.2, of this EIS describes the history of the its development, explaining how alternatives, analyses, regulations, and this EIS evolved over time and how the alternatives and analyses in the 1996 *Cleanup and Closure Draft EIS* were overtaken by these changing factors.

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evaluation, however, the key boundary condition is the elevation history in the reach of Cattaraugus Creek, for it provides the base level for the Buttermilk Creek catchment. To estimate this base-level history, it was necessary to answer the following questions: When did incision begin here? How fast did Cattaraugus Creek incise here? Has this rate varied through time, and if so, how? (Page F-32.)

...future climate may differ substantially from the present one. Climate has a direct or indirect control on all of the landscape-forming processes at the West Valley Site. Rainfall frequency and magnitude directly impact erosion and sediment transport by running water, and indirectly influence the nature of the vegetation.... Assessment of the potential impact of future climate change on erosion patterns would require the construction and analysis of scenarios with varying climate states. (Page F-59.)

[An important factor in calibrating erosion models based on postglacial landscape development is that]...climate in this portion of North America is known to have varied to some extent over the post-glacial period. (Pages F-59 to F-60.)

Unfortunately, the erosion models used in the 2008 Draft EIS either fail to address the above questions or address them in a substandard manner. Whether the computer models themselves are adequate remains to be determined; however, as discussed below in more detail, many of the assumptions used for calibrating and running the models are flawed. This is a classic case of "garbage in, garbage out" in computer-generated results.

144. Some of the main difficulties in the 2008 Draft EIS's treatment of erosion are: A) The question of whether any model or method is sufficiently reliable to predict future erosion during the next several centuries or millennia, such that a well-informed and protective decision could be made about future site integrity; B) the lack of any substantial or defensible analysis of the formation and headward advance of gullies, despite clear recognition that evolving gullies may breach waste containment; and C) miscalibration of the erosion model used in the 2008 Draft EIS and underlying calibration problems such as questionable logic and naive assumptions.

Miscalibration of the erosion model and underlying model calibration problems

145. The 1996 Draft EIS and 2008 Draft EIS employ substantially different modeling methods to predict future erosion. Despite this major difference, both documents *could* have used similar logic and similar data sets for model calibration – but this was not the case. Erosion modeling in the 1996 Draft EIS was primarily calibrated against recent longitudinal profile surveys of Franks Creek. This calibration had the advantage of direct measurement but the disadvantage of a short time period (10 years). Such a short time period might be a risky basis for extrapolating centuries or millennia into the future. Erosion modeling in the 2008 Draft EIS is based on a much longer time period (several thousand years of postglacial downcutting in the Buttermilk Creek watershed) but, unfortunately, it relies primarily on assumptions rather than data. As described below, many of these assumptions are naive or otherwise questionable. Where data is used in the calibration of the 2008 Draft EIS erosion model, its interpretation and application tend to be

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110-78 Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

110-79 DOE and NYSERDA believe that the Phased Decisionmaking Alternative meets the requirements of NEPA and SEQR. DOE and NYSERDA have prepared this single, comprehensive EIS for the decommissioning and long-term stewardship of WNYNSC. This EIS adequately analyzes the totality of environmental impacts, including costs, of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Close-In-Place, Phased Decisionmaking, and Sitewide Removal), as well as the No Action Alternative. While the Phased Decisionmaking Alternative would temporarily defer a final decision on the disposition of the Waste Tank Farm, the NDA, and the Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within the current EIS.

See the response to Comment no. 110-3 for DOE's and NYSERDA's response about public participation during Phase 1 implementation.

110-80 The Notice of Intent for the 2008 Revised Draft EIS described the proposed action and the alternatives that were under consideration at that time. The alternatives did change after the issuance of the Notice of Intent. Chapter 1, Section 1.2, of this EIS describes the development of the alternatives analyzed in this EIS. A Core Team composed of the co-lead and cooperating agencies was established to address various technical issues with the analyses and the alternatives to be addressed. The 2008 Revised Draft EIS reflects the results of discussions with the Core Team

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highly dependent on the questionable assumptions discussed below.

146. Both the 1996 and 2008 methods of model calibration are logical and potentially useful, at least in theory. Indeed, if carried out properly, the two calibration methods should agree with each other within some margin of error, and the error bounds of each method should be reasonably comprehensible, perhaps even predictable. Additional studies conducted between Phase I and Phase II of phased decisionmaking should include a *defensible demonstration that the two calibration methods yield compatible results*, and these results should then be presented in supplemental NEPA documentation (e.g., Draft EIS) for future Phase II decisionmaking.

147. If it cannot be shown that the two calibration methods yield compatible results, then DOE should conclude that no model or method is sufficiently reliable to predict future erosion during the next several centuries or millennia, and that no well-informed or protective decision could be made about future site integrity based on currently available modeling methods.

148. With respect to the aforementioned disadvantage of the erosion-modeling calibration method of the 1996 Draft EIS (its short 10-year time period), it should be noted that this disadvantage is gradually being reduced as time goes on. The 10-year time period involved a comparison of longitudinal profile surveys of Franks Creek done in 1980 and 1990. An additional longitudinal profile survey done this year would extend the time period to 29 years. If such a survey were done in 2015 to support supplemental NEPA documentation for future Phase II decisionmaking, then this calibration method would have the benefit of a 35-year comparison. A period of 35 years, while still short relative to future centuries and millennia, is better than 10 years for the aforementioned purposes of demonstrating/determining that different calibration methods yield compatible results.

149. DOE and NYSERDA need to guard against loss or destruction of the 1980 and 1990 longitudinal profile survey data for Franks Creek and associated erosion-rate and sediment-loading data. Such data is needed to perform a longer-term, more robust longitudinal profile comparison such as the 35-year comparison outlined above. I am concerned, based on an inspection of that data at a meeting that I and others arranged and attended on July 11, 2005, that DOE and NYSERDA may be at risk of losing that data through neglect. At that meeting, we asked to see the data and also inquired about the monuments to which the 1980 and 1990 surveys are tied. Such monuments must be preserved for future reference, but we were unable to learn anything about monuments for the 1990 survey, nor could we determine whether a field log book was kept for that survey. Data and reference points for the 1980 survey appear to be somewhat better documented; they were published by Boothroyd, Timson, and Dumne in NUREG/CR-2862, *Geomorphic Processes and Evolution of Buttermilk Valley and Selected Tributaries, West Valley, New York*, 1982. For the 1990 data, we inspected about 5 pages of elevation readings for "Franks Creek, West Valley, 8-2-90," taken at survey points numbered 1305 through 6096, and we also looked at a box (#8019) of Isco 2310 flow-recorder strip-chart rolls from 1990-1993 that apparently showed flow plotted against suspended sediment. This and any other data and monuments associated with the 1980 and 1990 surveys need to be preserved. While DOE appears to be the primary custodian of the data and may also control some or all of the survey

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regarding the alternatives to be analyzed, the nature of the analysis, and the nature of the Preferred Alternative (the Phased Decisionmaking Alternative).

110-81 There are multiple reasons for differences in the long-term dose estimates. The major changes are improved inventory estimates, improved hydrologic and erosion models, and changes in the closure designs.

110-82 See the response to Comment no. 110-81. Changes made between the Draft and Final EIS in response to new information or comments, including those related to NYSERDA's View, are summarized in Chapter 1, Section 1.8, of this EIS.

110-83 The purpose of this EIS is to present estimates of environmental consequences of the alternatives based on currently available information and analytical models. The information at the bottom of page F-10 of the 2008 Revised Draft EIS was not intended to refer to the 1996 *Cleanup and Closure Draft EIS* analysis. The particular section was presenting information on historical site-specific studies. The fact that this information was used in the 1996 *Cleanup and Closure Draft EIS* erosion analysis is coincidental.

The major difference between the 1996 *Cleanup and Closure Draft EIS* erosion analysis and the erosion analysis presented in this EIS is the erosion model. The 1996 erosion analysis used a constant channel downcutting rate and a constant channel slope. The 1996 analysis did not include the effects of gully formation and growth, but the approach was considered to give a conservative estimate of erosion consequences. The erosion analysis presented in this EIS uses a landscape evolution model that does predict the formation and growth of gullies.

The commentor appears to have misread the discussion in the Revised Draft EIS, Appendix F, pages F-10 through F-12. The text says that the profile measurements taken in 1980 and again in 1990 do not reflect a rate that would apply over a longer period of time. The text was not making any statement about the erosion analysis in the 1996 *Cleanup and Closure Draft EIS*.

110-84 The discussion of erosion analysis in this EIS refers to some of the same data used in the 1996 *Cleanup and Closure Draft EIS*, but is not referring to the 1996 erosion analysis.

110-85 The model used for the erosion analysis is capable of capturing the combined effects of multiple individual erosion processes. The calibration of the model used the best available long-term data. Overall, the approach to long-term erosion analysis,

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monuments to which the longitudinal profiles are referenced, NYSERDA needs to share the responsibility for the preservation of this important baseline data. The data is crucial to any assessment of long-term site integrity.

150. As an alternative to the short-term calibration method used in the 1996 Draft EIS (based on longitudinal profile surveys of Franks Creek), the 2008 Draft EIS uses a Water Erosion Prediction Project (WEPP) method to predict sediment yield and associated downcutting rates at the West Valley site. WEPP is generally recognized as a versatile, physically based, distributed-parameter, continuous-simulation erosion model that can be applied to both hillslopes and channels. As presented in the 2008 Draft EIS (pages F-20 through F-26), the WEPP modeling shows a relatively small *average* elevation change of 408 mm per 1000 years associated with its predicted annual soil loss and sediment yield (6.1 MT/hectare, as shown in Table F-13). However, since soil loss and sediment yield at the West Valley site are concentrated mainly in the stream channels, the elevation change within channels is much greater than the average sitewide elevation change. Consistent with this general truth, the 2008 Draft EIS reported (page F-23) that “WEPP predicts that the average annual sediment yield of the watershed through creek channels is approximately 22,317 metric tons (24,600 tons) per year, equivalent to an average downcutting rate of 98,000 millimeters (320 feet) per 1,000 years.” This average downcutting rate of 320 feet per 1000 years is orders of magnitude greater than the rate predicted by the CHILDE erosion model on which DOE relies in the 2008 Draft EIS, implying a severe mutual miscalibration between WEPP and CHILDE. Despite the generally good reputation of WEPP as a modeling tool, the 2008 Draft EIS rejects the WEPP downcutting rate of 320 feet per 1000 years and favors the minimally erosive results of the CHILDE model. The 2008 Draft EIS neither addresses nor resolves this major discrepancy between the model predictions; it simply dismisses short-term models such as WEPP by stating that “they are not generally used for long-term projections.”

151. While I recognize the risk of extrapolating short-term model results for purposes of long-term projections, I also recognize the need for long-term models to be properly and defensibly calibrated. A long-term erosion model such as CHILDE *cannot be considered properly calibrated* unless it can be run for relatively short periods (e.g., 10 years or 35 years) and can generate results compatible with either *short-term downcutting* of the type and magnitude observed in the Franks Creek longitudinal profile surveys or *short-term modeling results* such as WEPP’s prediction of 320 feet average channel downcutting per 1000 years. No credibility can be given to a long-term erosion model that dismisses any link to reality.

Questionable assumptions on which erosion model calibration is based

152. The calibration of DOE’s erosion model is based on questionable assumptions in at least three areas: Reliance on optically stimulated luminescence (OSL) for dating sediment samples, failure to address and resolve the base-level history of the Buttermilk Creek watershed (particularly in relation to the incision of the Zoar Valley gorge), and failure to address and resolve issues of climate variability and associated erosional power of runoff and creek flow during both the postglacial period (last several thousand years) and the period covered by erosion modeling (next several thousand years).

**110-91
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110-86 The erosion model uses an approach that is generally acceptable to the scientific community involved with long-term erosion analysis, as required by NEPA and SEQR.

The analytical method, including the refined analysis presented in this Final EIS, predicts gully advance. The long-term analysis predicts a gully advance rate that is consistent with measurements made at the site.

The site-specific calibration of the CHILDE model uses available long-term data while recognizing the uncertainty in the data. Please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue.

110-92

110-87 The commentor is correct in observing that the 1996 *Cleanup and Closure Draft EIS* erosion analysis and the erosion analysis in this EIS utilize substantially different methods. The 2008 analysis utilized long-term data (optically stimulated luminescence [OSL] measurements) that were not available for the 1996 analysis.

110-93

110-88 The 1996 *Cleanup and Closure Draft EIS* erosion analysis and the current erosion analysis are very different, use fundamentally different mathematical concepts, and take very different approaches to model calibration. The nature of the predictions is so fundamentally different (the 1996 model was incapable of predicting gully formation and growth, while the current landscape evolution models have this capability) that comparisons are not meaningful.

110-94

110-89 The two different erosion models are fundamentally different. There is no reason to conclude that the two models do not yield comparable results, so no model is adequate for this analysis.

110-90 A calibration based on topography changes over a few decades (regardless of whether or not it involves changes over 10 years or 30 years) is clearly weaker than a calibration based on topography changes over thousands of years.

110-91 DOE and NYSERDA note the commentor’s suggestion.

including the calibration of the selected model, is consistent with methods generally accepted by the scientific community involved in long-term erosion analysis. Please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue.

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153. DOE creates a calibration error of unknown magnitude by using OSL dating instead of radiocarbon dating (radiocarbon dating is also called carbon-14 or C-14 dating), and by conducting OSL dating without adequately controlling for factors that affect the dose rate D_R . Such factors include the moisture content of soil/sediment during the past several thousand years and, more recently, possible gamma-ray contributions associated with the West Valley site, attributable to such sources as airborne contamination, waterborne contamination, and skyshine from onsite sources. Under these circumstances, the assumed dose rate D_R may be in error, and OSL dating cannot be assumed to be reliable. The accuracy and reliability of OSL dating for West-Valley-area samples need to be treated as unknown until verified.

154. The OSL methods used at the West Valley site, as described in Appendix F of the 2008 Draft EIS, do not address and resolve important uncertainties and limitations associated with OSL dating. For general background and guidance on OSL dating, see the U.S. Geological Survey (USGS) website, http://crystal.usgs.gov/laboratories/luminescence_dating/.

155. OSL is a test performed on mineral grains collected from sediment; its purpose is to infer the length of time since the sediments were deposited and/or exposed to direct sunlight. OSL works on the same general principle as the thermoluminescent dosimeters (TLDs) worn by nuclear workers to measure radiation dose. The principle, in either case, is the time-dependent accumulation of radiation damage in minerals. In TLD applications, the radiation dose is generally not constant as a worker moves between low-exposure and higher-exposure tasks; the TLD simply accumulates the dose. However, in OSL applications, it is usually necessary to assume that a mineral grain in sediment is exposed to a dose rate D_R which remains constant over time. This assumption may not be valid here, as discussed below.

156. The dose rate D_R is one of two variables needed in the OSL dating equation to determine the age of a sample collected from sediment:

$$\text{Age (Ka)} = D_R (\text{Gy}) / D_e (\text{Gy/Ka})$$

In this equation, age means the length of time since the sediments were deposited and/or exposed to direct sunlight, and D_e is obtained in the lab by stimulating the sample and measuring the resulting luminescence. D_R , or least the gamma component of D_R , is best measured in the field. As recommended by USGS, "It is most desirable to measure the gamma dose-rate on-site. This is so that if there is any doubt about uniformity of radioactivity within the 30-cm sphere of influence of the surrounding sample, the readings will show such variations..." For a typical mineral grain in sediment, the dose rate D_R is assumed to be from a combination of two essentially constant sources: cosmic rays and naturally occurring radiation emitted from rock fragments in the sediment (e.g., fragments of potassium-bearing or uranium-bearing rock). This crucial assumption omits the additional contribution of gamma radiation that may be encountered at or near a nuclear site. Such gamma radiation (emitted by airborne contamination or waterborne contamination, for example, or scattered earthward as skyshine from onsite sources) will be attenuated but not eliminated by intervening sediments and soil moisture. At or near the West Valley site, the magnitude of such gamma radiation has varied greatly and may be hard to

110-95

- 110-92** While Appendix F of this EIS does report previous Water Erosion Prediction Project studies, these are not used for the calibration of the landscape erosion models in the 2008 Revised Draft EIS. The revised Appendix F presents a more sophisticated erosion model calibration and analysis. Available measurements or studies that are helpful in judging the reasonableness of the CHILD predictions are now presented in Appendix F, Section F.3.2.
- 110-93** Appendix F, which presents a refined model calibration and erosion analysis, has been revised in this Final EIS to present a clearer comparison of erosion prediction to short-term measurements and short-term predictions developed by other methods. Please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue.
- 110-94** The OSL data is the best information available for model calibration of a site-specific long-term erosion model. It is important that the calibrated model reproduces Buttermilk Creek erosion history to the extent it is understood, but it is not necessary to address incision of Zoar Valley gorge because that is outside the study area. The variability of climate change is clearly acknowledged as a potential source of uncertainty. Overall, the approach to long-term erosion analysis, including the calibration of the selected model, is consistent with methods generally accepted by the scientific community involved in long-term erosion analysis.
- 110-95** It is recognized that there is uncertainty in the calibration of the CHILD model due to limited information about long-term storm patterns and the history of the Buttermilk Creek topography. This uncertainty is acknowledged in Appendix F, Section 3.1.3. The uncertainty would be greater if the single carbon-14 measurement was used for calibration. All dating methods have advantages and disadvantages. The OSL data are considered to be the best data available to support the calibration effort. Two advantages of the OSL method over radiocarbon are that (1) it directly dates the sediment, rather than possibly reworked material contained within it, and (2) sample material is normally far more abundant. These issues are now briefly discussed in this Final EIS, where it is also noted that a number of studies have shown good agreement between OSL and other dating methods. Overall, the approach to long-term erosion analysis, including the calibration of the selected model, is consistent with methods generally accepted by the scientific community involved in long-term erosion analysis.

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reconstruct, especially since the levels of airborne contamination and waterborne contamination – and presumably skyshine as well – were much higher during the reprocessing campaigns of 1966-1972 than now. As an additional issue, the dose rate D_R is known to be affected by soil/sediment moisture during the intended dating period (e.g., the past several thousand years at the West Valley site). As noted by USGS, soil/sediment moisture “more or less attenuates the D_R and can significantly change the radiation a sample may have absorbed.” The USGS guidance also suggests that, “A reasonable estimate is made of the moisture content through geologic time with the understanding that this estimate carries a large uncertainty.”

157. Part of the uncertainty in estimating soil/sediment moisture at the West Valley site during the past several thousand years involves the likely fluctuations in climate during that period, as discussed below in comments 166-168.

158. DOE creates a calibration error of unknown magnitude by using OSL dating instead of C-14 dating, and by assuming that the OSL dates represent dates of sediment deposition. In fact, due to the well-known problem of bleaching or “resetting the luminescence clock,” OSL dates may have little or no relationship to sediment deposition – and may therefore be useless for calibrating the erosion model based on stream downcutting rates. This problem is described, for example, by S.A. Mahan, “Informal Memo from USGS Luminescence Dating lab, March 15, 2007; Report to Sandi Doty and Greg Tucker on Buttermilk Creek watershed, West Valley, NY (DOE waste disposal site).” As stated in Appendix A of Mahan’s memo:

If the mineral grains were transported at night, in turbid fluvial conditions or in those deposits generally considered to be deposited in massive, sudden discharge events (i.e. debris flows, colluvium, etc.) however, luminescence dating may produce depositional ages that are too old because the luminescence clock was not reset to “zero” just prior to burial....

The accuracy of OSL ages is primarily dependent on the intensity and duration of the sediment grains’ exposure to sunlight during transport, often referred to as “resetting” or “bleaching”. Traditionally, sediments deposited from fluvial systems have been among the most challenging to date using OSL methods because the grains were not fully bleached prior to burial. Bleaching problems arise from the light filtering effects of water, particularly water turbid with high suspended-sediment concentrations, and from transport at night....

Indeed, Mahan’s own memo raises the possibility that the OSL dates for the samples she analyzed from the Buttermilk Creek watershed may have been unrelated to stream downcutting (and may instead represent some earlier event?). In her memo, Mahan noted that the sample dates show a “remarkably limited age range” between about 15,000 and 17,000 years (with one outlier at 21,000 years), and she specifically wondered whether “the sample ages seem[ed] too old in the context of your sampling program...”

159. Given all these complications, it is questionable whether OSL dating has any useful role in

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110-96 Please see the responses to Comment nos. 110-101 and 110-102.

110-97 Please see the response to Comment no. 110-95 above. The potential for partial bleaching is discussed in this Final EIS and accounted for in the calibration procedure.

110-98 Please see the response to Comment no. 110-95 above. Additional sampling is not planned at this time. The commentor seems to be unaware of a fundamental limitation of the radiocarbon method: only sediment layers that happen to contain appropriate carbon-bearing material can be dated.

110-97

110-98

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erosion analyses and modeling at the West Valley site. In the event that OSL dating is pursued, its validity and accuracy need to be demonstrated. C-14 dating (corrected by standard methods) should be the reference method against which any OSL dating is proven. Specifically, a primary set of onsite samples would need to be collected as split samples, one set of which would undergo C-14 dating while the other set underwent OSL dating. The results would show the calibration of OSL dates relative to corrected C-14 dates and would also provide a variance or standard deviation or other measure of correlation.

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160. The presence of a nearby nuclear site may potentially affect both OSL dating and C-14 dating; however, there are important differences in the causal mechanisms. For a sample that will undergo C-14 dating, a potential concern is that a sample collected near a nuclear site may be contaminated by carbon isotopes that leaked from the site by air or water pathways. In general, there are independent methods (e.g., testing adjacent soil) to assess whether carbon isotope contamination is an issue in the vicinity of the sample. Furthermore, there may be ways to judge whether such contamination was physically able to penetrate a sample collected for C-14 dating. However, for a sample that will undergo OSL dating, the concern is different. For OSL dating, the concern is that a sample collected near a nuclear site may have been exposed to gamma radiation emitted by radionuclides that were released from the stack or leaked from the site (by either air or water pathways), or exposed to backscattered gamma radiation from onsite sources. Such exposure will affect OSL readings, but there is generally no independent or equally sensitive way to reconstruct the past gamma exposure from leaks, releases, and skyshine at any given sample-collection location. Thus, C-14 dating (corrected by standard methods) remains the accepted procedure against which West-Valley-area OSL dating needs to be correlated.

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161. DOE creates a calibration error of unknown magnitude (perhaps a factor of four or five?) by not adequately addressing the base-level history of the Buttermilk Creek watershed. The essential question is *when the Zoar Valley gorge was opened* as a channel through which water could flow westward toward Gowanda from the mouth of Buttermilk Creek. At some point in geologic time, this gorge was cut to a depth of up to 400' through predominantly shale bedrock by flowing water – but when, and how long did it take? The Niagara gorge between Niagara Falls and Lewiston provides a good analogy; it is roughly the same length (about six miles) as the Zoar Valley gorge between Zoar Bridge and Point Peter. Both are steep-sided gorges whose sharply defined upper edges imply either a postglacial origin or some type of protection from glacial plucking and rounding. Both gorges are roughly the same depth and same width (the Niagara gorge, roughly 1000' across, is slightly wider). The volume of rock removed from each of these gorges could be determined more accurately by applying cut-and-fill algorithms from readily available contouring or engineering software to digital elevation models (DEMs) of both gorges – but the main point is that roughly similar volumes of rock were removed from both gorges. Most of the volume, in both cases, was shale. There are some differences between the two gorges in terms of durability of caprock and some of the lower beds, yet the erosive effort needed to carve out these two gorges should be considered roughly equal unless engineering calculations show otherwise. To date, much interest and attention have been given to the incision of the Niagara gorge, but little attention has been given to the formation and timing of the Zoar Valley gorge. This lack of attention to the Zoar Valley gorge needs to be remedied in order to understand the base-level

110-99

110-99 The uncertainty associated with the base-level history of the Buttermilk Creek watershed is acknowledged in the 2008 Revised Draft EIS. In this Final EIS, this issue is addressed using a probabilistic approach to model calibration and forward projections with a wide range of possible incision start dates (15,240 to 18,300 years), as well as a wide range of dates for the channel incision to reach an intermediate terrace elevation (7,050 to 17,040 years) to account for lack of understanding of perturbations in the incision history. This EIS also explains that the critical base level for Buttermilk Creek is not Zoar Valley Gorge, but rather, the outlet of Buttermilk Creek itself. The base-level history of this location is constrained by terrace dating.

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history of the Buttermilk Creek watershed.

162. The crucial issue of needing to understand the base-level history of the Buttermilk Creek watershed in relation to the Zoar Valley gorge was outlined in my January 15, 2008, memo entitled *Issues the Core Team Needs to Address* (attached to these comments as Appendix E; available online at www.westvalleyctf.org/2008_Materials/2008-01-Materials/Core_Team_Issues-Vaughan_with_Appendices.pdf). In that memo, see especially the discussion that begins with the sentence, "Even without the added complication of differential uplift, the sequence of postglacial base levels for the drainage areas that we now identify as Cattaraugus, Buttermilk, and Franks Creeks is complex." As discussed there, the basic issue is that today's Buttermilk Creek watershed was submerged under the glacial meltwater of "Lake Cattaraugus" for some period of time (but how long?) after glacial retreat began, and, even while "Lake Cattaraugus" was lowered in episodic stages as various ice-dammed escape routes opened up, its level could not fall below about 1200' elevation as long as it was rock-dammed by the "Zoar Valley" bedrock into which the modern gorge had not yet been cut. Under these conditions, most of today's Buttermilk Creek watershed would be upland areas that drained into "Lake Cattaraugus," but the lake's 1200' elevation would remain the base level for Buttermilk Creek for some period of time (but how long?) until the lake level fell due to drainage through the evolving Zoar Valley gorge.

163. The convex-upward longitudinal profile of Franks Creek, and the inability of DOE's erosion model to match this profile (see 2008 Draft EIS, Figure F-16 on page F-50 of Appendix F), may potentially be related to a prolonged Zoar Valley incision process. In the event that the 1200' elevation of "Lake Cattaraugus" remained the base level for Buttermilk Creek for a substantial portion of the postglacial period, then fell relatively slowly and recently due to drainage through the evolving Zoar Valley gorge, this would tend to produce a convex-upward profile of the type observed in Franks Creek. In such an event, the convex-upward "bulge" could be viewed both as a remnant of an earlier concave-upward profile achieved in response to a 1200' base level and as a "knickpoint" which is slowly migrating upstream in response to the now-lowered base level. Such a hypothesis may not be workable with respect to the erosive power needed for downcutting, and in any case cannot simply be assumed, but it points to the need for a definitive answer to the base-level history question.

164. As outlined above and in my memo dated January 15, 2008, the questions of when the Zoar Valley gorge was incised, and how long it took, are crucial to the sequence of assumed base levels and resulting stream gradients, erosive power, and downcutting history of Buttermilk Creek and its tributaries. Despite its importance, this issue has not been given any meaningful consideration in the 2008 Draft EIS. The 2008 Draft EIS assumes, without any serious attention to proof or geologic plausibility, that the incision of Zoar Valley was a postglacial process (see Appendix F, page F-5: "It is hypothesized that incision of the Zoar Valley and the valley fills upstream of it was triggered by baselevel lowering as the ice margin retreated north from the Gowanda area."). The portion of Appendix F entitled "Boundary Conditions: Base-Level History" (pages F-32 through F-34) discusses the issue almost entirely in terms of OSL dating and identifies an additional unconfirmed assumption beyond those described in these comments. The most relevant part of DOE's "Boundary Conditions: Base-Level History" discussion in Appendix F is its last

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110-100 The OSL dates on fluvial terraces provide the best available evidence for the incision and base-level history of Buttermilk Creek and its tributaries. These data indicate that incision began in the post-glacial period.

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paragraph on page F-34: "Uncertainty in the derived base level history reflects uncertainty in the dating. Reducing this uncertainty would require additional identification and dating of strath terraces in the vicinity of the Buttermilk-Cattaraugus confluence. This would produce a larger sample size, yield a greater likelihood of identifying well-bleached (and therefore more reliable) samples, and (if additional terrace levels could be identified) increase the time resolution in the base-level reconstruction." Except for its reliance on OSL dating (as indicated by the reference to "well-bleached" samples), this paragraph describes an obvious direction for further study. Identification and C-14 dating of terraces are needed not only in the vicinity of the Buttermilk-Cattaraugus confluence but downstream along Cattaraugus Creek as far as Point Peter. The scientific/technical effort needed for such additional study is justified by the magnitude of the decision at hand (whether nuclear wastes can be left safely at the erosion-prone West Valley site or whether they must be removed). An ill-informed decision will put Western New York and the Great Lakes at risk of substantial radioactive contamination.

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165. Part of the difficulty in explaining the incision of the Zoar Valley gorge through shale bedrock is the relatively small flow of water available to cut the gorge. The current flow rate through the Zoar Valley gorge is the flow rate of Cattaraugus Creek, which is about 200 times smaller than the flow of the Niagara River through the Niagara gorge. This difference is easily explained – it reflects the fact that the upper Cattaraugus Creek drainage basin above Zoar Valley is much smaller than the upper Great Lakes drainage basin above the Niagara gorge – but it helps illustrate the difficulty of incising the Zoar Valley gorge during the same postglacial time period in which the Niagara gorge was incised. More important than the modern flow rate is the much larger flow rate of glacial meltwater thousands of years ago, but here again it appears difficult for flow through the evolving Zoar Valley gorge to match the flow through the evolving Niagara channel. Based on current understanding, the differences in the meltwater-drainage areas for the two different gorges imply a much larger flow through the Niagara. Yet despite the difficulty of carving the Zoar Valley gorge, the end result is evident. We know that at some point in geologic time, the gorge was cut to a depth of up to 400' through predominantly shale bedrock by flowing water – but when, and how long did it take? These questions must be answered by further study. The possibility that the gorge was incised prior to the most recent glaciation cannot be ruled out but cannot simply be assumed; it would need to be demonstrated by compelling evidence, including clear indications of how the sharply defined upper gorge walls survived plucking and rounding by the most recent glaciation.

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166. DOE creates a calibration error of unknown magnitude by assuming essentially uniform paleoclimate conditions (see Appendix F of 2008 Draft EIS, bottom of page F-59), resulting in an assumption of essentially uniform erosional power of runoff and creek flow from century to century, during the past several thousand postglacial years. In the immediate postglacial period and/or the transitional period from the last glacial retreat into postglacial conditions, enormous flows of glacial meltwater may have been needed, as discussed above, to incise the Zoar Valley gorge through shale bedrock and/or to clear older glacial deposits from a preexisting gorge. The new point at issue is what happened next, from the end of major meltwater flow until now. During the past several thousand years, were rates of water flow in the Buttermilk and Cattaraugus watersheds essentially uniform from one century to the next – or, alternatively, were

110-101

110-101 The uncertainty associated with assuming uniform paleoclimate conditions was acknowledged in the Revised Draft EIS and is discussed in Appendix F, Section F.3.1.3, of this Final EIS. To address this concern, a "wet" scenario was specifically designed to represent conditions in which the future climate could become wetter by increasing the mean precipitation intensity to twice the modern value (2.9 millimeter per hour) while reducing the soil infiltration capacity to the minimum value in the calibration parameter range (0.436 millimeter per hour) to simulate increased runoff. This "wet" scenario is used to address uncertainties in both past climate (in particular, the possibility that the past climate was less erosive than the present) and future climate. The results of this scenario are presented in Appendix F.

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there substantial long-term climate variations that caused major variations in water flow and erosion? DOE's method of calibrating the West Valley erosion model assumes essentially uniform flows, but much evidence shows otherwise. As discussed below in more detail, the evidence implies that the valleys and ravines seen today in the Buttermilk Creek watershed were eroded in a substantially shorter time than DOE assumes (in other words, the model is miscalibrated). The evidence implies that water flows were too low, and the erosive power of the flowing water was too small, to accomplish any substantial erosion during much of the past several thousand years. Thus, as noted, the erosion needed to produce today's valleys and ravines must have been compressed into a much shorter time span than DOE assumes.

167. DOE creates a calibration error of unknown magnitude by assuming that paleoclimate conditions were the same as today's climate. (See Appendix F of 2008 Draft EIS, pages F-59 to F-60.) This assumption is contradicted by many available sources, including those identified in my January 15, 2008, memo entitled *Issues the Core Team Needs to Address* (attached to these comments as Appendix E). The two sources cited in my memo were A.J. Noren et al., "Millennial-scale Storminess Variability in the Northeastern United States during the Holocene Epoch," *Nature* **419**, 821-824 (2002) and T.L. Holcombe et al., "Revised Lake Erie Postglacial Lake Level History Based on New Detailed Bathymetry," *Journal of Great Lakes Research* **29**, 681-704 (2003). Based on sediments deposited in lakes in Vermont and eastern New York, Noren et al. identified four periods of intense storminess that occurred about 11,900, 9,100, 5,800, and 2,600 years ago. Interspersed between the second and third of these storm periods was the middle Holocene climatic optimum (9,000 to 6,000 years ago), during which "warmer temperatures and greater aridity" characterized the climate of the Lake Erie region, according to Holcombe et al.

168. In addition to the sources cited in my January 2008 memo, there are *many other* relevant sources that need to be consulted by the authors of the 2008 Draft EIS with respect to regional and local paleoclimate and its effect on erosion model calibration. Three examples are T. Curtin et al., "Holocene and 'Anthropocene' Climate and Environmental Change in the Finger Lakes, NY," 19th Annual Keck Symposium, 2006 (<http://keck.wooster.edu/publications>); C.F.M. Lewis et al., "Water Levels in the Great Lakes: A Cross-border Problem" (http://sst.mcan.gc.ca/ercc-rrcc/theme1/t9_c.php); and H.T. Mullins, "Holocene lake level and climate change inferred from marl stratigraphy of the Cayuga Lake basin," *Journal of Sedimentary Research* **68**, 569-578 (1998). According to Mullins' abstract:

A series of 12 radiocarbon-dated sediment cores (up to 15 m long) were used to define the Holocene stratigraphy beneath the Cayuga Lake basin in central New York State in order to evaluate the stability of Holocene climate in the northeastern United States. These cores contain an abundance of thick lacustrine marls (> 30% CaCO₃) that were used to reconstruct century-to-millennium-scale changes in lake levels and, thus, paleoclimates. The oldest sediments recovered (> 11.2 ka) consist of pink, proglacial clays that were deposited in Glacial Lake Iroquois between approximately 12.5 and 11.3 ka. Lacustrine sediment (non-marl) of Killarney-Younger Dryas age (11.2-10.3 ka) was recovered both north and south of modern Cayuga Lake, indicating relatively high lake levels during this

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110-102 Please see the response to Comment no. 110-101 above. In brief, the lack of an established, reliable method for deriving quantitative hydrologic parameters from paleoclimate proxy information means that estimating such parameters from paleoclimate proxies would not reduce analytical uncertainty, while it would have the disadvantage of increasing analytical complexity. The "wet" scenario described in the above response was analyzed to address this concern.

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well-known cold-climate phase. Following a brief (< 500 years) warm period immediately following the Younger Dryas, a relatively cool and dry climate persisted in the Finger Lakes region between < 9.8 and 8.5 ka correlative with global meltwater pulse 1B. The Holocene Hypsithermal period (approximately 9-4 ka) in the Cayuga Lake basin was characterized by widespread deposition of marl that locally contains as much as 90% CaCO₃. These marls document a broad, first-order warming-cooling trend throughout the Hypsithermal, with the climatic optimum at approximately 7 ka. This long-term trend is consistent with insolation data as well as ice-core records from Greenland, and likely was a response to Milankovitch orbital forcing. Lake levels throughout the Finger Lakes region were relatively high during the Holocene Hypsithermal, implying an overall warm and wet climate in contrast to the traditional view of mid-Holocene drought. However, Hypsithermal climate and lake levels in the Finger Lakes region were not stable; rather they were characterized by significant century-to-millennium-scale variability, implying short-term climate changes. Marl deposition in the Cayuga Lake basin ceased at approximately 3.4 ka when lake levels dropped as global cooling set in at the end of the Hypsithermal. However, there was a brief return to a warm and wet climate at approximately 1 ka, during the Medieval Warm Period prior to the onset of anthropogenic effects.

In calibrating their erosion models “through a forward modeling exercise, which starts with a postglacial (pre-incision) valley topography and attempts to reconstruct the modern topography” (as stated on page F-31), the authors of the 2008 Draft EIS cannot treat the climate of the past several thousand years as a blank slate. Much is already known, as indicated by the above work by Noren et al., Holcombe et al., Curtin et al., Lewis et al., Mullins, *and many others*. The authors of the 2008 Draft EIS are not unaware of the problem (they acknowledge on pages F-59 to F-60 that “climate in this portion of North America is known to have varied to some extent over the post-glacial period”), yet they give it no further consideration aside from a comment about “some uncertainty in model forecasts.” This is not an acceptable response. The authors of the 2008 Draft EIS need to engage in the necessary scholarship to find, interpret, and properly incorporate the paleoclimate work which is currently missing from their calibration efforts. Their “forward modeling exercise” is not an idle schoolboy exercise that tolerates guesses and omissions; it is part of a complex decision which, if done badly, will put Western New York and the Great Lakes at risk of substantial radioactive contamination.

169. DOE also creates a calibration error or model-input error of unknown magnitude by assuming essentially uniform *future* climate conditions that match today’s climate (see Appendix F of 2008 Draft EIS, page F-59), resulting in an assumption of essentially uniform erosional power of runoff and creek flow from century to century. In view of the known phenomenon of climate change and the associated increase in extreme weather events (including greater frequency and/or intensity of storms), this assumption of essentially uniform future climate conditions is a serious error that underestimates erosion.

170. It is widely recognized that the rainfall-erosion relationship is nonlinear, such that a single intense rainstorm produces more erosion than the equivalent amount of precipitation received as

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rainfall over a more extended period. (For example, see T.J. Toy et al., *Soil erosion*, 3rd edition, Wiley, 2002.) Given this relationship, and given the predicted increase in extreme weather events as a consequence of climate change, erosional effects will become progressively more severe at the West Valley site. Current erosional modeling in the 2008 Draft EIS does not take these effects into account and thus underestimates future erosion at the site. This problem must be remedied.

171. Information on the predicted increase in extreme weather events as a consequence of climate change can be found in a recent U.S. federal government report. This report, entitled *Weather and Climate Extremes in a Changing Climate*, edited by T.R. Karl et al., U.S. Climate Change Science Program, Synthesis and Assessment Product 3.3, June 2008, is available online at www.climate-science.gov/Library/sap/sap3-3/final-report/sap3-3-final-all.pdf. In part, the report reviews the expected increase in heavy precipitation events associated with climate change (as might be expected, since warmer air masses can carry more water vapor). See esp. Fig. 3.5 (page 100) and its caption, which indicates that "Daily total precipitation events that occur on average every 20 years in the present climate would, for example, occur once every 4-6 years [in the last decade of this century] for Northeast North America. These results are based on a multimodel ensemble of global climate models." As indicated on p. 102, "precipitation intensity (i.e., precipitation amount per event) is projected to increase over most regions...and the increase of precipitation extremes is greater than changes in mean precipitation..." See also Fig. 3.6 (p. 102), which shows projected changes in the intensity of precipitation, and its caption, which notes that "the lightest precipitation is projected to decrease, while the heaviest will increase..." For more detailed discussion, see p. 102 ff. of the report. This trend toward more frequent heavy precipitation events has clear implications for erosion of the West Valley site and cannot be omitted from DOE's erosional analyses.

172. It is not clear from the 2008 Draft EIS whether its assumptions about *current* climate, especially its assumed intensity-frequency relationship and assumed probable maximum precipitation (PMP) for storms, are reasonable. Given the 2008 EIS's reliance on current climate as the basis for both future climate and paleoclimate, the assumed current climate is a distinct and important issue. As the basis for precipitation used in the West Valley erosion model, the 2008 Draft EIS relies on an MIT M.S. thesis by Hawk (1992). See Appendix F of 2008 Draft EIS, pages F-42 and F-43. This thesis, entitled "Climatology of station storm rainfall in the continental United States: Parameters of the Bartlett-Lewis and Poisson rectangular pulses models," was published in 1992 by Hawk and Eagleson under the same title as an MIT/NASA report (available at http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19930015334_1993115334.pdf). Hawk's general method is recognized in the scientific community as a stochastic technique for generating artificial rainfall records for such purposes as evaluating probable maximum precipitation (PMP) events and design floods. The question here is whether DOE's CHILD erosion model (and the Buffalo, NY, data fed to it from Hawk's thesis) produce a rainfall intensity-frequency relationship and a PMP that are reasonable for the present climate of the West Valley site.

173. The rainfall intensity-frequency relationship and the PMP used in DOE's erosion model need to be reasonably consistent with Figure 1 of *Estimating Bounds on Extreme Precipitation Events*:

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110-103 The revised analysis in this Final EIS derives precipitation statistics from 5-minute precipitation data at the site, rather than using the Hawk (1992) Buffalo, New York, parameters.

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110-104 The statistical precipitation model applied to the erosion analysis uses a probabilistic approach that is fundamentally distinct from the probable maximum precipitation (PMP) concept. The probabilistic model of precipitation allows for very high precipitation rates, but with the probability that such rates would decline exponentially as the rate increases. Unlike the PMP, this approach to precipitation modeling does not impose an arbitrary upper limit on precipitation intensity or depth.

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A Brief Assessment (Washington, DC: National Academy Press, 1994) and with the the 2-, 5-, 10-, 20-, and 100-year and PMP storms that are assumed in the 1999 Draft EIS and mentioned (but not actually used) in the 2008 Draft EIS. The values used in the 1999 Draft EIS and listed in the 2008 Draft EIS, page F-19, including a PMP of 24.9", are taken from the U.S. Department of Agriculture (USDA). Figure 1 of *Estimating Bounds on Extreme Precipitation Events: A Brief Assessment* is said to involve a "very conservative version" of the PMP. As stated on page 11 of the National Academy Press book:

A very conservative version of PMP could be created through the use of Figure 1. For every point on the Earth's surface, we could assume that in any given amount of time the greatest precipitation would be bounded by the greatest precipitation accumulation observed anywhere in the world for that duration. However, designing all structures to survive such conditions would be prohibitively expensive.

At the West Valley site, the assumptions fed to an erosion model should not be censored or biased by concerns about a "prohibitively expensive" result. Any debate about cost should arise at a later stage, not at the point of data input to a model. Any assumptions fed to an erosion model should be those that are reasonable and reasonably conservative. As it happens, neither the 24.9" PMP from USDA nor Figure 1 of *Estimating Bounds on Extreme Precipitation Events: A Brief Assessment* is excessively conservative for the West Valley site. Both depend substantially on a PMP rainfall of 34.5" (thirty-four and one-half inches) that fell during a 24-hour period at Smethport, PA, on July 17, 1942. Smethport is relatively close to the West Valley site (about 40 miles), and both are in generally similar topographic settings on the Allegheny Plateau. A storm of the intensity of the Smethport event would unquestionably cause severe erosion. "Hillsides in the Smethport area were reported stripped of vegetation to the bedrock," according to C.C. Burt and M. Stroud, *Extreme Weather: A Guide & Record Book*, W.W. Norton, 2007, page 119 (and see also p. 117). Nor is Smethport the only example of heavy rainfall in nearby areas. Portions of Erie, PA, suffered a 20" one-day deluge in July 1947, according to the Pennsylvania State Climatologist website (http://pasc.met.psu.edu/PA_Climatologist/fod/pacx.html). In summary, any rainfall intensity-frequency relationship generated by DOE's erosion model must be reasonable for the West Valley site and must generate a relatively high PMP storm under current climate conditions, and this relationship must be progressively modified to reflect the predicted increase in extreme weather events due to climate change.

Evolution and advancement of gullies

174. The 2008 Draft EIS provides no defensible analysis of gully growth, even though gully growth is one of the most likely and imminent threats to waste containment at the West Valley site.

175. On page L-5, the 1996 Draft EIS stated that, "based on the gully head advancement rates that were estimated for the SDA, NP3, and 006 gullies, the existing gullies in the Project Premises are considered a threat to the integrity of the existing facilities over the next 1,000-yr period..." Although the 2008 Draft EIS omits the phrase about "a threat to the integrity of the existing

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110-105 The process of gully growth is simulated by the SIBERIA and CHILD landscape evolution models. To increase the likelihood that small gully features would be resolved, the grid spacing in the vicinity of the North and South Plateaus was reduced to 2.8 meters for all CHILD forward simulations reported in the Final EIS. The results in both the Draft and Final *Decommissioning and/or Long-Term Stewardship EIS* show the propagation of gullies into the plateaus. Please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue.

110-106 As stated in the above response, the process of gully growth is simulated by the SIBERIA and CHILD landscape evolution models. To increase the likelihood that small gully features would be resolved, the grid spacing in the vicinity of the North and South Plateaus was reduced to 2.8 meters for all CHILD forward simulations reported in the Final EIS. The results show the propagations of gullies into the plateaus. These features and their behavior over time are thoroughly discussed in Appendix F of this Final EIS.

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facilities over the next 1,000-yr period,” it recognizes the general severity of the gully advance problem and provides the same underlying information as the earlier Draft EIS:

More than 20 major and moderate-sized gullies have been identified... Some of these gullies have formed from natural gully advancement processes and others are the result of site activities.... Several of the gullies are active and migrating into the edge of the North and South Plateaus. (Page 3-36)

Major erosion processes affecting WNYNSC include...gully advance... (Page F-3)

Gully advance is the third type of erosion process that results from local runoff and reflects soil characteristics. Gullies are most likely to form in areas along streambanks where slumps and deep fractures are present, seeps are flowing, and the toe of the slope intersects the outside of the meander loop. Gully growth is not a steady-state process; it occurs in response to episodic events, such as during thaws and after thunderstorms in areas where a concentrated stream of water flows over the side of a plateau, as well as in areas where groundwater pore pressure is high enough for seepage to promote grain-by-grain entrainment and removal of soil particles from the base of the gully scarp (a process sometimes known as “sapping”). Sapping causes small tunnels (or “pipes”) to form in the soil at the gully base, which contributes to gully growth by undermining and weakening the scarp until it collapses. Surface water runoff into the gully also contributes to gully growth by removing fallen debris at the scarp base, undercutting side walls, and scouring the base of a head scarp. Although human-induced changes to the surface water drainage pattern can control the growth of some gullies, other natural processes that induce gully formation, such as the development of animal trails or tree falls, cannot be readily controlled. (Page F-4)

176. On pages F-14 and F-15 (esp. Table F-6), the 2008 Draft EIS lists *the same gully head advancement rates cited in the 1996 Draft EIS* (page L-5) for the SDA, NP3, and 006 gullies but offers no explanation why these rates would not constitute “a threat to the integrity of the existing facilities over the next 1,000-yr period...” as identified in the 1996 Draft EIS. The 2008 Draft EIS notes that remedial work has slowed the advance of the SDA gully, but it neither lists the slowed rate of advance nor discusses whether the slowed rate would revert to the original rate of 0.4 meters/year in the absence of long-term remedial measures.

177. Appendix H of the 2008 Draft EIS improperly dismisses gully head advancement as a serious threat to site integrity. The approach taken in Appendix H is flawed because it is based on two unreliable procedures or assumptions. First, the 2008 Draft EIS constructs and conducts modeling that “considers only erosion of the Low-Level Waste Treatment Facility on the North Plateau and of the SDA and NDA on the South Plateau” (page H-65), thereby eliminating from consideration any possible threat to the Main Plant Process Building, Vitrification Facility, and Waste Tank Farm. These important facilities were eliminated from consideration based on the landscape evolution model used for the 2008 Draft EIS, which predicted very little erosion in those areas. However, as discussed elsewhere in these comments, the landscape evolution model

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110-107 The Final EIS modeling results show the propagations of gullies into the plateaus. In some cases, the SDA gully advances significantly over the 10,000-year period. Also, in some simulations, the fastest-growing gullies are propagating at a rate that is similar to the measured rates presented in Appendix F, Table F-7, of the 2008 Revised Draft EIS. Although none of the modeled scenarios result in a gully propagating directly into the plant facilities or burial areas, this Final EIS recognizes exhumation of waste by gullies as a threat; therefore, the dose calculations assume that a large gully directly breaches one or more of the containment areas.

110-108 The 2008 Revised Draft EIS, as well as the refined Final EIS erosion analyses do not predict gully advancement from Quarry Creek or Franks Creek into the areas of the Main Plant Process Building, Vitrification Facility, or Waste Tank Farm within the 10,000-year period of analysis. These projections were developed using theoretical approaches that are generally accepted by the scientific community involved with long-term erosion analysis. The approach to calibration has been updated to apply probabilistic techniques in forward modeling from post-glacial conditions to match the current conditions of the Buttermilk Creek watershed.

The Final EIS erosion dose analysis uses the most aggressive gully advance rate predicted by the CHILD model calibrated to site conditions. This predicted gully advance rate decreases with time, but does not rely on data or discussions of the Nachtergaele publication.

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is badly miscalibrated and cannot be used as a basis for ruling out erosion impacts to facilities such as the Main Plant Process Building, Vitrification Facility, and Waste Tank Farm. Second, section H.3.4 of the 2008 Draft EIS imposes an unsupported assumption that gully behavior consists of "an initial period of rapid growth followed by decrease in rate of growth, attainment of a maximum length" which can be expressed by a negative exponential relation termed Graf's Law (page H-73). The 2008 Draft EIS cites only a single reference (Nachtergaele et al., "Medium-term evolution of a gully developed in a loess-derived soil," *Geomorphology* 46, 223 (2002)) for this overly simplistic idea which greatly limits, at least on paper, the ability of gullies to reach critical parts of the site. Even after introducing this simplistic idea, Table H-70 on page H-74 shows relatively high modeled doses from the NDA (either 170 mrem/yr or 45 mrem/yr) due to gully impacts, yet these doses would likely be much higher if DOE had not relied inappropriately on the Nachtergaele study. Quite simply, the Nachtergaele study and its finding of "an initial period of rapid growth followed by decrease in rate of growth, attainment of a maximum length" have little or no relevance to the West Valley site. The Nachtergaele study involved only a *single gully* that was monitored for 13 years (certainly not a robust basis for understanding the long-term behavior of gullies at the West Valley site!), and the Nachtergaele study area is a poor match for the West Valley site in terms of both the unconsolidated material being cut by gullies (loess vs. till/sand/gravel) and the topographic relief of the site. These factors are discussed below in more detail.

178. As noted, the Nachtergaele study area is a poor match for the West Valley site in terms of the unconsolidated material being cut by gullies. However, assuming for the sake of argument that gulying of loess soils provides information relevant to gulying of glacial tills, there are studies that contradict the Nachtergaele study and its finding of "an initial period of rapid growth followed by decrease in rate of growth, attainment of a maximum length." See, for example, studies of gulying in western Iowa as reported by Bradford and Piest ("Gully Wall Stability in Loess-Derived Alluvium," *Soil Science Society of America Journal* 41, 115 (1977)) and by Bettis in the following article entitled "Gully Erosion," taken from the Iowa Department of Natural Resources/Geological Survey website at www.igsb.uiowa.edu/Browse/gullyero/gullyero.htm. The Bettis article, quoted below in its entirety, is based on work done jointly by Bettis and Dean Thompson (Natural Resources Conservation Service) and is adapted from *Iowa Geology* 1983, No. 8, published by the Iowa Department of Natural Resources:

Western Iowa, a 10,811 square mile area encompassing all of thirteen and portions of nine other counties, has a national reputation for high sediment loads in streams and severe gully erosion problems. Estimates indicate that 5,000 to 10,000 acres of potential cropland are lost or removed from production annually as a result of gully growth in this region. Large amounts of time and money are spent on maintaining drainage ditches and stream channels which become choked with sediment eroded from gullies. Bridge failures resulting from gully widening are also a common and costly problem for counties in western Iowa. Numerous other problems directly or indirectly associated with the growth of gullies plague residents of this region.

A gully is a relatively deep, vertical-walled channel, recently formed within a valley where no well-defined channel previously existed. Western Iowa gullies range from five to over 80 feet in depth and from three to 100 feet in width. Some gullies are several miles long while others are as

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110-109 The Final EIS erosion analysis has been updated and is based on the use of a site-specific calibration of the CHILD model using a theoretical approach that is generally accepted by the scientific community involved with long-term erosion analysis. The Final EIS erosion dose analysis uses the most aggressive gully advance rate predicted by the calibrated CHILD model. The revised analysis does not rely on data or discussions of the Nachtergaele study and citation to that work has been deleted from the revised Appendix F.

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short as 100 feet. All have nearly vertical walls and contain streams which have extreme variations in discharge throughout the year. Gullies in large valleys such as Keg Creek and Silver Creek contain streams which usually flow year round, but streams in most gullies are dry during portions of the year.

Gullies develop because of a decrease in the erosional resistance of the land surface or an increase in the erosional forces acting on the land surface. What causes gullies to form, when and where they do is poorly understood. Field and laboratory studies indicate that certain reaches of a valley are more prone to gully development than others. However the timing of the initial downcutting and which of the "most probable" reaches develops into a gully cannot be predicted with certainty.

Once a gully has formed, the processes whereby it lengthens and widens are much better understood. The upper end of a gully is marked by a headwall, a vertical scarp, separating the ungullied portion of the valley floor from the gully below. Water flows over the headwall during runoff and falls into a plunge pool at the base of the headwall. The water then erodes the base and sides of the pool, undercutting the headwall. When undercutting reaches an advanced stage the headwall fails and topples into the gully, thereby lengthening the trench. This process is repeated many times as a gully advances up the drainage way.

When first formed, most gullies are quite narrow and have vertical sidewalls. Increased pore pressure from groundwater moving toward the gully, coupled with some undercutting of the sidewalls causes deep rotational slumps along the sidewalls. If enough water is flowing through the gully to carry away the slumped material, additional slumping can occur. This causes the gully to widen. Widening also occurs when upper portions of gully walls separate and topple into the gully. This phenomena is most common following heavy spring rains and during freeze-thaw cycles in the late winter and early spring. If water intermittently flowing through the gully continues to clean out debris derived from the headwall and sidewalls, the gully continues to grow. When more debris accumulates than is transported away, the gully stabilizes and begins to fill.

Numerous researchers have pointed the finger at agriculture as the cause of western Iowa's gully problems. Specifically, they cite the increases in runoff that result from land clearing, overgrazing, cultivation, and stream channelization. Numerous federal, state, and county agencies spend millions of dollars annually to control existing gullies and promote land management practices which reduce runoff in an attempt to alleviate the gully problem.

Many of today's gullies are cut into alluvium, the sediment transported and deposited by flowing water in streams. In most of western Iowa, the source of the alluvium is the silty loess found on valley slopes. Vertical gully walls, such as those shown in the accompanying photograph [see www.igsb.uiowa.edu/Browse/gullyero/gullyero.htm], often expose several distinct layers of alluvium. Layers of similar sediments can be traced within a single valley and also can be recognized from one valley to the next, a process called correlation. Six distinct layers, or alluvial fills, can be recognized in small valleys throughout western Iowa. Extensive core drilling in these valleys and interpretation of exposures formed along gully walls prove that these alluvial fills accumulated in old gullies.

Occasionally, buried tree stumps, logs, or charcoal are found enclosed in these old alluvial fills where they are exposed along modern gully walls. These organic remains have been

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radiocarbon-dated and a chronology of gully cutting and filling constructed. More than 100 such radiocarbon dates indicate that the six major alluvial fills recognized in western Iowa valleys represent regionally synchronous episodes of gully cutting and filling during the last 12,000 years. Four of these episodes occurred during the last 4,000 years, and the deposits associated with them are rather well preserved and understood.

About 3,500 to 4,000 years ago, deep gullies much larger than today's dominated the landscape in small western Iowa valleys. In many cases these gullies occupied the entire valley floor. Beginning shortly after 3,500 and continuing until about 2,000 years ago, gully growth stopped and alluvium accumulated in the gullies. By 2,000 years ago the gullied areas were completely filled with silty sediment washed from the adjacent valley slopes, and marshy areas occupied the central portion of the former gullied areas.

Sometime during the 200-year period between 2,000 and 1,800 years ago another gully cycle began. Gullies extended up all moderate-sized valleys and some of their lateral tributaries. Gullying did not extend into small drainages at the upper end of the drainage network as it had during the previous cycle. In extent, depth, and width of gullying, this cycle is analogous to modern gullying in the area. Shortly after 1,800 years ago alluvium again began to accumulate in the gullies, eventually filling them by about 1,000 years ago.

The third gullying cycle began about 800 years ago. In this cycle, gullying was restricted to moderate-sized and larger valleys and did not extend as far up valleys or into smaller valleys as it had during either of the previous episodes. These new gullies were restricted to central portions of the area gullied during the previous cycle. Further, these gullies were not as deep or as wide as earlier gullies had been. Shortly after the gullies developed they began to fill with alluvium. Sediment accumulated until the gullies were completely filled and portions of the surfaces bordering the gullies were buried a few feet. Counts of growth rings in trees growing on alluvium filling these gullies indicate that sedimentation may have continued until about 100 years ago.

The most recent western Iowa gully cycle began around 100 years ago. Numerous accounts in local histories, original land surveys and early reports of the Iowa Geological Survey indicate that until about 1860 gullies were not widespread in the area. By 1900 reports of problems arising from gully growth, such as the need for bridges at crossings, became common and indicated that the historic period of gully growth was in full swing. In some valleys, gullies have formed and been filled several times during this historic cycle, a process which also occurred during the prehistoric episodes but is too obscure to be interpreted from the geologic alluvial-fill record.

The geologic record contained in western Iowa valleys shows that major gullying is not new to the area. Several episodes, some more widespread than that which affects the area today, occurred prior to Euroamerican settlement and the spread of modern agriculture. Gullying is part of the natural process of landscape evolution in western Iowa. The modern gullying which causes so much concern is also part of this natural process. No doubt, landuse changes accompanying the spread of agriculture and urbanization have aggravated and possibly accelerated the growth and extension of gullies in western Iowa. However, the geologic record suggests that the area was "due" for an episode of gullying prior to the 1850s. Gullies grew and filled several times in the past when humans were not significantly influencing runoff or vegetation patterns. This indicates that human activity affects gullies in this area but does not cause them.

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Recognition of the fact that gullies are “native” to western Iowa is important because it indicates that gullies are not a unique phenomena resulting entirely from human modification of the landscape. Through recognition of gully-prone valley sections and the promotion of landuse aimed at preventing or lessening the factors causing gullies in those areas, we can avoid gully growth or lessen its impacts. During the last 12,000 years, gullies and the erosion resulting from their growth have molded the western Iowa landscape into that which we see today. This process is active and will continue to be so far into the future. Currently our knowledge of the factors contributing to gully initiation is very incomplete. Somewhat better understood are the processes and factors involved in gully growth and degradation. These are areas of urgent research needs. Through a better understanding of the processes affecting gully growth and filling, we can lessen the impact our activities have in promoting the gully problem and plan around those portions of the gully network which are too costly or not likely to be controlled.

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179. Despite the differences between the unconsolidated material found in western Iowa (loess) and at the West Valley site (till with intervening beds of recessional sands and gravels), the above-quoted article by Bettis offers important lessons for the understanding of gully advancement at the West Valley site. First, the Bettis article underscores the importance of field work, radiocarbon dating, etc. Gross oversimplifications such as “an initial period of rapid growth followed by decrease in rate of growth, attainment of a maximum length” are no substitute for careful field work. Second, the Bettis article shows that gullies in western Iowa have *not* undergone a continual progressive advance during the post-glacial period of the past 12,000 years. Advancement has been cyclical, interspersed with periods of non-advance and infilling with sediment, on time scales measured in centuries. These long-term cycles in which gully advancement waxed and waned, probably in response to climate variation on a regional or continental scale, may likewise have occurred at the West Valley site. The question needs to be addressed at the West Valley site, partly as a check on the realism and calibration of any erosion model that simulates gully advancement. Third, the Bettis article emphasizes the wide variety of observed gully sizes (“Some gullies are several miles long while others are as short as 100 feet”) and indicates that gully size is partly correlated with the aforementioned long-term cycles (“About 3,500 to 4,000 years ago, deep gullies much larger than today’s dominated the landscape in small western Iowa valleys”). This observation raises the question of whether “deep gullies much larger than today’s” will form in the future at the West Valley site in response to climate conditions similar to those that formed the deep Iowa gullies about 3,500 to 4,000 years ago. This question needs to be addressed. Without a dependable answer, there’s no reasonable way to assess the effects of gully advancement on site integrity.

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110-110 The behavior of the model used in the study is generally consistent with Bettis’ picture of gully dynamics in the sense that the model predicts cycles of gully incision and aggradation, as noted in this Final EIS, Appendix F, Section F.3.2.1. However, one must be very cautious in drawing parallels between sites with such substantial differences in climate, vegetation, and soils. The question of the degree to which climate variations may influence gully development is addressed in this Final EIS using the “wet” scenario described in the response to Comment no. 110-101. When the results from the “wet” scenario are compared to the other probabilistically-derived simulations, they show an increase in gully size and length associated with the increase in the precipitation intensity parameter and a reduction in the infiltration capacity parameter.

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180. The Nachtergaele study area is also a poor match for the West Valley site in terms of topographic relief. The Nachtergaele study area – a field under cultivation in Belgium – had relatively low relief which did not change substantially during the 13-year study period. In contrast, the West Valley site underwent a dramatic increase in vertical relief during the multi-thousand-year postglacial period, starting from an essentially unincised topography (for example, see Figure F-10 of 2008 Draft EIS) which evolved into the incised landscape we see today (where Franks Creek is incised about 80’ at its confluence with Erdman, Buttermilk is incised about 160’ at the slump area east of the SDA, and the base level at the Buttermilk-Cattaraugus confluence is about 300’ below the site’s North and South Plateaus). Thus, the erosive factors needed for gully

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growth (height of headwall scarp, kinetic energy of water falling into plunge pool) were largely unavailable at the West Valley site during the early part of the postglacial period but became increasingly available as incision proceeded and relief became greater. This self-accelerating evolution of the vertical relief needed for gully formation was, and still is, a crucial factor at the West Valley site but was essentially absent in the Nachtergaele study area.

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181. As an example of “exceptionally deep post-glacial gullies incised in glacial till” in Wales, see Fig. 86 on p. 164 of *Natural Landscapes of Britain from the Air* by N. Stephens (Cambridge University Press, 1990). Regardless of whether such gullies would eventually show a “decrease in rate of growth [and] attainment of a maximum length,” they have already progressed far beyond the length that would be needed to breach containment of waste facilities at the West Valley site. As stated in the accompanying text on p. 164, “Slumping is evident along all the main gullies. These slump features, which can themselves develop tributary gullies, play a twin role in current sediment supply to the [rivers]. The slumps and landslips supply large calibre material to form the coarse bedload of the rivers. The unvegetated landslip scars subsequently act as major suspended sediment sources, via the processes of rainsplash erosion, ice-needle growth and other frost processes, and lateral corrasion by the river itself.” Similar processes operate at the West Valley site.

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110-111 The revised Final EIS erosion analysis is based on the use of a site-specific calibration of the CHLD model using a theoretical approach that is generally accepted by the scientific community involved with long-term erosion analysis. This results in erosion rates that are comparable to measurements at the site. This approach is considered theoretically sound for making long-term erosion predictions for WNYNSC.

182. As shown above by various lines of reasoning, the Nachtergaele study and its finding of “an initial period of rapid growth followed by decrease in rate of growth, attainment of a maximum length” have little or no relevance to the West Valley site. A similar conclusion can be reached by simple, commonsense logic, some of which can be found in the 2008 Draft EIS, where DOE acknowledges that gully growth varies in both space and time. The variation in gully growth is attributed there to localized details such as seeps and fractures, time-dependent variables such as weather, and quasi-random variables such as animal trails and tree falls. As already quoted above from the 2008 Draft EIS:

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Gullies are most likely to form in areas along streambanks where slumps and deep fractures are present, seeps are flowing, and the toe of the slope intersects the outside of the meander loop. Gully growth is not a steady-state process; it occurs in response to episodic events, such as during thaws and after thunderstorms in areas where a concentrated stream of water flows over the side of a plateau, as well as in areas where groundwater pore pressure is high enough for seepage to promote grain-by-grain entrainment and removal of soil particles from the base of the gully scarp (a process sometimes known as “sapping”). Sapping causes small tunnels (or “pipes”) to form in the soil at the gully base, which contributes to gully growth by undermining and weakening the scarp until it collapses. Surface water runoff into the gully also contributes to gully growth by removing fallen debris at the scarp base, undercutting side walls, and scouring the base of a head scarp. Although human-induced changes to the surface water drainage pattern can control the growth of some gullies, other natural processes that induce gully formation, such as the development of animal trails or tree falls, cannot be readily controlled. (Page F-4)

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Other erosion-model issues

183. It is unclear from descriptions in the 2008 Draft EIS whether certain algorithms in the CHILDE erosion model are reasonable or not. First, as stated on page F-44, CHILDE's standard water erosion algorithm computes bed lowering as the lesser of (1) bedrock detachment capacity and (2) excess sediment transport capacity per unit surface area. Without further information, it cannot be determined whether either condition is unduly limiting. Second, a transport formula for bed load is given on page F-45. Whether this formula and the chosen parameters are realistic has not been determined. Third, the CHILDE model "has no way to address suspended or wash load;" it treats clay particles as sediment of a specified size, as noted on page F-45. Again, the effect of this approximation has not been determined. In any case, it is not sufficient to judge the correctness of each of these algorithms separately; the model as a whole must be demonstrably well-calibrated against observed current rates of downcutting.

184. A concern expressed on page F-53 of the 2008 Draft EIS is that the current best-fit CHILDE modeling run overpredicts the degree of landscape dissection. This may be related to a questionable step in the construction of the initial model topography, consisting of "the addition of the modern stream channel pattern, which was etched into the valley-surface DEM at a depth of 1 meter," as indicated on page F-32. The logic of requiring the model to adhere to an entrenched stream network from the outset of the postglacial period is unclear. It would appear to "jump-start" the dissection process in an unrealistic way.

Unstable slopes greater than 21 degrees

185. It is unclear whether and how the CHILDE erosion model in the 2008 Draft EIS treats the ongoing evolution and/or adjustment of unstable hillslopes steeper than 21 degrees. This angle is widely recognized as a threshold beyond which slopes at the West Valley site are unstable or "potentially unstable." For example, see 2008 Draft EIS, page F-13; also A. Napoleon et al., *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Site*, 2008, pp. 101-102. It appears that the CHILDE erosion model assigns a value of 30 degrees to the threshold slope gradient parameter S_c (see 2008 Draft EIS, page F-46), where S_c is said to be equivalent to the parameter S_{max} which represents a "maximum stable slope angle" in the SIBERIA model (see page F-42). In the event that S_c represents a "maximum stable slope angle" beyond which no soil creep or landsliding occurs in the CHILDE erosion model, the assignment of a 30-degree value to S_c is patently wrong and must be corrected.

186. Figure 6.7 on page 102 of A. Napoleon et al., *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Site*, shows the predictable evolution (i.e., westward migration) of the actively slumping west bank of Buttermilk Creek toward the incised confluence of Franks Creek and Erdman Brook and toward the nuclear-waste facilities that lie beyond the confluence. This westward migration of the top of the west bank of Buttermilk can be predicted from slope stability criteria alone; it requires neither downcutting nor sidcutting of the actual channel of Buttermilk Creek (and thus would be additive with any effects of further downcutting and sidcutting of that channel). The erosion

110-112

110-112 In this Final EIS, the calibration of the CHILDE model uses six model data-comparison metrics to demonstrate that the model as a whole is well-calibrated against current observations. These selected metrics are widely accepted by the scientific community as means to demonstrate the correctness of the model calibration. The model algorithms are consistent with the current state of the science. Numerous applications of the model have been published in the peer-reviewed scientific literature; examples of these are cited in Appendix F of this Final EIS.

110-113

110-113 This concern (overprediction of the degree of landscape dissection) is no longer an issue due to the revised erosion modeling analyses presented in this Final EIS.

110-114

110-114 This issue has been addressed in the Final EIS revised erosion modeling analyses. The CHILDE model uses the 21 degrees as the threshold beyond which slopes at WNYNSC are unstable.

110-115

110-115 The soil creep/landsliding process is included in the SIBERIA and CHILDE models. This process results in rim-widening of the Buttermilk Creek stream channels, including the westward migration of the west bank of Buttermilk Creek. Several of the CHILDE modeling cases presented in the results section of this Final EIS clearly show rim-widening of the west bank of Buttermilk Creek.

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model used in the 2008 Draft EIS *must be able to demonstrate* the above-described evolution (i.e., westward migration) of the west bank of Buttermilk Creek over some reasonable period of time. If the model cannot predict such westward migration of the actively slumping west bank of Buttermilk Creek, its inability to do so would be a clear indication that the model is either defective or operating with incorrect parameters. This is one of several crucial tests that the model must pass.

110-115
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Stream piracy or stream capture

187. As indicated above in comments 92, 95, and 96, the phenomenon of stream capture or stream piracy is a serious issue at the site. Over some period of time, the capture or piracy of Franks Creek by Buttermilk Creek is likely to occur somewhere near the current confluence of Franks and Erdman. The question is *when*. A likely contributing factor in this piracy/capture process is the relatively permeable layer of Kent recessional/lacustrine/overbank deposits that lies beneath the Lavery Till. This layer can act as an essentially horizontal conduit for groundwater transmission (e.g., see 2008 Draft EIS, page E-15). The importance of such a groundwater pathway (and the reason for the emphasis given to it in comment 92) is illustrated by D.T. Pederson, "Stream Piracy Revisited: A Groundwater-Sapping Solution," *GSA Today*, September 2001, page 7 and esp. Fig. 3. As Pederson explains, "The principal fact favoring stream piracy by groundwater sapping is that the groundwater divide does not correspond to the surface-water divide when there is a difference in elevation of streams in the adjacent drainages..." As he shows, the higher-elevation stream (in this case, Franks Creek) tends to provide some of the groundwater flow needed to sustain gully growth toward the drainage divide from the lower-elevation stream (in this case, Buttermilk Creek). Such a process eventually breaches the surface-water divide, causing the so-called piracy which gives the higher-elevation stream (Franks) a comparatively short, steep channel into the lower-elevation stream (Buttermilk). Such a result would be disastrous at the West Valley site, since the already-steep gradient of Franks Creek would suddenly become much steeper in the immediate vicinity of the North and South Plateaus, thereby accelerating further downcutting. Given the importance of this process, it should be incorporated into any erosion model or erosion-prediction method for the West Valley site. The erosion model used in the 2008 Draft EIS does not appear to incorporate or address stream piracy or capture – but it must do so. An erosion model that fails to include this process cannot be considered realistic.

110-116

188. Two important factors in stream piracy or capture are the length and permeability of the groundwater pathway between the higher and lower streams. Permeability will be enhanced, promoting greater groundwater flow, as Franks Creek downcuts into and thereby increases its communication with the Kent recessional/lacustrine/overbank deposits beneath the Lavery Till. The length of the groundwater pathway will be reduced, again favoring greater flow, as the actively slumping west bank of Buttermilk Creek migrates westward in response to slope instability, as outlined above in comment 186. Separately or in combination, both of these ongoing processes will tend to hasten the process of stream piracy or capture.

110-116 The revised Final EIS erosion analysis is based on the use of a site-specific calibration of the CHILD model using a theoretical approach that is generally accepted by the scientific community involved with long-term erosion analysis. Predicted erosion rates are comparable to measurements at the site. The revised Appendix F of this EIS includes an evaluation of the likelihood of stream capture (see Section F.3.1.6.12) and reports that simulations covering a range of environmental conditions did not predict that stream capture would occur. In addition, there is no obvious evidence for stream capture events elsewhere in the Buttermilk Creek valley.

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Other issues in addition to erosion

189. On page F-1 of Appendix F of the 2008 Draft EIS, the statement that Buttermilk Creek flows northwesterly at an elevation approximately 100 feet below the North and South Plateaus is incorrect. The elevation difference is greater than 100 feet.

190. As described on page 3-9 of the 2008 Draft EIS:

The WNYNSC has its own reservoir and water treatment system to service the site. The system provides potable and facility service water for operating systems and fire protection. The reservoir system was created by constructing dams on Buttermilk Creek tributaries south of the Project Site. The reservoirs provide the raw water source for the non-community, nontransient water supply operated on site.... Specifically, the two interconnected reservoirs (North and South Reservoirs) cover about 10 hectares (25 acres) of land and contain approximately 2.1 billion liters (560 million gallons) of water.... A pump house located adjacent to the North Reservoir with dual 1,500-liters-per-minute (400-gallons-per-minute) rated pumps supplies water to the Project Premises through a 20-centimeter (8-inch) pipeline....

The dams and reservoirs are assumed to be removed under the Site-wide Removal Alternative (page 2-34). They are assumed to be removed from service, with the dams partially removed, under the Site-wide Close-in-Place Alternative (page 2-39). Both of these alternatives should consider leaving the dams and reservoirs in service, either as a community water supply or as a water source for future uses (e.g., industrial park) of the site.

Socioeconomic and loss-of-expertise impacts of the employment gap

191. Phased decisionmaking, considered the preferred alternative in the 2008 Draft EIS, will have a socioeconomic impact due to the "employment gap" that it causes between Phase I work and Phase II work. This "employment gap" impact, associated with the phased decisionmaking alternative but not with the other alternatives, must be assessed in the EIS. Specifically, phased decisionmaking would ramp up employment at the West Valley site for Phase I work, then within about 10 years would substantially cut employment as Phase I work was completed, and then would increase employment again for Phase II work. The gap between Phase I and Phase II work would be at least several years, and a subsequent rebuilding of employment levels for Phase II work is expected to occur regardless of which decommissioning alternative is eventually chosen for Phase II. The socioeconomic impact of such a projected fluctuation of employment by a large employer in a rural area needs to be addressed for the phased decisionmaking alternative.

192. The aforementioned "employment gap," associated with phased decisionmaking but not with the other alternatives, would cause a loss of professional expertise and a loss of "institutional memory" in addition to its predicted socioeconomic impacts. Decisionmakers, planners, and other employees need to acquire much site-specific expertise in order to work safely and effectively at a complex site such as the West Valley site. Much of this site-specific expertise

110-117

110-117 This statement has been revised in this Final EIS to indicate that the elevation of Buttermilk Creek is approximately 200 feet below the North Plateau.

110-118

110-118 DOE and NYSERDA note the commentor's opinion. The alternatives evaluated in this EIS were selected by DOE and NYSERDA after consulting with the cooperating agencies and considering public comments received on the 1996 *Cleanup and Closure Draft EIS* and in public meetings.

110-119 Please see the Issue Summary, "Modified Phased Decisionmaking Alternative" in Section 2 of this CRD and DOE's and NYSERDA's response. With the change in the timing of a Phase 2 decision if the Phased Decisionmaking Alternative is selected, the suggested "employment gap" would not be an issue.

110-120 See the response to Comment no. 110-119. It is anticipated that the personnel with site knowledge and experience would be available to address implementation of any of the alternatives as presented in the Final EIS.

110-119

110-120

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would be lost due to workforce reductions between Phase I and Phase II yet would be needed again for Phase II work. The impact of losing such expertise and "institutional memory," including not only the effort of reacquiring it but the risk that some will be lost, needs to be addressed for the phased decisionmaking alternative.

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Occupational injury and fatality issues

193. Part of NRC's decommissioning requirements in both 10 CFR 20.1402 and 10 CFR 20.1403 involves residual radioactivity levels that are "as low as reasonably achievable" (ALARA). The ALARA principle, generally intended to be protective of public health, can be susceptible to misinterpretation and abuse in certain circumstances. For example, a crucial application of the ALARA principle is stated as follows in 10 CFR 20.1403(a):

A site will be considered acceptable for license termination under restricted conditions if...The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal...

DOE tends to exploit the above provision of 10 CFR 20.1403(a) by compiling evidence that traffic accidents outweigh any radiological impacts at contaminated sites. Such "evidence" is used to justify in-place closure of wastes and contamination, the argument being that further cleanup would result in net harm from traffic accidents. The defect in this argument is that it typically relies on traffic accidents and other transportation-related accidents, without taking into account other detriments and other factors needed to assess net harm. Transportation accidents are only part of the necessary analysis.

110-121

110-121 The purpose of this EIS is to analyze the reasonably foreseeable environment consequences of the alternatives presented in this EIS. No close-in-place decision has been made and close-in-place is not included in the preferred alternative to the extent it has been defined.

194. A careful reading of 10 CFR 20.1403(a) shows that further reductions in residual radioactivity will not be required A) if further reductions in residual radioactivity would result in net harm, or B) if the residual levels are as low as reasonably achievable when considered in combination with any detriments *such as* traffic accidents associated with decontamination and waste disposal.

110-122

110-122 The occupational injury and fatality information presented in Chapter 4, Table 4-19, of this EIS includes the contribution of periodic replacement and maintenance of erosion control structures for the Sitewide Close-In-Place and No Action Alternatives over 60 years. For the Sitewide Close-In-Place and Phased Decisionmaking Alternatives, occupational injuries and fatalities associated with periodic replacement of erosion control structures and fatalities represent less than 1 percent of the total impacts listed in Table 4-19.

195. A. Napoleon et al., *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Site*, pp. 97-104 and 136-137, show certain costs that will be incurred in maintaining erosion-control structures needed to protect the West Valley site. As shown there, erosion-control structures will need to be continually rebuilt or replaced on either a 25-year or 50-year replacement cycle. The estimated labor costs of doing so are listed in Table 8.1 on page 137, but Napoleon et al. *do not provide the associated occupational injury and fatality rates* for continual replacement of erosion-protection structures at the West Valley site. (Occupational injuries and fatalities are not fully monetized in labor costs.) Omission of this information on occupational injuries and fatalities is a major lapse in the report by A. Napoleon et

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al. Since occupational injuries and fatalities are a foreseeable *impact* of the Sitewide Close-in-Place Alternative, DOE needs to supply and assess this information in the course of the current EIS process. Specifically, in any Final EIS issued in the near future and also in any Draft EIS issued for Phase II, DOE needs to address the impact of the occupational injuries and fatalities attributable to ongoing replacement of erosion control structures under the Sitewide Close-in-Place Alternative.

196. Calculation of the occupational injuries and fatalities attributable to ongoing replacement of erosion control structures under the Sitewide Close-in-Place Alternative is a straightforward procedure based on the number of man-hours needed for such ongoing replacement and based on standard rates of occupational injury and death. The number of man-hours needed for ongoing replacement of erosion control structures under the Sitewide Close-in-Place Alternative is implicit in Table 8.1 of Napoleon et al. (see p. 136: "We gathered the costs of erosion controls from industrial sources at a cost per unit component..."), but the number of man-hours is not given explicitly. DOE either needs to derive the number of man-hours in consultation with Napoleon et al. or needs to make its own calculation of the number of man-hours (while ensuring that its own calculation is reasonably consistent with Napoleon et al.). Once the number of man-hours is obtained, it can be multiplied by a standard injury rate or standard fatality rate for an industry such as Heavy and civil engineering construction (NAICS code 237) to obtain the occupational injuries and fatalities attributable to ongoing replacement of erosion control structures under the Sitewide Close-in-Place Alternative. Examples of standard injury and fatality rates, compiled by the U.S. Bureau of Labor Statistics (BLS) for the years 2006 and 2007, are shown below:

From www.bls.gov/iif/oshwc/osh/os/ostb1757.pdf:

TABLE SNR05. Incidence rate and number of nonfatal occupational injuries by industry, private industry, 2006:

Industry	NAICS code	2006 Annual avg. employment (thousands)	Incidence rate per 100 Full-time workers	Number of cases (thousands)
Heavy and civil engineering construction...	237	966.3	5.1	48.8
Rail transportation.....	482	-	2.2	5.3
Truck transportation.....	484	1,415.4	5.7	84.0

From www.bls.gov/iif/oshwc/osh/os/ostb1909.pdf:

TABLE SNR05. Incidence rate and number of nonfatal occupational injuries by industry, private industry, 2007:

Industry	NAICS code	2007 Annual avg. employment (thousands)	Incidence rate per 100 Full-time workers	Number of cases (thousands)
Heavy and civil engineering construction...	237	1,001.0	4.7	46.2
Rail transportation.....	482	-	2.2	5.4
Truck transportation.....	484	1,456.6	5.5	83.8

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From <http://stats.bls.gov/iif/oshwc/efoi/cfb0214.pdf>:

TABLE A-1. Fatal occupational injuries by industry and event or exposure, All United States, 2006

Industry	NAICS code	Total Fatalities (Number)	Transp. incidents	Event or exposure: Assaults, violent acts	Contact with objects and equipment	Other categories
Heavy and Civil Engineering Construction...	237	224	123	3	47	21 24 6
Rail Transportation.....	482	19	15	--	3	-- -- --
Truck Transportation.....	484	553	448	14	46	15 23 6

From <http://stats.bls.gov/iif/oshwc/efoi/cfb0223.pdf>:

TABLE A-1. Fatal occupational injuries by industry and event or exposure, All United States, 2007

Industry	NAICS code	Total Fatalities (Number)	Transp. incidents	Event or exposure: Assaults, violent acts	Contact with objects and equipment	Other categories
Heavy and Civil Engineering Construction...	237	219	99	--	58	31 28 3
Rail Transportation.....	482	16	11	--	--	-- -- --
Truck Transportation.....	484	583	465	21	42	24 25 5

197. Occupational injuries and fatalities attributable to ongoing replacement of erosion control structures, calculated as outlined above, need to be added to the worker injuries and fatalities for the Site-wide Close-in-Place Alternative that are currently listed in Table 4-19 (page 4-56) of the 2008 Draft EIS.

Transportation issue impacts

198. The 2008 Draft EIS (e.g., Table J-6 on page J-22, Appendix J) erroneously shows a higher non-radiological accident risk associated with rail shipments than with truck shipments. This error, traceable in part to the unwarranted and frivolous assumption of "one rail car of waste per train" (page 4-103), must be corrected. As noted on page 4-103 of the 2008 Draft EIS:

The use of trains with higher numbers of waste rail cars would result in lower accident fatality estimates. In addition, there is no scenario where a combination of train and truck transport would be expected to result in a higher dose to the general population or the transportation crews than the truck-only options.

199. The 2008 Draft EIS (page 3-10) describes rail service provided to the West Valley site by the Buffalo & Pittsburgh (B&P) Railroad but does not mention B&P's efforts to abandon parts of its rail line. In my understanding, the site's current agreement with B&P provides for continuation of rail service to the West Valley site for only about the next 7 years. *DOE and NYSERDA need to seek and obtain a longer-term commitment for continuation of rail service to the site.* Such longer-term commitment for continuation of rail service is needed to protect the full clean-up alternative for the West Valley site, especially if phased decisionmaking extends the NEPA and decommissioning processes by a decade or more.

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110-123 The transportation analysis has been revised and updated in this Final EIS to change the basis of the nonradiological impact analysis from a route-specific approach to a state-by-state approach. This change eliminated the influence of state-specific accident data associated with states in the Northeastern United States that have higher accident rates. This change in approach lowered the impacts from rail transport, although nonradiological impacts from rail transport are still shown as being higher than truck transport. This, in part, is due to the use of rail statistics that are in terms of railcar-kilometers. There is no literature available that provides accident and fatality rates on a train-kilometer basis. Appendix J of this Final EIS has been revised to address the changes made in the transportation analysis and further discuss uncertainty.

As discussed in Chapter 4, Section 4.1.12.2, of this EIS, there are other options that may be considered, including shipments of waste using a combination of rail and trucks for disposal. This EIS did not calculate all potential options. The results presented using either all truck shipments or all rail shipments would provide a range of risks that would encompass all potential options.

110-124 The Buffalo and Pittsburgh Railroad is abandoning a 27.6-mile portion of its rail line extending from milepost 8.4 in Orchard Park, New York, to milepost 36 in Ashford, New York. Consideration is being given to converting the right of way to a bicycle trail. This action, however, is not expected to impact DOE's or NYSERDA's ability to ship construction materials to WNYNSC or waste from WNYNSC by rail transport. The rail spur from the site connects to the existing rail line in Ashford Junction, south of milepost 36. Chapter 3, Section 3.2.5, of this Final EIS has been updated to reflect this information.

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Probabilistic risk assessment

200. The 2008 Draft EIS, as a consequence of its use of deterministic risk assessment methods, does not accurately portray or allow meaningful comparison of the risks of its various alternatives. This problem should be remedied in the EIS by the use of probabilistic risk assessment (PRA) rather than deterministic risk assessment.

201. DOE has claimed in the past that its use of deterministic risk assessment, coupled with appropriate sensitivity analyses, provides a reasonable substitute which is as robust as PRA. This claim by DOE tends to be untrue and – in some cases – difficult to assess and verify without actually resorting to PRA, especially at a complex site such as the West Valley site. Problems include DOE's use of various assumptions that are claimed to be "conservative" but are actually not conservative, and DOE's tendency to perform sensitivity analyses that fall far short of a reasonable range of variation. For example, see section H.3 of Appendix H (page H-71 ft.) of the 2008 Draft EIS, where DOE purports to do sensitivity analyses. "In this section," explains DOE, "deterministic sensitivity analysis is used to provide insight into the potential range of uncertainty in estimates of health impacts." The deterministic sensitivity analyses undertaken in section H.3 show how ineffective such analysis can be. In section H.3.4 (pages H-73 to H-74), DOE purportedly looks at the "sensitivity of estimates of health impacts to the gully growth model" – but the variations that DOE makes to its gully growth model in this analysis are so trivial that the analysis is meaningless. Numerous other examples can be found throughout the 2008 Draft EIS. The only reasonable resolution of this pervasive problem is the adoption of rigorous PRA methods in this EIS.

202. See also my comments on PRA in my January 15, 2008, memo entitled *Issues the Core Team Needs to Address* (attached hereto as Appendix E). Those comments can be paraphrased and adapted as follows:

Probabilistic risk assessment, used by various industries and regulators, allows analysts to quantify risk and identify what has the greatest effect on safety. It looks systematically at how the pieces of a complex system work together to ensure safety. A complex system might consist of a space shuttle, all of whose components must function properly to ensure a productive mission and safe return to Earth, or it might consist of a nuclear waste disposal system, all of whose components must likewise work properly to protect public health and the environment. DOE needs to apply PRA to complex waste disposal analyses at the West Valley site. In general, PRA is a good way to analyze complex results, especially where there is uncertainty in the results and in the values that must be assumed to calculate results. PRA results do not take the form of a single number. Instead, PRA uses a spectrum of possible outcomes. It generates a distribution of values based on the frequency with which each of these outcomes is expected. PRA results can often be summarized by a single representative value or point estimate, but PRA's main advantage is that it helps decisionmakers understand how much larger or smaller the actual risks might be. At other sites, especially nuclear power plants, the Nuclear Regulatory Commission has used PRA for many years. NRC has said it expects the use of PRA to

110-125

110-125 Preparation of a probabilistic risk assessment is not practical given the number of parameters considered in the analysis and the lack of scientific basis for estimating the probability of many of the parameters, particularly those that involve the nature and timing of future human actions.

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110-126 While this EIS does use deterministic methods to estimate the environmental consequences of the various alternatives, it (1) discloses the uncertainty and (2) presents what are considered to be reasonable bounds for the environmental consequences for what appears to be the major uncertainty that influences future impacts (i.e., the maintenance or loss of institutional controls). Please also see the response to Comment no. 110-125 above.

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continue growing as part of a “longstanding NRC policy for increased use in all regulatory matters.” NRC says this should “result in a more predictable and timely regulatory approach throughout the agency.”

Thus, in accordance with the widespread recognition that PRA is a superior analysis method for complex sites, it should be adopted in this EIS process for the West Valley site.

Site stability with respect to detachment/distortion/creep in bedrock or glacial fill

203. The West Valley site needs to be monitored for possible but unlikely changes in its geometry. Any such change – in either the geometry of the glacial fill on which the site is located or the geometry of the underlying bedrock valley – should be regarded as a “low-probability, high-consequences” phenomenon. If such change is happening at all, it would consist of an ultra-slow distortion such as a narrowing of the bedrock valley due to regional compressive stress, or an evolving bulge or pop-ups in shales at the thalweg of the bedrock valley due to local gravitational stress, or a slow plastic deformation or sagging of the unconsolidated valley fill due to gravitationally-driven creep. Any such change of this type would need to be closely monitored and analyzed before its implications for long-term site integrity could be determined. As noted, any such change is possible but *unlikely*. Despite its low probability, it is widely recognized that both rock and glacial fill undergo distortion under certain circumstances, and there are site-specific factors that make the idea plausible here, including the fact that the ENE-oriented compressive regional stress is perpendicular to the NNW-trending bedrock valley. See also comments 83-84 above regarding the pervasive fracturing and low RQD of bedrock under the site, various comments about whether nearby faults such as the Sardinia and Cattaraugus Creek Features extend beneath the site (currently unknown), and comment 105 above regarding unlikely but possible evidence of mass movement of valley fill (more likely a map error, but needs to be checked). Given the potential implications for long-term site integrity, site geometry needs to be monitored or checked for measurable changes. Possible methods of doing so include InSAR, laser ranging, and geophysical logging/acoustic imaging of one or more of the hydrofracture test wells in WMA 11 to see if well casing has undergone any horizontal offset or kinking due to bedrock detachment.

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August 2009 rainfall event and its implications

204. The relatively intense rainfall event which delivered a total of approximately 5 inches of rain to the West Valley site between August 8 and August 10, 2009, has important implications for the site’s susceptibility to erosion, long-term site integrity, storm return intervals, climate-change-induced changes in storm frequency and intensity, and the need for reliable data collection.

205. Several very obvious erosion effects occurred on and near the site in short periods of time (e.g., several hours) as direct results of the rain event and associated runoff, as I observed during

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110-127 DOE and NYSEERDA note the commentor’s recommendations for continued surveillance and monitoring of geomorphic and structural changes at and beneath WNYNSC.

110-128 DOE and NYSEERDA note the commentor’s information on the August 2009 rainfall event and that the National Weather Service stated that Sunday evening had some of the highest short-term rainfalls ever recorded in western New York (http://www.erh.noaa.gov/buf/svrwx/web_090810_Flashflood/indexflood.html).

DOE and NYSEERDA expect that the National Weather Service will review the storm data and make an official determination of the storm severity. It is expected that this effort would involve data and analysis of the type presented by the commentor.

DOE and NYSEERDA do not believe that the occurrence of this storm changes the estimate of long-term impacts for the West Valley decommissioning alternatives. The long-term hydrologic transport analysis includes the investigation of the effect of wetter and drier climates as noted in Appendix H, Section H.3.1. The long-term erosion analysis includes investigation of the effect of wetter climates, as noted in Appendix F, Section F.3.1.6.4 of this EIS. See also the response to Comment no. 110-104.

DOE, NYSEERDA, and the cooperating agencies are reviewing their practices and procedures for collecting data during larger storm events to identify measures that can be taken to increase the reliability of the data collection efforts.

DOE and NYSEERDA acknowledge the commentor’s opinion that full site removal is the appropriate decision for this EIS. Please refer to the response to Comment no. 110-1.

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a site inspection several days later (August 19, 2009). For example, knickpoints on both Erdman Brook and Franks Creek migrated several feet upstream, with associated enlargement of their plunge pools. The Quarry Creek ravine underwent substantial scouring and sidecutting in several locations near the old Rock Springs Road bridge abutments. This caused the root systems of large trees growing on the banks to be partly undercut, caused other large trees on the banks to fall into the ravine due to more extensive undercutting and slumping, caused or enhanced the slumping of other blocks of earth on the sloping ravine banks, caused large clayey clasts ranging up to 12 or more inches in diameter (apparently rip-up clasts plucked from the ravine banks by the flowing water) to be deposited within the ravine as the peak flow receded, and apparently caused large quantities of sediment to be carried downstream beyond the ravine during the storm event, both in the form of particles carried as suspended sediment and in the form of rip-up clasts (ranging up to 12 inches and more) that were carried as bed load by the flowing water. On the high bank of Buttermilk Creek where persistent slumping has occurred for decades and has been extensively studied, a large landslide carried thousands of tons of Lavery Till and Kent recessional sediments down the slope toward (and partly into) Buttermilk Creek. The immediate cause was apparently the erosional removal of some of the relatively uncohesive Kent recessional sediments from beneath the Lavery Till, which caused blocks of the unsupported till to break off and roll downslope into jumbled piles – but it is unclear whether the initial erosional removal of Kent recessional sediments was a result of *undercutting by high water in the creek(s) below* (meaning Buttermilk Creek and flow from “Heinz” Creek which enters Buttermilk opposite the landslide face), or as a result of *groundwater emerging from the base of the Kent recessional bed*, or as a result of *surface water cascading down from the top of the bank* and impinging on the Kent recessional bed at the height of the storm. This is one of several storm-related issues that needs to be studied and resolved.

206. The August 2009 storm event was not a unique or highly unusual occurrence for the West Valley site. During the past 50 years, the five storms shown in Table 1 on the next page have delivered roughly equivalent rainfall (storm totals of roughly 5 inches in each case) and have caused roughly similar high flow in Cattaraugus Creek. The August 2009 storm is not demonstrably larger than the others listed in this table, and the rainfall it delivered to the West Valley site is not demonstrably larger than about 5 inches.

207. Information discussed here and presented in Table 1 suggests that the return interval of the August 2009 storm is *about ten years*. Climate change, to the extent that it increases the frequency and/or intensity of severe storms (e.g., see comments 169-171 above), will reduce the return interval to *less than 10 years*.

208. Table 1 shows no onsite record of rainfall at the West Valley site for the August 2009 storm. No such data is available. A rain gauge that normally operates at the site was inoperative for part of the storm due to power outages and a lack of reliable connection to the site’s emergency backup generators. DOE and NYSERDA must immediately take steps to correct this type of serious failure. Power outages in severe storms are predictable, and reliable rain gauges are readily available.

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Table 1
Storms of approximately similar magnitude experienced at West Valley site in past 50 years

Date of storm	Associated hurricane or tropical storm, if any	Estimated peak flow (cfs) at USGS Cattaraugus Creek gage at Gowanda	Recorded rainfall (Buffalo)	Recorded rainfall (elsewhere)
Sept. 27-28, 1967	[none]	28,800 (Sept. 28) ¹	4.40" NWS ⁵	--
June 21-23, 1972	Agnes ¹	25,300 (June 23) ³	3.88" NWS ⁶	--
Sept. 14, 1979	Frederic ²	26,700 (Sept. 14) ³	4.89" NWS ⁷	--
June 26, 1998	[none]	28,000 (June 26) ³	0.30" NWS ⁸	3.25" WVDP ¹⁰ 8" Ashford ¹¹
Aug. 8-10, 2009	[none]	32,500 (Aug. 10) ⁴	2.78" NWS ⁹	3.45" Eden ¹² 7.75" Perrysburg ¹³

Notes:

1. See NWS 1972 N. Atlantic Hurricane Tracking Chart (online) for track of Agnes, which passed over central New York (not directly over WNY) as a tropical storm. See also Bailey, Patterson, and Paulhus, *Hurricane Agnes Rainfall and Floods, June-July 1972*. USGS Professional Paper 924 (Washington, DC: U.S. Geological Survey, 1975); U.S. Army Corps of Engineers, Buffalo District, *Report of Flood, Tropical Storm Agnes, June 1972*, NTIS Report AD-A100 811/9/HDM, 249 pages, August 1973.

2. See NWS 1979 N. Atlantic Hurricane Tracking Chart (online) for track of Frederic, the extratropical stage of which passed over central New York (not directly over WNY).

3. From http://nwis.waterdata.usgs.gov/ny/nwis/peak?site_no=04213500&agency_cd=USGS&format=html.

4. Real-time data retrieved August 2009, for site 04213500, USGS stream gage at Gowanda: http://nwis.waterdata.usgs.gov/ny/nwis/uv?cb_00065=on&cb_00060=on&format=html&period=30&site_no=04213500.

5. See www.erh.noaa.gov/buf/f6/bufSep67.html, which shows 0.99" on Sept. 27 and 3.41" on Sept. 28, 1967.

6. See www.erh.noaa.gov/buf/f6/bufJun72.html, which shows 1.75" on June 21; 1.43" on June 22; and 0.70" on June 23, 1972.

7. See www.erh.noaa.gov/buf/f6/bufSep79.html, which shows 4.89" on Sept. 14, 1979.

8. See www.erh.noaa.gov/buf/f6/bufJun98.html, which shows 0.30" on June 26, 1998.

9. From Preliminary Local Climatological Data (form F-6) for Buffalo NWS, retrieved August 2009 from www.weather.gov/climate/getclimate.php?wfo=buf, which shows 0.26" on August 8; 1.63" on August 9; and 0.89" on August 10, 2009.

10. West Valley site rain gauge record, as provided in 1998 by John Chamberlain.

11. Rain gauge maintained by Dr. Tim Siepel at his house in Ashford, NY, personal communication.

12. From <http://newa.nrc.cornell.edu/newa/Listener/>, daily data retrieved August 2009 for Eden, NY, showing 0.08" on August 8; 1.91" on August 9; and 1.46" on August 10, 2009. Cornell's NEWA website also lists weather stations in Dunkirk, Fredonia, and Gainesville, NY – but none in Cattaraugus County.

13. NWS Cooperative Weather Observer in Perrysburg measured 0.48" from 7:00 AM on August 8 to 7:00 AM on August 9, and measured 7.27" from 7:00 AM on August 9 to 7:00 AM on August 10, 2009.

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209. The agencies' failure to collect onsite rainfall data during the August 2009 storm needs to be considered in the context of the phased decisionmaking favored by DOE and NYSERDA in this EIS process. Phased decisionmaking, while not a prudent choice overall, has been justified partly by the claim that additional studies could be done in the interim period (up to 30 years) between Phases I and II. The proposed purpose of such studies would be to support Phase II decisionmaking – but *such studies are useless if crucial data collection activities are neglected*. Rainfall data is a key example of information needed to assess storm return periods and associated rates of erosion; however, both DOE and NYSERDA have a broader responsibility of recognizing relevant information-collection tasks and ensuring that such information is collected reliably and defensibly. Rainfall, considered here, is one example. Radiocarbon dates, considered above, are another example – but these are merely examples.

210. In the absence of onsite data, it is necessary to reconstruct the approximate rainfall that fell on the West Valley site during the August 2009 storm event. As already noted, the best estimate appears to be about 5 inches for the storm total (August 8 through August 10, 2009). This estimate is derived as follows, based on integrated total streamflow from the USGS Cattaraugus Creek gage at Gowanda combined with a reasonable estimate of the runoff-precipitation ratio, and also combined with the NWS Buffalo NEXRAD Doppler radar estimate of storm-total rainfall as of 12:09 AM on August 10, 2009.

211. Integration of Cattaraugus Creek streamflow for the 436 mi² drainage basin above Gowanda, after subtracting an assumed base flow of 300 ft³/sec, shows that the average runoff from that part of the drainage basin (which includes the West Valley site) during the entire August 2009 storm event was about 3.07 inches. For details of the calculation based on USGS half-hourly flow estimates at the Gowanda gage, see Table 2 at the end of these comments (pp. 62-80), esp. the last column of the table which shows the cumulative runoff from the storm. This runoff value (about 3.07", averaged over the 436 mi² drainage basin above Gowanda) is accurate within the accuracy of the USGS flow estimates and the accuracy of my base-flow estimate.

212. Runoff is closely related to rainfall; the ratio of runoff to rainfall can be predicted or estimated reasonably well, especially where studies have been done. See, for example, Randall, *Mean Annual Runoff, Precipitation, and Evapotranspiration in the Glaciated Northeastern United States, 1951-80*, USGS Open-File Report 96-395. Based on this and other sources, and on the 3.07" average storm runoff for the 436 mi² drainage basin above Gowanda, I find that the average storm-total rainfall for the 436 mi² drainage basin above Gowanda was approximately 5 inches. For the reasons described here, the average basinwide rainfall total for the August 2009 storm event must be close to this 5" value. It cannot be substantially different.

213. Localized variation in rainfall intensity within the 436 mi² drainage basin above Gowanda cannot be ruled out, but there is no evidence of any substantial variation. In the absence of site-specific data, the 5-inch basinwide average appears to be the best estimate of total rainfall that can be assigned to the West Valley site for this storm event. (Heavier localized rainfall fell in the lower half of the drainage basin. See www.erh.noaa.gov/buf/svrwx/web_080809_Derecho/indexderecho_1.html; www.erh.noaa.gov/buf/svrwx/web_090810_Flashflood/indexflood.html.)

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214. See also Figure 5, which shows a screen-capture image of the Buffalo NEXRAD radar estimate of storm-total precipitation as of 12:09 AM on August 10, 2009. It shows *a*) an estimated rainfall total of 4 to 5 inches in the vicinity of the site and *b*) a relatively uniform rainfall total over the entire Cattaraugus Creek drainage basin above Gowanda. This helps confirm the 5" rainfall total derived above for both the basinwide average and the West Valley site. Note that the storm event was not entirely over at 12:09 AM on August 10, 2009; however, the worst of the storm had passed, as can be inferred from the USGS Gowanda gage-height data (the crest was recorded at 6:35 AM on August 10 – see p. 65 in Table 2) and from the hourly radar images of the storm that are archived at www.wunderground.com. These can be reviewed (for August 8) at http://radblast-sf.wunderground.com/cgi-bin/radar/WUNIDS_composite_archive?centerlat=42.92906570¢erlon=-78.75081635&radius=124&newmaps=1&type=N0R&num=24&SD.epoch=1249704000&ED.epoch=1249790399&DELAY=60&delay=20&width=640&height=480 and (for August 9) at http://radblast-sf.wunderground.com/cgi-bin/radar/WUNIDS_composite_archive?centerlat=42.92906570¢erlon=-78.75081635&radius=124&newmaps=1&type=N0R&num=24&SD.epoch=1249790400&ED.epoch=1249876799&DELAY=60&delay=20&width=640&height=480 and (for August 10) at http://radblast-sf.wunderground.com/cgi-bin/radar/WUNIDS_composite_archive?centerlat=42.92906570¢erlon=-78.75081635&radius=124&newmaps=1&type=N0R&num=24&SD.epoch=1249876800&ED.epoch=1249963199&DELAY=60&delay=20&width=640&height=480.

215. Allowing for the possibility that rainfall during the last hours of the storm event (after 12:09 AM on August 10, 2009) fell disproportionately on the Buttermilk Creek subwatershed that includes the West Valley site, such that it received more than the basinwide average of 5 inches, it is conceivable that the site received up to 6 or 7 inches of rain during the August 2009 storm event. More than 6 or 7 inches seems entirely implausible, and the best estimate for total rainfall at the site remains 5 inches. Any of these rainfall totals for the August 2009 event, whether 5 or 6 or 7 inches, was demonstrably damaging to the site in terms of erosion impacts and overtopping of reservoir dams, *yet was far smaller than likely future storms and probable maximum precipitation (PMP) events*. Consider, for example, the heavy rains experienced in the vicinity of Binghamton, NY, on June 27-July 1, 2006 (up to 13-15 inches over 4 days in some locations, superimposed on moderately saturated soils, as described by Knuepfer, Geological Society of America 2007 Northeastern Section presentation); or the 19" delivered to western Schuylkill County, PA, by Agnes in 1972 (www.hpc.ncep.noaa.gov/tropical/rain/agnes1972filledrainblk.gif); or the 20" one-day deluge in Erie, PA, in July 1947 (see comment 173 above); or the 24.9" PMP storm for the West Valley site (see comment 173 above); or the 30+ inches that fell in the vicinity of Smethport, PA in July 1942 (see comment 173 above).

216. The West Valley site is obviously unprepared for storms beyond the magnitude of the August 2009 event, yet such larger storms can be expected under current climate conditions and will be predictably worse and/or more frequent as a consequence of climate change. Full cleanup of the site is needed to avoid future loss of waste containment at this site which is topographically and geologically unsuitable for waste disposal. Full site-wide removal is the appropriate choice in this EIS process.

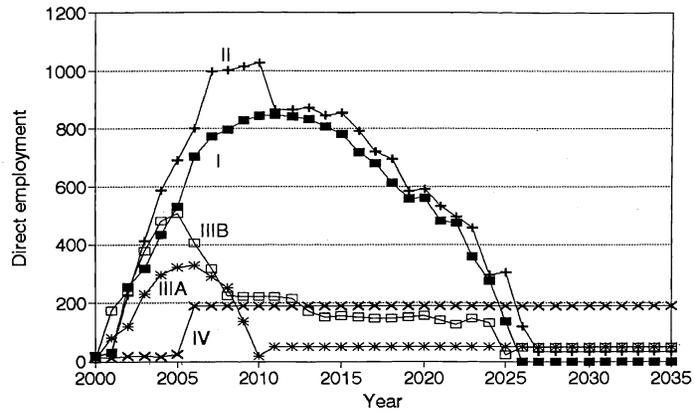
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Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

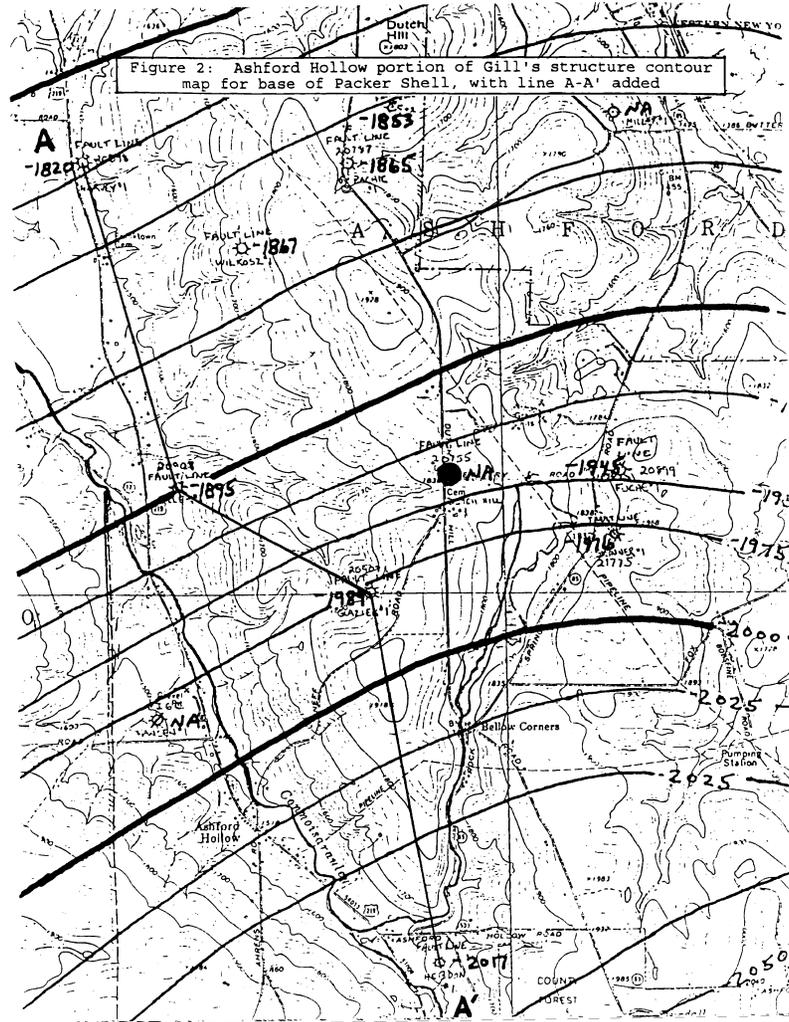
Figure 1

West Valley employment projections For various site closure alternatives



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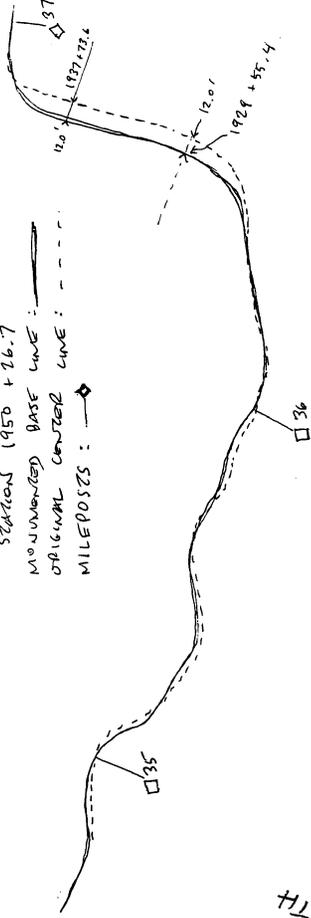
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Figure 4

DIAGRAM SHOWING RELATION OF ORIGINAL
(DASHED LINE) TO MONUMENTED BASE LINE
STATION 1836 + 02.3 TO

STATION 1950 + 26.7

MONUMENTED BASE LINE :
ORIGINAL CENTER LINE :
MILEPOSTS : \diamond



NORTH
↓

[insert map on]

RIGHT-OF-WAY AND TRACK MAP
BR & P RY.

STATION 1848 + ~~09.4~~ TO STATION 1900 + 89.3

JUNE 30, 1917

Revised to Jan. 1, 1955
Office of Chief Engr., Rochester, N.Y.

Commentor No. 110 (cont'd): Raymond C. Vaughan, Ph.D.

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Commentor No. 111: Arthur Beck, MD

June 9, 2009

Arthur Beck, M.D.

7221 Irish Hill Road

Ellicottville, NY 14731

proceed with all due speed to complet total exhumation of the west valley neuclearwaste site.

III-1

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DOE and NYSERDA acknowledge the commentor’s request to proceed with all due speed to complete exhumation at WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

**Commentor No. 112: Andrew L. Raddant, Regional Environmental
Officer, U.S. Department of the Interior**



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
408 Atlantic Avenue – Room 142
Boston, Massachusetts 02110-3334



June 8, 2009

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ER 08/1242

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874

RE: Draft Decommissioning and/or Long-Term Stewardship EIS Comments
West Valley Demonstration Project and Western New York Nuclear Service Center
Town of Ashford, Cattaraugus County, New York

Dear Ms. Bohan:

The Department of the Interior, including input from the U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Service (Service), has reviewed and is providing comments on the November 2008 "Revised Draft Environmental Impact Statement (DEIS) for the Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center" (WVNSC). The project is located in the Town of Ashford, Cattaraugus County, New York.

The Department of Energy (DOE) and NYSERDA propose to decontaminate and decommission the tanks and other facilities where high-level radioactive waste was solidified and stored. DOE proposes to dispose of low-level radioactive waste and defense-related transuranic waste generated from decontamination and decommissioning of activities off site and store vitrified high-level radioactive waste and non-defense, transuranic waste on site until it can be shipped to a Federal repository.

GENERAL COMMENTS

The DEIS evaluated four alternatives for decommissioning the West Valley Site and for ensuring the long-term stewardship. Alternatives include the Sitewide Removal Alternative, the Sitewide Close in Place Alternative, the Phased Decisionmaking Alternative, and the No Action Alternative as required by the National Environmental Policy Act (NEPA) and the New York State Environmental Quality Review Act (SEQRA). The Phased Decisionmaking Alternative is the preferred alternative.

The Sitewide Removal Alternative includes removal of all site facilities, decontamination of soils and sediments on site, and shipment of all radioactive, hazardous, and mixed low-level radioactive wastes off site when disposal sites are available.

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Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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The Sitewide Close in Place Alternative includes removal of all site facilities, decontamination of the soil and water, and shipment of all waste (except for orphan waste) off site to one of the approved facilities. This alternative would require major construction of several facilities such as the Interim Storage Facility, the Waste Tank Farm Waste Processing Facility, the Soil Drying Facility, the Leachate Treatment Facility, the Container Management Facility, and installation of a subsurface barrier wall located in Waste Management Area (WMA) 1, Environmental Enclosures for a Nuclear Regulatory Commission Disposal Area (NDA), a State-Licensed Disposal Area (SDA), Lagoon 1, and the North Plateau Groundwater Plume Source Area.

The Phased Decisionmaking Alternative includes removal of major facilities of the Main Plant Process Building, Vitrification Facility, and 01-14 Building, source area of North Plateau Groundwater Plume and lagoons, the Construction and Demolition Debris Landfill, non-source area of the plume, Waste Tank Farm, NDA, and SDA. This alternative would take 8 years to complete Phase 1 and the site would be under active management for up to 30 years to allow for the collection and analysis of data and information. Additional characterization and studies would provide information to support evaluations to determine technical approaches to complete decommissioning of the Waste Tank Farm and the Construction, Demolition, and Debris Landfill. Orphan wastes would be stored on site until disposal facilities are available. Major construction would include an Interim Storage Facility and installation of barrier walls in WMAs 1 and 2.

The DOE has completed the vitrification process and some of the solidified liquid low-level radioactive waste has been shipped off site, as mandated by the West Valley Demonstration Project Act. However, there are currently no alternatives available for off-site disposal of the solidified liquid high-level radioactive waste which is stored in the Main Process Building and in a plume of radioactive groundwater located beneath the building (Their 2008).

The site is also contaminated by other radionuclides, including tritium (hydrogen-3), cesium-137, radium-226, and plutonium-238 which can cause radiation damage including DNA damage, cancers, and other health problems. Several lagoons remain on site that were used to manage wastewater discharges from several activities, including reprocessing, vitrification, and decontamination. They contain a mixture of radioactive contaminants, heavy metals, and solvents, and monitoring has shown that some of these have migrated into soil and groundwater (Their 2008).

In general, the Department would agree with the preference stated in the DEIS for the "phased decision-making alternative" that proceeds with decommissioning the site to the extent possible, but stops short of either removing or constructing permanent storage facilities for the radioactive waste at the site. At the present time, permanent storage facilities for these types of waste do not exist in the United States, and long-term storage (greater than 10,000 years) of these wastes at the West Valley site has not been proven feasible. However, we remain concerned that decommissioning and demolition activities may adversely impact terrestrial and aquatic habitat and that the plume of highly radioactive groundwater containing Strontium 90 and other contaminants will continue to migrate into the surrounding soil and groundwater, adversely affecting water quality and aquatic wildlife habitats. We recommend that an ecological risk assessment be undertaken to evaluate risks to biota that occur on the West Valley Site and other areas affected by contamination, for inclusion in the FEIS or as a supplement to the DEIS. See also comments on Chapter 4.0 Environmental Consequences.

Fish and Wildlife Resources

112-1

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DOE and NYSERDA acknowledge the commentor's agreement with the preference stated in the Revised Draft EIS for the Phased Decisionmaking Alternative. This Final EIS addresses the long-term environmental impacts to biota. Please refer to Chapter 4, Section 4.1.6, under long-term impacts for the Close-In-Place and No Action Alternatives, for a description of long-term impacts on biota. A screening-level ecological risk assessment was performed that compared predicted concentrations against published DOE Biota Concentration Guides, which are concentration limits for radionuclides to protect biota.

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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These comments are pursuant to, and in accordance with, provisions of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). We may provide future comments pursuant to the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), and the Clean Water Act (33 U.S.C. 1344), as applicable.

General Comments

Cattaraugus Creek is located immediately downstream of the WVNSC and is the receiving waterbody for surface and groundwater that leaves the WVNSC. Cattaraugus Creek flows west through the Zoar Valley Multiple Use Area, a New York State Conservation Zone and Recreational Area, which is used for hiking, biking, fishing, and rafting and into Lake Erie. Zoar Valley and the watershed of Cattaraugus Creek have the highest number and concentration of rare plants in the Lake Erie Gorges region (The Nature Conservancy [TNC] Lake Erie Gorges Report).

Cattaraugus Creek is a perennial stream that supports a warmwater fishery with smallmouth bass (*Micropterus dolomieu*), walleye (*Sander vitreus*), yellow perch (*Perca flavescens*), bullhead (*Ameiurus* sp.), rock bass (*Ambloplites rupestris*), coho salmon (*Oncorhynchus kisutch*), chinook salmon (*Oncorhynchus tshawytscha*), and steelhead trout (*Oncorhynchus mykiss*). Brown trout (*Salmo trutta*) migrate from Lake Erie into the creek each fall from late August through December (September-November primarily), when salmonids ascend the streams to spawn. In addition, steelhead trout (lake-run rainbow trout) migrate into Cattaraugus Creek during the fall and between late February and April. Runs of trout and salmon occur inland as far as the Springville Dam (New York State Department of State website).

The lower Cattaraugus Creek area has supported populations of at least 5 rare fish species including the globally rare and state-threatened eastern sand darter (*Ptheostoma pellucidum*), as well as nesting bald eagles. Of the 5 fish species, only the mooneye (*Hiodon tergisus*), a state-threatened species, has been recorded in recent times (TNC Lake Erie Gorges Report).

Buttermilk Creek is also a perennial stream located on the project site along with three intermittent streams – Erdman Creek, Franks Creek, and Quarry Creek. These water bodies flow directly into Cattaraugus Creek. The site consists of developed and undeveloped areas with open lands and forests that provide valuable wildlife habitat. In addition, several wetlands have been delineated on the project site and include forested, scrub shrub, and emergent wetlands that support a variety of terrestrial and aquatic species, including rare species.

Wetlands on the landscape provide functions that include filtration of pollutants and nutrients, water retention and detention, and flood flow attenuation. Services include water quality protection and wildlife habitat. Wetlands improve water quality by retaining or transforming excess nutrients and by trapping sediment and heavy metals. They also provide many wildlife habitat components such as breeding grounds, nesting sites, and other critical habitat for a variety of fish and wildlife species.

Vernal ponds also provide critical habitat for a number of amphibians and invertebrates, some of which breed only in these unique ecosystems. Although vernal ponds may only hold water for a short duration in the spring, they provide valuable habitat which should be recognized and protected.

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Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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Lagoons, sediment ponds, and reservoirs located on site also provide limited habitat, especially for waterfowl (ducks and geese). These contaminated areas are an attractant to wildlife and decommissioning and long-term stewardship should consider wildlife deterrent methods to prevent wildlife from using these areas.

Terrestrial wildlife expected at the site include large and small mammals such as white-footed mouse (*Peromyscus leucopus*), red squirrel (*Tamiasciurus hudsonicus*), gray squirrel (*Sciurus carolinensis*), mink (*Mustela vison*), weasel (*Mustela* sp.), woodchuck (*Marmota monax*), eastern cottontail (*Sylvilagus floridanus*), skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), eastern chipmunk (*Tamias striatus*), porcupine (*Erethizon dorsatum*), whitetail deer (*Odocoileus virginianus*), red fox (*Vulpes fulva*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), and black bear (*Ursus americanus*) (New York State Department of Environmental Conservation [NYSDEC] website).

Avian wildlife habitat includes mature forested and deciduous communities that support species such as cerulean warbler (*Dendroica cerulea*), wood thrush (*Hylocichla mustelina*), Baltimore oriole (*Icterus galbula*), rose-breasted grosbeak (*Pheucticus ludovicianus*), scarlet tanager (*Piranga olivacea*), bay-breasted warbler (*Dendroica castanea*), black throated blue warbler (*Dendroica caerulescens*), worm-eating warbler (*Helmitheros vermivorum*), black-billed cuckoo (*Coccyzus erythrophthalmus*), brown thrasher (*Toxostoma rufum*), northern harrier (*Circus cyaneus*), Henslow's sparrow (*Ammodramus henslowii*), upland sandpiper (*Bartania longicauda*), and Canada warbler (*Wilsonia canadensis*). Game birds that are expected to be found in this area include wild turkey (*Meleagris gallopavo*), ring-necked pheasant (*Phasianus colchicus*), and ruffed grouse (*Bonasa umbellus*) (Robertson and Rosenberg 2003).

Species that commonly use aquatic environments include great blue heron (*Ardea herodias*), red-winged blackbird (*Agelaius phoeniceus*), and waterfowl (ducks and geese).

Specific Comments

Chapter 3.0 Affected Environment

p. 3-45, section 3.6.1 **Surface Water.** Streams, including permanent, intermittent, ephemeral, or even modified waterways (historically channelized or altered streams), provide important ecological, water quality, and flood control functions. Streams provide habitat for aquatic and non-aquatic organisms and are a source of organic matter and sediment for downstream reaches. The movement of water, nutrients, organic material, and organisms relies on maintenance of these systems. Consequences of stream loss or disturbance can include increased intensity and duration of downstream flooding, lower base flows, excess sedimentation, reduced habitat quality, reduction of organic material transport, and altered productivity of downstream areas (Meyer and Wallace 2001). Impacting a small section of stream interferes with nutrient/sediment transport downstream and affects flow dynamics both upstream and downstream of the impact. Changes in hydrology of the system by dam removal or installation of physical barriers can cause increased or decreased detention time of water upstream. Changes in hydrology may result in changes in sediment transport and natural scouring of the channel during storm events or spring floods (Jackson 2003).

To minimize adverse impacts to streams as a result of road crossings, a bottomless-arch culvert or bridge crossing should be used, when practicable, to reduce impacts to aquatic habitat. If a bottomless-arch culvert or bridge is not practicable for the crossing of a stream, a culvert should be installed to match the grade of the adjacent streambed upstream and downstream of the

112-2

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Under all of the decommissioning alternatives, including Phase 1 of the Phased Decisionmaking Alternative, the man-made lagoons and ponds would be excavated and backfilled and would no longer attract wildlife; thus, there would be no need to discourage wildlife from using these areas. Under the Sitewide Removal Alternative, the dams and reservoirs would be removed. Under the Sitewide Close-In-Place Alternative, the middle third of the dams would be removed and the reservoirs would be drained. Under the Phased Decisionmaking Alternative, the dams and reservoirs would continue to be monitored and maintained during Phase 1. If significant levels of contaminants were discovered, deterrent methods could be developed and implemented at that time.

112-3

Chapter 3 of this Final EIS describes the existing environment at WNYNSC. Descriptions of activities such as those described in this comment are included in Chapter 6. However, none of the activities required to implement any of the proposed alternatives involve construction of roads across streams. Therefore, no change to this EIS is required in response to this comment.

112-3

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

culvert. The culvert should be embedded into the natural stream bottom and appropriately sized to provide passage for fish and other aquatic organisms. Maintaining or replicating streambed conditions within the oversized culverts may facilitate use by salamanders, frogs, small mammals, and aquatic invertebrates, thereby maintaining habitat connectivity (Jackson and Griffin 1991). Additional culverts may be required in flood-prone areas to ensure passage of high water flows and aquatic species during high water events.

**112-3
cont'd**

p. 3-54, section 3.6.1.2 Stream Sediment Contamination. The sediments proposed for removal are contaminated. The Department recommends that DOE/NYSERDA design the sediment removal to ensure compliance with the NYSDEC guidance found in In-Water and Riparian Management of Sediment and Dredged Material (NYSDEC 2004).

The contaminated sediment would likely require closed bucket dredging and other measures to minimize re-suspension of sediment.

To protect fish and wildlife resources during the stream excavation/dredging operations, we recommend that the following approaches and techniques be taken:

- a) That all stream excavation/dredging work be conducted between July 15 and March 15 to protect warmwater fish spawning habitat in Cattaraugus Creek.
- b) Dredging operations should be conducted in a manner to preclude any spillage of dredged material between the stream excavation site and the contained disposal area. Methods to prevent overflow should be incorporated into the dredge plan.
- c) Fencing should be installed around the work area to protect wildlife from coming in contact with exposed contaminants.

112-4

112-4 Chapter 3 of this Final EIS describes the existing environment at WNYNSC. Descriptions of activities such as those identified in this comment would be included in Chapter 6. Because only small streams would be dredged, and those streams would be completely diverted before dredging, Chapter 6, Sections 6.3 and 6.5, have been revised to clarify the nature of the dredging activities and to include the relevant measures identified in this comment.

The Department recommends that DOE/NYSERDA evaluate the use of natural stream design in their restoration efforts instead of proposing to channelize the stream channel and install rock riprap. Stream channelization and installation of riprap or other hard material is known to increase stream velocities during high precipitation events, causing erosion and sedimentation and adversely affecting downstream waterways.

112-5

112-5 Chapter 6, Section 6.3, of this Final EIS has been revised to indicate that natural stream design will be considered when planning restoration activities.

The Department recommends that DOE/NYSERDA conduct ecologic studies including aquatic/benthic/macroinvertebrate studies in the streams on site to evaluate the biota prior to project implementation and for use in planning on-site restoration/mitigation project components. Please clarify if these studies were already conducted and if so, include the information in the DEIS.

112-6

112-6 A comprehensive ecological survey of the site was conducted in the early 1990s (WVNS 1992), including a survey of benthic macro invertebrates, which was used in developing both the Revised Draft EIS and this Final EIS.

p. 3-74, section 3.8.1 Terrestrial Resources. The DEIS characterizes the majority of the site as an eastern deciduous forest with beech (*Fagus* sp.), maple (*Acer* sp.), eastern hemlock (*Tsuga canadensis*), and white pine (*Pinus strobus*). The DEIS states that: 1) approximately 35 species of reptiles and amphibians may occur on the site, however, only ten amphibians and one reptile have been observed; 2) 175 species of birds have been recorded, but does not reference any documents; and 3) 50 mammalian species may occur on site, however, only 22 have been observed. References should be included in the Final EIS (FEIS).

112-7

112-7 The source of this information (WVNS 1996) is cited at the end of the appropriate paragraphs in Chapter 3, Section 3.8.1, of this Final EIS.

p. 3-75, section 3.8.2 Wetlands. On January 26, 2006, the Buffalo District of the U.S. Army Corps of Engineers (Corps) confirmed that the 375-acre site has 34.09 acres of jurisdictional

112-8

112-8 Impacts to wetlands, including Section 404 requirements, are described for each of the alternatives, including the No Action Alternative, in Chapter 4, Sections 4.1.6.1 through 4.1.6.4. Mitigation measures are also addressed in Chapter 6, Section 6.5. DOE would avoid impacts to wetlands to the extent possible; where impacts are unavoidable, DOE would follow both Federal and state requirements, including a wetlands statement of findings under 10 CFR 1021.313(c) and 1022.14, as appropriate.

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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wetlands and 2.43 acres of non-jurisdictional wetlands on site. The NYSDEC confirmed that 17.3 acres are regulated under Article 24.

We understand that DOE/NYSERDA is working with the Corps on a jurisdictional wetland determination and that a Clean Water Act (CWA) section 404 permit will be sought for any discharges of dredged or fill material into waters of the U.S. (Clean Water Act Pub. L. 92-500, as amended by Pub. L. 95-217, 33 U.S.C. 1251, *et seq.*).

We strongly recommend avoiding impacts to wetlands and other aquatic habitat systems. We also recommend establishing protective vegetative buffers around wetlands and establishing deed restrictions to protect the remaining wetlands. If wetland impacts are unavoidable, DOE/NYSERDA should minimize impacts to the greatest extent practicable as required by the CWA section 404(b)1 Guidelines at 40 CFR 230.10 (a)-(d).

p. 3-79, section 3.8.3 Aquatic Resources. Cattaraugus and Buttermilk Creeks are perennial streams located in the immediate vicinity of the project or on the project site. Three intermittent streams – Erdman Creek, Franks Creek, and Quarry Creek – are located on site. These water bodies flow directly into Cattaraugus Creek and into Lake Erie. The site consists of developed and undeveloped areas with open lands and forests that provide valuable wildlife habitat. In addition, several wetlands have been delineated on the project site and include forested, scrub shrub, and emergent wetlands that support a variety of terrestrial and aquatic species, including rare species.

The following information should be included in the FEIS to characterize downstream resources that may be affected by the activities on site:

Cattaraugus Creek is a meandering, perennial stream that supports a warmwater fishery including smallmouth bass, walleye, yellow perch, bullhead, rock bass, salmon, and trout. In the late fall, thousands of anglers take advantage of the annual steelhead trout runs in the lower reaches of Cattaraugus Creek. This area has supported populations of at least 5 rare fish species including the globally rare and state-threatened eastern sand darter. Of the 5 fish species, only the mooneye, a state-threatened species, has been recorded in recent times (TNC Lake Erie Gorges Report).

p. 3-79, section 3.8.4 Threatened and Endangered Species. As you are aware, Federally-listed species in Cattaraugus County include the endangered clubshell mussel (*Pleurobema clava*) and the candidate, rayed bean (*Villosa fabalis*). The bald eagle was delisted in August 2007; however, it remains protected by the MBTA, BGEPA, and NYSDEC.

The Service responded DOE's request for information on Federally-listed species in a letter dated July 29, 2008. In response, the Service recommended that the Department of Energy obtain a list of species known to be present in Cattaraugus County from the Service's website, and to follow the ESA consultation procedures.

The DEIS states in the third paragraph that "although reported in Cattaraugus County, clubshell and rayed bean were not found in Buttermilk or Cattaraugus Creeks when those streams were surveyed in 1991." The Service has no knowledge or a copy of the 1991 survey. The FEIS should include the correct citation, including an explanation of when and where the surveys were taken and what the current monitoring protocols are for radiological impacts to these species.

112-8
cont'd

112-9

112-10

112-9 Chapter 3, Section 3.8.3, has been revised to include mention of the downstream fisheries and the popularity of the lower reaches of the stream for recreational fishing. The text has not been revised, however, to mention the mooneye because, according to NYSDEC (<http://www.dec.ny.gov/animals/26032.html>), it is only found at the mouth of the creek some 25 miles downstream from the site.

112-10 The comprehensive ecological survey of the site noted in the first sentence of the third paragraph of Chapter 3, Section 3.8.4, correctly references WVNS (West Valley Nuclear Services Company) 1992, Environmental Information Document, Vol. XI, Ecological Resources of the Western New York Nuclear Services Center, WVDP-EIS-010, Rev. 0, West Valley, New York, December. That study, which includes surveys for aquatic macro invertebrates, found no mussel species in either Buttermilk or Cattaraugus Creek.

During preparation of the Revised Draft EIS, DOE requested information on threatened and endangered federally and state-listed species and significant natural communities from the U.S. Fish and Wildlife Service (USFWS), the New York Natural Heritage Program, and state and local experts (see Appendix O, consultation letter to S. Doran, USFWS, from B. Bower, West Valley Demonstration Project, dated August 26, 2009). Based on the results of the site-specific surveys conducted for macrobenthos in the early 1990s, as well as consultation with USFWS, the New York Natural Heritage Program, and state and local experts, DOE has determined that the activities proposed in this Final EIS would have no effect on either the clubshell or rayed bean; therefore, additional studies are not necessary. DOE has reworded the paragraph dealing with these species to more clearly reference the 1992 site ecological study and to make it clear that the state was asked for both federally and state-listed species. The reference to Doran 2008 has been removed from this sentence.

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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We understand that the DOE has contacted the New York Natural Heritage Program to obtain a list of known state-listed species occurrences in the vicinity of the site. The DOE should request information on both state- and Federally-listed species. In addition, listed species may still be present even if the Heritage Database does not show any known occurrences. The next step in the consultation process involves evaluating the site for suitable habitat. If suitable habitat exists, then presence/absence surveys may be warranted. The DOE is responsible for making the final determination under section 7 of the ESA. We look forward to reviewing your final effects determination.

**112-10
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Chapter 4.0 Environmental Consequences

In order to determine the extent of impacts on terrestrial and aquatic habitats as a result of the proposed activities, we recommend that DOE/NYSERDA conduct a comprehensive ecological risk assessment study to evaluate risks to biota from radionuclides that occur on the West Valley Site and other areas affected by contamination. This information is essential to evaluate impacts to terrestrial and aquatic species on the WVNSC Site and assist in the decision making process (Phase II) of the preferred alternative, and should be included in the FEIS or as a supplement to the DEIS. The DOE's 2002 Report entitled "A Graded Approach for Evaluating Radiation Doses to Aquatic and Terrestrial Biota (DOE-STD-1153-2002) may be useful in the assessment.

**112-1
cont'd**

p. 4-18, Table 4-4 Summary of Geology and Soil Resource Impacts. Site disturbance associated with removal actions including surface excavation and the construction of engineered caps would cause temporary impacts. Wildlife dispersal (mammals, birds, and fish) is expected during decommissioning and construction; however, fences will deter wildlife from entering the area and erosion control methods should reduce sediment migration during construction.

112-11

112-11 Habitat dispersal is addressed under Terrestrial Resources in Chapter 4, Section 4.1.6.1, and is noted in Chapter 6, Section 6.5. The latter section has been revised to include mention of fencing as a deterrent to wildlife movement onto disturbed areas. That section also provides a discussion regarding implementation of a soil erosion and sediment control plan.

p. 4-34, Table 4-9 Summary of Ecological Resources Impacts. The Department recommends that the FEIS include impacts in acres as well as hectares in the table.

112-12

112-12 The format used in this EIS is to include only one set of units in each table and to provide conversions to a second set of units as table notes. This is done to minimize the complexity and size of the tables.

p. 4-34, Terrestrial Resources. The preferred alternative proposes to impact 2 acres of terrestrial resources and approximately 41 acres of woodlands for the remediation of the Cesium Prong (Phase 1). Phase 2 would impact about 25 acres from the construction of erosion control methods (pg. 4-39).

112-13

112-13 Note that the Final EIS text states that under Phase 1 of the Phased Decisionmaking Alternative, the total area impacted would be about 2 acres. Under Phase 2, the major impact would be the loss of 41 acres of terrestrial habitat for the remediation of the Cesium Prong and 25 acres from construction of erosion control measures. Chapter 6, Section 6.5, addresses mitigation measures relative to ecological resources. This section notes that, "Construction and decommissioning activities would incorporate mitigation measures for ecological impacts such as avoidance of undisturbed habitat (e.g., nesting areas) and timing land disturbing activities to avoid animal breeding seasons." Erosion control is addressed in Section 6.5.

We recommend that the proposed tree removal be scheduled during the winter months to minimize impacts to plants and animals, especially breeding birds, and reduce erosion and sedimentation associated with site disturbance.

**112-8
cont'd**

p. 4-35, Wetlands. The DEIS states that the project may adversely impact between 4.4 and 7.0 acres of wetland. For example, approximately 5.1 acres of wetlands are proposed to be impacted by the remediation of the Cesium Prong and about 0.2 acre (and the 100 ft buffer regulated by NYSDEC) will be impacted by the removal of the SDA. Approximately 1.8 acres will be indirectly impacted by the closures of dams and reservoirs in WMA 12.

The Corps may require a CWA section 404 permit for these impacts if the construction involves discharges of fill material into regulated wetlands and other waters. The permit process may require further consultation with the Service pursuant to the FWCA and section 7 of the ESA. As stated above, additional comments may be provided under the BGEPA and MBTA. The Service may also provide technical assistance on fish, wildlife, wetland and aquatic impacts during development of the Final EIS pursuant to the NEPA.

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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p. 4-132, section 4.5.10 **Ecological Resources, 3rd paragraph.** In regards to the construction of U.S. Route 219, construction has begun on Section 5.

5th paragraph... "*Studies have documented an average mortality rate of 2.3 birds and 3.4 bats per turbine per year (NWCC, 2004).*"

The Service is actively involved in reviewing energy projects, including wind projects, under FWCA, MBTA, and the BGEPA. New studies show that the average mortality rate is much higher. Therefore, we recommend that DOE/NYSERDA revise this statement in the DEIS.

Hydrogeology

General Comments

Conclusions of the hydrogeologic studies and modeling that have been conducted at the site in past 20 years are largely consistent with the results of earlier studies conducted by the U.S. Geological Survey (Bergeron and Bugliosi, 1988; Kappel and Harding, 1987; Prudic, 1986 and Yager, 1987). On the South Plateau, the potential for lateral flow through the weathered Lavery till and much slower, downward flow through the unweathered Lavery Till are noted (p. E-53). On the North Plateau, hydraulic conductivity values (5 to 14 m/d; 6×10^{-3} to 1.6×10^{-2} cm/s) reported for the sand and gravel unit (p. 3-56, 3-58; now termed "thick-bedded unit") are similar to the 2 to 10 m/d range used Yager (1987) in a ground-water-flow model. The hydraulic conductivity of material above the eroded channel in the till surface north of the former reprocessing plant (now termed "slack-water sequence") has been found to have a higher hydraulic conductivity than surrounding areas, as noted in Yager (1987).

Estimated recharge to the sand and gravel unit used in the current modeling study (26 cm/yr, p. E-60) is identical to the effective recharge used by Yager (1987). The DEIS summarizes the ground-water budget reported by Yager (1987) on p.3-58, but fails to note that the effective recharge to ground water is total recharge (infiltration to the water table) minus evapotranspiration (ET) ($46 - 20 = 26$ cm/yr). The model documented in the DEIS uses effective recharge and does not represent ET from ground water, so the effective recharge from Yager (1987) provides the correct comparison.

Ground water contamination on the North Plateau is correlated with the location of the slack-water sequence and emanated from the former reprocessing plant, as postulated by Yager (1987). The contamination appears to be contained by ongoing remedial activities. Estimates of ground-water velocity by Yager (120 to 200 m/yr, 1987) are similar to the range reported by the DEIS (50 to 170 m/yr, Table E-12, p. E-67).

The development of the regional (far-field) ground-water-flow model is generally well documented. The vertical discretization appears sufficient, but we question the adequacy of the horizontal discretization (43 m), which is less than the grid resolution used by Yager (30 m, 1987). We understand the need to incorporate both the North and South Plateau areas in a single model, but the grid resolution should be increased to better simulate flow directions in the vicinity of the plant structures. This higher resolution model could then be divided in two parts and further refined to assess the effects of various structures proposed as remedial measures in the DEIS for the North and South Plateaus. Instead, two relatively crude near-field models were used to simulate the effects of these structures. The development and application of these near-

|| 112-14

112-14 Paragraph 3 of Chapter 4, Section 4.5.10, has been revised to indicate that construction of the new U.S. Route 219 Freeway is contributing to habitat fragmentation.

|| 112-15

112-15 Chapter 4, Section 4.5.10, has been revised and appropriate references were added to acknowledge that studies conducted at wind farms in the eastern United States have indicated that bird and bat mortality may be locally higher than stated in the Revised Draft EIS.

112-16 The hydrology discussion in Chapter 3, Section 3.6.2, has been revised to clarify that the recharge rates are effective recharge rates (total recharge minus evapotranspiration). In addition, the discussion in Appendix E, Section E.2.3.3, has been clarified to make this point.

The discussion on the top of page E-30 in the Revised Draft EIS has been clarified for the Final EIS as suggested by the commentor.

|| 112-16

112-17 The regional model was developed to understand flow on the larger scale. The separate model was used for the near-field flow analysis model because it was easier to construct and check input files and analyze predicted results.

The near-field flow analysis (Appendix E, Section E.4) has been refined for this Final EIS to reflect the more recent interpretation of the structure of the slack water sequence. The refined analysis for the North Plateau has been expanded to represent the entirety of the irregular shape of the sand and gravel unit. The revised discussion in Section E.4 clarifies the nature and results of the near-field flow analysis. The revised discussion also describes how the results were used to evaluate the alternatives.

|| 112-17

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

field models is not well written and the presentation is difficult to follow. The DEIS does not make clear why the far-field model, which more accurately represents the flow system, was not used as the basis for these assessment simulations, which are the focus of the ground-water-flow modeling effort described in the DEIS. No summary or conclusions are presented for these simulations of alternative management scenarios, which are the main objective of the modeling effort. These concerns should be addressed in the Final Environmental Impact Statement.

Specific Comments

Chapter 3, Affected Environment

p. 3-37, Table 3-5 Summary of Erosion Rates at the Western New York Nuclear Service Center. An estimated erosion rate is included for USGS (2007) under: "Downcutting of Buttermilk Creek, Optically stimulated luminescence age dating of 9 terraces along Buttermilk Creek", but no such reference appears in the reference list and, to my knowledge, no USGS studies were conducted at the site after the 1980's.

p. 3-58. The effective recharge rate (26 cm/yr, infiltration minus evapotranspiration) estimated by Yager (1987) is identical to that reported as recharge to the ground-water flow model discussed in this document (p. E-60), which does not represent evapotranspiration from ground water directly.

Appendix E, Geohydrology

p. E-21. The ground-water budgets reported here for Yager (1987) fail to mention that part of the estimated ground-water recharge was assumed to be discharged as evapotranspiration. Therefore, the effective recharge to ground water, which corresponds to "recharge" as discussed in the DEIS, is recharge minus evapotranspiration.

p. E-30, par. 1. It is not surprising that hydraulic heads simulated with a total recharge of 46 cm/yr as estimated by Yager (1987) would be too high if evapotranspiration from groundwater is not represented in the model. Please clarify in the FEIS.

p. E-42. The FEIS should include clarification on how the target water-level data were obtained through the trend analysis.

p. E-46. The reported RMSE (4.6 m) is about 10 percent of the observed measurement range. The travel-time observation (330 m in 1.6 years) is not discussed in the DEIS. The FEIS needs to clarify how this estimate was obtained. Is the travel time for a conservative solute?

p. E-58. The FEIS needs to clarify why the STOMP code was used in place of the FEHM code. In addition, the FEIS needs to make clear if the three 3D models referred to represent different management scenarios, and what the 1D model represents. The FEIS should also clarify why the boundary conditions were not taken from the far-field model, as is used in the telescopic refinement approach.

p. E-62. The FEIS should provide justification or clarification as to why a more refined approximation of the site geometry wasn't used for these simulations. This could easily be done by dividing the far-field model into separate parts and refining the finite-element mesh. Revision for the FEIS may be appropriate.

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- 112-18** The citation "USGS 2007" in Table 3-5 has been changed to "Mahan 2007," which is also cited in Appendix F. The reference has been added to the list of references in Chapter 7 of this Final EIS. The reference is a memorandum from the U.S. Geological Service Luminescence Dating Lab regarding data and final luminescence ages for sediment samples collected near Buttermilk Creek and from Cattaraugus Creek and Connoisarauley Creek.
- 112-19** Clarification of selection of the target water-level data has been added to Appendix E, Section E.3.5, of this EIS.
- 112-20** Additional language was added in Appendix E, Section E.3.5, that explains how the travel time estimate was developed and acknowledges that it is based on strontium-90 travel.
- 112-21** Refinement of the grid using the Finite Element Heat and Mass (FEHM) model is a cumbersome process. Therefore, the Subsurface Transport Over Multiple Phases (STOMP) model was selected because it provides full simulation of unsaturated-saturated conditions and could be implemented more readily. The titles of Appendix E, Sections E.4.1.1, E.4.1.2, and E.4.1.3, of this EIS indicate which of the three different management scenarios the model discussed in that section represents. Also, as stated in Appendix E, Section E.4, to provide understanding of the nature of one-dimensional flow models used in estimating human health impacts in this EIS, a description of the use of a one-dimensional groundwater transport model is presented in the discussion of historical conditions (Appendix E, Section E.4.1.1). Appendix E, Section E.4 notes that the approach for development of the near-field models is to use the stratigraphy and boundary conditions incorporated into the sitewide model to the extent possible with the STOMP computer code.
- 112-22** The text for the refined near-field flow analysis (Appendix E, Section E.4, of this EIS) has been revised to state that the model for the North Plateau has been expanded to represent the entire irregular shape of the sand and gravel unit.

Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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p. E-64. We assume that the attenuation of strontium-90 can be described by linear adsorption; please explain in the FEIS.

p. E-65. The FEIS should show the comparison of observed and simulated strontium-90 values as a graph.

p. E-67. The FEIS should clarify/explain how the simulated velocities compare with those observed.

p. E-70. The FEIS should clarify what the 1D model is/refers to in this discussion; please clarify in the FEIS.

p. E-71-72. The FEIS should clarify/present how the 2D cap model is coupled to the near-field model, and the conclusions from these near-field simulations.

Thank you for the opportunity to provide comments on the DEIS for the "Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center. Please contact me at the above-noted address, or at 617-223-8565, if I can be of further assistance. For specific questions on hydrogeology, please contact Mr. Richard Yager, U.S. Geological Survey, 30 Brown Road, Ithaca, New York 14850-1573 (phone: 607- 266-0217, ext. 3004). Questions concerning fish and wildlife resources should be directed to Ms. Sandra Doran, U.S. Fish and Wildlife Service, New York Field Office, 3817 Luker Road, Cortland, New York 13045 (phone: 607-753-9334).

Sincerely,



Andrew L. Raddant
Regional Environmental Officer

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112-23 The text for the refined near-field flow analysis (Appendix E, Section E.4, of this EIS) discusses the use of linear adsorption of strontium to approximate the plume profile observed at the site and provides reference to two site-specific measurements of the value of the distribution coefficient of strontium.

112-24 A comparison of observed and simulated values is presented in Appendix E, Figure E-45, of this EIS.

112-25 A comparison of values of groundwater flow observed on site and predicted using the regional model is presented in Appendix E, Table E-7, of this EIS. The ability of the near-field flow model to match observed levels of strontium-90 on the North Plateau provides additional evidence that flow parameters are in the proper range.

112-26 The text for the refined near-field flow analysis (Appendix E, Section E.4, of this EIS) states that the one-dimensional model is used for estimation of human health impacts.

112-27 The text for the refined near-field flow analysis (Appendix E, Section E.4, of this EIS) clarifies how the cap model is integrated with the near-field flow model and discusses the conclusions from these analyses.

**Commentor No. 112 (cont'd): Andrew L. Raddant, Regional
Environmental Officer, U.S. Department of the Interior**

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Commentor No. 112 (cont'd): Andrew L. Raddant, Regional Environmental Officer, U.S. Department of the Interior

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Commentor No. 113: Richard Weiskopf, MD

June 9, 2009

Richard Weiskopf MD

5031 Onondaga Road

Syracuse, NY 13215

We need comprehensive clean up and excavation of the West Valley nuclear waste site NOW. It is unconscionable to have left this radioactive waste unattended to all this time. More delay will endanger future generations.

113-1

113-1

DOE and NYSERDA acknowledge the commentor's request for comprehensive cleanup and excavation of WNYNSC now. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

*Commentor No. 114: Edward and Mary Chapin***June 9, 2009****Mary Q. Chapin****LWV, Utica/Rome Metro****56 Woodbrooke Road****New Hartford, NY 13413-4805**

20 years ago the LWV trained a group to monitor nuclear waste sites. Since that time, there has been no appreciable effort to protect the public. Instead projects such as West Valley have been stalled and stonewalled with the result that millions of people in the areas contiguous to nuclear waste sites have been placed in jeopardy. It is criminal to leave nuclear and/or chemical waste in an area that could endanger soil, air and water for millions of people. We sincerely hope that this project becomes a priority (before 30 years goes by) and that the public is kept aware of this situation and is a participant in any decisions that are made regarding the West Valley nuclear Waste cleanup. Respectfully yours, Edward and Mary Chapin

114-1

114-1 DOE and NYSERDA note the comment. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. Decisions on the remaining approximately 30 percent of these radionuclides would be made as soon as practicable, but no later than 10 years from issuance of the initial Record of Decision and Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Please see the Issue Summary “Concerns About Potential Contamination of Water” in Section 2 of this CRD for a discussion of this issue and DOE’s and NYSERDA’s response.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support

Commentor No. 114 (cont'd): Edward and Mary Chapin

the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

Commentor No. 115: Keith McConnell,
U. S. Nuclear Regulatory Commission

United States Nuclear Regulatory Commission Comments on Revised Draft
EIS "Decommissioning and/or Long-Term Stewardship at the West Valley
Demonstration Project and Western New York Nuclear Service Center"
DOE/EIS-0226-D (Revised) November 2008

Review Results: As part of this review effort, NRC evaluated significant comments that were made by NRC during the 2008 review (pre-concurrence and concurrence meeting) and also performed a high-level review of the document from a National Environmental Policy Act (NEPA) perspective. Most of the comments made by NRC last year were incorporated into the DEIS issued for public comment. Some of the comments were not incorporated, but the lack of incorporation of these comments would not necessarily prevent NRC from continuing to concur on the document.

The following list of comments is not considered complete; many of the comments that were made by NRC during the pre-concurrence review that were not incorporated in the EIS are expected to be considered during the ongoing assessment period (e.g., comments made on the erosion modeling in the long-term performance assessment due to the understanding that additional data will be collected and modeling performed to continue to evaluate potential erosion impacts at the West Valley site).

NRC is also still awaiting more detailed information from DOE on its resolution of parking lot issues. Some of these issues may be repeated below.

The detailed comments on the following pages can be summarized and binned into three categories:

Potential Issues Identified During Parallel Review of DEIS and Decommissioning Plan

- Differences in scenarios and parameter values evaluated in DEIS and DP used to calculate DCGLs
- Additional detail regarding DCGL development for the Preferred Alternative could be provided in the DEIS
- Potential lack of consideration of significant adverse (or beneficial) impacts resulting from Phase 1 engineered barriers on remaining facilities or closure

Comments Related to Issues Expected to be Addressed During the Ongoing Assessment Period

- Uncertainty in hydrogeological conceptual models
- Uncertainty in long-term performance assessment models (e.g., erosion predictions)

Other Comments that Would Increase Transparency in the DEIS

- Resolution of other comments listed below would also greatly increase transparency in the FEIS.

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Commentor No. 115 (cont'd): Keith McConnell,
United States Nuclear Regulatory Commission

Detailed Comments

1. Depending on DOE resolution of issues NRC raised in its requests for additional information on the decommissioning plan, DOE should consider updating the DEIS to reflect its latest understanding of potential significant impacts that may result from implementation of Phase 1 remedial activities (e.g., impacts of hydraulic barriers on tank/vault drying system, increased corrosion potential, and changes to flow velocities/directions on the North Plateau that may affect closure decisions) that were not previously considered in the EIS. DOE should also consider performing additional modeling during the ongoing assessment period to consider the impact of hydraulic barriers on the flow field making use of post-remedial monitoring data.
2. Additional information regarding the water balance for the South Plateau based on results from the regional groundwater flow modeling could be presented in Appendix E and in Chapter 3. Modeling results provided in Appendix E provide limited information on the water balance for the South Plateau. Additional information on the fraction of infiltration expected to seep or discharge to surface water versus infiltrate through the lavery till to the Kent Recessional Sequence (KRS) could be provided.
3. A key uncertainty identified in the water balance for the North Plateau is the discharge rate to Erdman Brook. As the highest rate is on the same order of magnitude as the total outflow of water from the North Plateau and lowest rate an order of magnitude lower than the highest rate (see Table E-7), it would seem important to include a discussion regarding how this uncertainty is being managed to support decommissioning decision-making.
4. A statement is made on page E-51 that a more refined interpretation of flow in the area of Erdman Brook would require further characterization of the lavery till sand, but that at present it was not expected to be a critical factor to the prediction of contaminant transport at the site. A basis for this statement is not provided. As discussed in a DP comment, the updated geological interpretation near the process building may impact exposure pathways for the Phased Decisionmaking alternative. Page E-10 identifies a flow pathway from the lavery till sand to streams as unconfirmed but this pathway may be important to the risk calculations if hydrological connection to the slack water sequence near the Main Plant Process Building is present as indicated on Figure E-8. Appendix E models were constructed and calibrated with old geologic interpretations and to old well screen designations (e.g., Figure E-21 shows locations of slack-water sequence and lavery till sand wells that do not appear to be consistent with current geological interpretations). Final calibrated parameters could be significantly different due to changes in hydrostratigraphy and updated modeling with the revised geology should be considered to support future decisions during the ongoing assessment period.

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Appendix E of this Final EIS includes updated information on the changes to flow velocities and directions following installation of the hydraulic barriers that would support the Phase 1 removal actions. Water levels in the area of the waste tank farms would continue to be managed by the existing dewatering wells noted in Appendix C.

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Water balance information has been developed for the revised near field-flow analysis presented in Appendix E, Section E.4, of this EIS. Tables have been added to Appendix E to present this water balance information.

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Water balance information has been developed for the revised near-field flow analysis presented in Appendix E, Section E.4, of this EIS. Tables were added to Appendix E to present this water balance information. This shows that the flow to Erdman Brook is a small percentage (approximately 15 percent) of the total outflow from the North Plateau. The data are reported in Table E-10.

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The revised interpretation of the Lavery till sand unit is that it is totally contained in the Lavery till. The potential for a pathway from the Lavery till sands to the streams, as described in the Revised Draft EIS, is no longer considered appropriate. The revised interpretation is used in the updated near-field flow analysis presented in Appendix E, Section E.4, of this EIS. The hydrologic effect of this updated interpretation is discussed in Section E.4. The dose consequences are presented in Chapter 4, Section 4.1.10, and Appendix H.

Commentor No. 115 (cont'd): Keith McConnell,
United States Nuclear Regulatory Commission

5. Transparency regarding how Appendix E flow and transport modeling results were used to support Appendix H long-term performance assessment calculations could be increased. For example, information on predicted seepage and baseflow from Appendix E modeling along stream reaches and other data on surface water flow rates and dilution factors used in the risk calculations in Appendix H could be provided.
6. It is not clear how lack of consideration of subsurface structures on the North Plateau affects the risk calculations (see pages E-51 and E-53). For example, subsurface structures underneath the Main Plant Process Building significantly affect the flow field and vertical profile of the North Plateau Groundwater Plume. These structures were not considered in the Appendix E models and the significance of their inclusion on the risk calculations is not clear.
7. A transport pathway to the KRS is dismissed for an on-site groundwater receptor (see page H-49). More specific information from the regional groundwater flow model on the expected rates of infiltration into the KRS from the overlying lavery till on both the North and South Plateaus could be provided to support elimination of this pathway of exposure or a more quantitative evaluation of potential impacts to the KRS could be provided.
8. The near-field flow and transport model assumes atmospheric pressure boundary conditions for the east side of the model domain to simulate seepage to Erdmann Brook and a constant head boundary condition to simulate discharge to the North Plateau drainage ditch to the north (page E-60). Results of the modeling appear to show little to no flow towards Erdman Brook on the east (Figure E-37). It is not clear that the water balance for the near-field model is consistent with the data. It is also not clear why the eastern portion of the model was truncated for the Phased Decisionmaking alternative (page E-76).
9. NRC expects DOE to continue to collect data and update modeling during the ongoing assessment period to address key uncertainties identified in the long-term performance assessment.
10. Transparency in Appendix H dose calculations could be increased including the following:
 - a. Reference is made to use of RESRAD and tables of parameters are provided for the RESRAD calculations (page H-11 through H-14); however, Appendix G discusses a human health effects impact model with no specific reference to RESRAD. Please clarify if the human health effects impact model is RESRAD.
 - b. Discuss the appropriateness of using one set of parameters to perform risk calculations for the entire site when the parameters would vary based on location on the site, exposure point location, and presence of engineered barriers (see Tables H-6 through H-11).
 - c. Clarify if the occupancy factors for the on-site erosion receptor described on page H-18 are the same as those presented in Table H-9.

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- 115-5** The transparency has been improved by the addition of clarifying text to Appendix H, Section H.2.2.1, of this EIS.
- 115-6** The updated near-field flow analysis shows relatively rapid vertical mixing for sources near the Main Plant Process Building. The inclusion of additional structural detail in the analysis would not affect this conclusion. Values of hydraulic conductivity used for subsurface structures for the Sitewide Close-In-Place Alternative are presented in Appendix E, Section E.4.1.2, of this EIS.
- 115-7** The primary reason for dismissing the Kent recessional sequence from being a pathway for a receptor on the NDA or SDA is because the Kent recessional sequence is only partially saturated and is not considered a reasonable aquifer. The partial saturation of the Kent recessional sequence is observed in monitoring wells and is predicted by the hydrologic models. Flow balance results from the near-field flow models have been added to Appendix E of this EIS; these results report Darcy velocities to the Kent recessional sequence on the order of 2 centimeters per year. The regional-scale model reports similar results.
- 115-8** The domain of the near-field flow waste has been expanded in the updated analysis presented in this Final EIS. The expanded domain includes the entire length of Erdman Brook. Water balance tables for the updated analysis presented in Appendix E, Section E.4, of this Final EIS show the limited flow to Erdman Brook.
- 115-9** DOE and NYSERDA note the comment; however, it is premature to commit to detailed studies and projects in this EIS. DOE and NYSERDA agree that, if the Phased Decisionmaking Alternative is selected, under Phase 1 important work would be conducted that is critical to completing the project. For example, information gathering or improved analytical methods for long-term performance assessment conducted during Phase 1 would aid consensus decisionmaking for Phase 2 activities.
- 115-10** Appendix G does refer to RESRAD. Appendix G, Section G.2.1, of this EIS describes the use of RESRAD for the analysis of impacts to surface soil users. Section G.3.4.3 refers to the use of RESRAD for the calculation of impacts from groundwater releases. Section G.4.2.3 refers to the use of RESRAD for the analysis of impacts from direct intrusion.
- 115-11** Parameters are varied to reflect known changes in physical properties. Available data are adequate to support different properties between the North and South Plateaus, but are not adequate to support local variation on a finer scale.

Commentor No. 115 (cont'd): Keith McConnell,
United States Nuclear Regulatory Commission

- d. The RESRAD parameterization in the EIS is different than used in the decommissioning plan for Phase 1 (e.g., Table H-10 ingestion rates are from NUREG-5512 while RESRAD default values are generally used to derive DCGLs in the DP). Clarify why risk estimates in the DEIS are based on different scenarios and parameters than those evaluated in the DP.
- e. Deer bioaccumulation factors should be provided (see Table H-16).
- f. A statement is made on page H-22 that the calibrated one-dimensional Sr-90 model presented in Appendix E was used for risk calculations starting from the initial release in 1968. It is not clear why current plume distributions were not used in the risk calculations or why the model was not calibrated to present conditions rather than calibrating the model to the 1995 plume data. Significant inaccuracies in the leading edge of the plume could result in significant underestimates of the risk to downgradient and offsite receptors due to decay.
- g. A statement is made on page H-47 that for the purposes of the analysis of the No Action alternative, the Main Plant Process building and vitrification facility and waste tank farm are assumed to have collapsed and lost their structural integrity after exactly 100 years. The implementation of this assumption in the performance assessment calculations is not clear. For example, are releases assumed to not occur until 100 years or are releases assumed to occur but catastrophic failure assumed at 100 years?
- h. It is not clear why zero doses are realized for the North Plateau Groundwater Plume in Table H-45 or why there would be no dose to a home construction worker in Table H-46. The plume is close to the surface on the North Plateau and could result in a dose to a home construction worker. Sr-90 contaminated groundwater could be deposited on the ground surface and lead to resident farmer doses.
- i. Clarify why the well driller doses are negligible in Tables H-44 and H-45 (i.e., clarify if this is a result of the cuttings pond shielding assumption). Clarify if cuttings pond assumptions affecting shielding for the well driller scenario are consistent with regional practices and expected site conditions.
- j. Suggest adding footnote "a" in Tables H-44 and H-45 to the appropriate rows in the Sitewide Close-In-Place alternative column. It appears a sentence should also be added to footnote "a" to state that the dose to the well driller is also nearly zero due to presence of the cap.
- k. Footnote "a" on page H-49 may need to be corrected as a well appears to be located on top of Lagoon 1 on Figure H-3.
- l. Suggest adding statements, as appropriate, to the paragraphs on page H-70 or other sections of the EIS regarding how facilities will be maintained in a safe configuration during the ongoing

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115-12 The text for the onsite erosion receptor has been expanded to clarify that exposure is continuous, and thus different from the data values for exposure presented in Table H-9 for a residential farmer.

115-13 The scenarios and parameters used in this EIS are considered to be reasonable and appropriate for estimating environmental consequences consistent with the requirements and guidance of NEPA.

The scenarios and parameters used in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)* are being prepared consistent with the separate NRC guidance for preparing Decommissioning Plans.

115-14 The deer bioaccumulation factors have been added to Appendix H, Table H-16, of this EIS, even though this pathway is a small contributor to total receptor dose.

115-15 The 1995 data is the primary source of data for calibrating the plume because it is the only sampling program that characterized the entire plume. The more recent data is only for selected areas of the plume, but it is still used as a check on the calibrated plume model. In addition, the long-term performance assessment considered the potential impacts of the radionuclides (carbon-14, iodine-129, uranium-238, and plutonium-239) included in the estimated source term, but not reflected in the sampling program.

115-16 The release is assumed to occur after 100 years because it is assumed that the maintenance activities will be effective in keeping water out of the facilities.

115-17 Appendix H, Tables H-46 and H-47, of this EIS have been revised to present estimates of dose for the North Plateau Groundwater Plume for the direct intrusion scenario.

115-18 The cutting pond assumptions are consistent with traditional well driller assumptions used in NRC and DOE analyses. Appendix H, Tables H-46 and H-47, of this EIS were revised to present dose estimates for the North Plateau Groundwater Plume.

115-19 In finalizing this EIS, the footnotes for these tables were checked to ensure that they accurately reflect the analysis.

115-20 The footnote was revised in this Final EIS to clarify that the cap prevents direct intrusion for the NDA, SDA, Main Plant Process Building, and Waste Tank Farm.

Commentor No. 115 (cont'd): Keith McConnell,
United States Nuclear Regulatory Commission

- assessment period to prevent any significant releases into the environment under the Phased Decisionmaking alternative.
11. Other specific performance assessment comments:
- Discuss whether a time- and spatially varying Kd to account for the geochemical changes (e.g., buffering of the acid release that led to creation of the North Plateau Plume) along the flow path from the Main Plant Process Building over time could improve calibration of the transport model to data.
 - Although the peak was captured adequately, the leading edge of the plume is also important as it impacts the downgradient and offsite Sr-90 concentrations (see Figure E-41 and associated text). If the leading edge of the plume is delayed, the risk associated with Sr-90 may be significantly reduced due to decay.
 - Additional details on the representation of the HLW tanks in the models would assist with interpretation of the results..
 - It is not clear why recharge was reduced upgradient of the slurry wall to simulate the affects of the slurry wall. It would seem that the slurry wall hydraulic properties would lead to the intended response (page E-71).
 - Page H-5, first bullet, It appears Franks Creek should be changed to Buttermilk Creek
 - A footnote is provided on page H-8 that states that dilution along any stretch of Buttermilk Creek towards Cattaraugus Creek would have essentially the same dilution. A basis for this statement is not provided. Provide information on the dilution factor for this stretch and provide supporting information for this assumption.
 - Suggest including the expected extent of the engineered barrier (cover) in Figure H-3 so that it is clear to the reader where certain exposure scenarios are either reduced or eliminated due to the presence of a thick cover.
 - Table H-4, page H-10, Suggest adding text or a footnote to clarify if the maximum hole depth listed in the table or the actual depth to waste is used in the risk calculations.
 - Table H-4, page H-10, It is not clear what soil ingestion rates are used for the well drilling scenario and how the presence of a wet cuttings pond affects the inhalation dose.
 - Page H-11, first paragraph, Suggest adding clarifying text to state that the resident farmer is evaluated for only off-site receptors in the erosion case.
 - Table H-43, Footnote "c" states that the dose for the North Plateau Groundwater Plume for the No Action alternative is slightly less than the Sitewide Close-In-Place Alternative but this does not appear to be the case. Please check the footnote and values in the table.
12. Draft Environmental Impact Statement (EIS) Section 4.1.6 and Appendix M indicate that wetland delineation activities were conducted for the

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- 115-21** Additional explanation was added as suggested by the comment.
- 115-22** The rate of contaminant transport is influenced by both hydraulic conductivity and the distribution coefficient (Kd). As illustrated in Appendix E, Section E.4, of this EIS, the use of a model that reflects two zones with different hydraulic conductivity provides a good match to monitoring data. The text of Appendix E identifies spatial variation of groundwater velocity as an important factor in determining the shape of the leading edge of the plume.
- 115-23** For the purpose of the long-term performance assessment, the entire contaminant inventory of the plume is represented as discharging to offsite surface water through the North Plateau ditch rather than through the combination of the ditch and seeps along Franks Creek. In addition, the revised near-field groundwater flow analysis predicts movement of the peak of the plume off site in less than 100 years. The combination of these factors reduces the role of decay and provides a conservative estimate of dose to offsite receptors.
- 115-24** Appendix E, Section E.4, of this EIS contains additional details on the representation of the Waste Tank Farm in the long-term performance assessment model.
- 115-25** The refined near-field flow analysis (Appendix E, Section E.4, of this EIS) includes a french drain for a more realistic representation of the system and uses the historical estimate of recharge rate for the upgradient area.
- 115-26** The recommended change to cite Buttermilk Creek was made.
- 115-27** The note was expanded to provide a basis for the assumption.
- 115-28** Revising Appendix H, Figure H-3, of this EIS would make it too difficult to read. Instead, a footnote has been added to the text in Section H.1.2, which refers the reader to Appendix C figures that show the extent of the various engineered caps.
- 115-29** Table H-4 was expanded to include the requested information.
- 115-30** No changes to the table are necessary. The text describing the well driller scenario in Appendix H (and Appendix G) was revised to remove the inadvertent soil ingestion pathway in order to accurately reflect the analysis performed in this EIS.
- 115-31** The suggested change was not made. An onsite resident farmer along Buttermilk Creek is analyzed for the unmitigated erosion case.

Commentor No. 115 (cont'd): Keith McConnell,
United States Nuclear Regulatory Commission

Western New York Nuclear Service Center (WNYNSC) in July and August 2003 and confirmed by the U.S. Army Corps of Engineers in November 2005. Note that a Supreme Court decision (*Rapanos vs. United States*) was made in June 2006 which addressed the geographic extent of federal jurisdiction under the Clean Water Act. In 2007, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency issued joint guidance to their staffs on implementing the court's decision. The guidance suggests that the two agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether the waters have a significant nexus with traditionally navigable waters:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non navigable tributary

In addition, in July 2008, the Draft Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region was published, which is part of a nationwide effort to address regional wetland characteristics and improve the accuracy and efficiency of wetland-delineation procedures.

The 2007 guidance and 2008 draft manual may warrant a revision of the determination of 0.98 hectares [2.43 acres] of isolated wetlands that were previously determined to be not under U.S. Army Corps of Engineers jurisdiction.

Editorial Comments

13. Chapter 1 defines the developed areas on WNYNSC, with the exception of the state disposal area, as the project premises. Throughout the document, especially in Chapter 3, several terms are used in place of the project premises, such as West Valley Demonstration Project (WVDP) premises, WVDP grounds, WVDP project premises, WVDP, WVDP site, West Valley site, West Valley, WVDP site area, the project, and the site. As appropriate, limit the use of terms for the property to the Project Premises and WNYNSC.
14. The last sentence of Section 2.4, Alternatives Evaluated in this Environmental Impact Statement, on page 2-32 states, "The text box above describes the disposal assumptions used for each waste type." However, the referenced text box is located on page 2-30.
15. The surficial geology at the WNYNSC consists of a North Plateau, South Plateau, and East Plateau. The three plateaus are discussed throughout the document and predominantly are spelled with capital letters; however, use of capital letters is not always implemented. For consistency throughout the document, determine a grammatical standard and revise accordingly.

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- 115-32** The results changed for the Final EIS, so the comment has been overtaken by events.
- 115-33** DOE reviewed the 2007 EPA and U.S. Army Corps of Engineers (ACE) guidance memorandum, "Clean Water Act Jurisdiction," and the 2008 ACE *Draft Interim Regional Supplement to the ACE Wetland Delineation Manual*. With regard to the latter, the first page of the draft states that, "The determination that a wetland is subject to regulatory jurisdiction under Section 404 or Section 10 must be made independently of procedures described in this supplement." Thus, the issue of whether or not the 12 isolated wetlands are jurisdictional depends on a review of the 2007 EPA and ACE guidance memorandum.

The guidance memorandum states that ACE will decide the jurisdiction of isolated wetlands "...based on a fact-specific analysis to determine whether or not they have a significant nexus with a traditional navigable water." The guidance goes on to state that, "... (the) analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters." Although a specific analysis has not been conducted, DOE recognizes that the 12 isolated wetlands identified in 2003 and reaffirmed during the 2005 review are similarly situated to the site tributaries, as are the jurisdictional wetlands. Further, these wetlands could be expected to function similarly because, like many jurisdictional wetlands, nearly all are wet meadows. Thus, for purposes of the analyses in this EIS and based on the new guidance, DOE has conservatively included the 0.98 hectares (2.43 acres) of isolated wetlands as jurisdictional, thereby resulting in a total area of regulated wetlands of 14.78 hectares (36.52 acres). Chapter 3, Section 3.8.2; Chapter 4, Sections 4.1.6.1, 4.1.6.2, and 4.1.6.3; and Appendix M of this EIS have been revised to reflect this change.

- 115-34** This Final EIS has been reviewed and revised for consistent terminology. "Project Premises" is the term used for the area and facilities used by DOE to carry out its responsibilities under the West Valley Demonstration Project Act. "Western New York Nuclear Service Center" and "the site" are used interchangeably, as appropriate. A text box has been added to Chapter 1 to define these terms.
- 115-35** The reference to the text box has been reviewed and revised accordingly in this Final EIS.
- 115-36** This EIS has been revised to use capital letters when referring to the specific plateaus.

**Commentor No. 116: Barbara Warren,
Citizens' Environmental Coalition**

■ **Seneca Nation of Indians** ■

Beyond Nuclear ■ Buffalo Diocese Care for Creation Committee ■ Canadian Coalition for Nuclear Responsibility ■ Catholic Charities of Buffalo ■ Center for Health, Environment & Justice ■ Citizens Campaign for the Environment ■ Citizens' Environmental Coalition ■ Citizens Resistance at Fermi 2 ■ Coalition for a Nuclear-Free Great Lakes ■ Coalition on West Valley Nuclear Wastes ■ Community Concerned About NL Industries ■ Concerned Citizens of Cattaraugus County ■ Don't Waste Michigan ■ Empire State Consumer Project ■ Environmental Action Group of Western New York ■ Environmental Advocates of New York ■ Finger Lakes Citizens for the Environment ■ Finger Lakes Zero Waste Coalition ■ Fluoride Action Network ■ Freshwater Future ■ Franciscan Sisters of St. Joseph ■ Great Lakes Sport Fishing Council ■ Great Lakes United ■ Greenpeace ■ Hopewell Junction Citizens for Clean Water ■ Niagara Improvement Association ■ Niagara Watershed Alliance ■ Nuclear Information & Resource Service ■ NY Public Interest Research Group ■ Peace Action of Central New York ■ Peace & Justice Committee ■ Public Employees Federation/ Encon ■ Rainbow Alliance for Clean Environment ■ Religious Coalition for the Great Lakes ■ Save the Pine Bush ■ Selkirk, Coeymans, Ravena Against Pollution ■ Sierra Club Atlantic Chapter ■ Sierra Club Niagara Group ■ Sisters of St. Joseph Global Environment Committee ■ Social Justice Committee ■ Social Justice Ministry ■ Solidarity Committee of the Capital District ■ The League of Women Voters of New York State ■ Veterans For Peace, Chapter 10 ■ WNY Council on Occupational Safety & Health ■ Western NY Peace Center ■

September 8, 2009

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
Germantown, MD 20874

Re: Draft Decommissioning and /or Long –Term Stewardship EIS Comments

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Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

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Dear Ms. Bohan,

The final cleanup plan for the West Valley nuclear waste site is an extremely important issue which will have a major impact on the future of the Great Lakes and New York's environment, drinking water supplies, public health and economic vitality for tens of thousands of years. Four options are presented in the Draft Environmental Impact Statement for the West Valley site: 1) Sitewide Removal; 2) Sitewide Close-In Place; 3) Phased Decision Making; and 4) No Action. The agencies' preferred alternative, Phased Decision-Making, fails to satisfy the requirements of NEPA, as it is a non-decision which therefore unnecessarily postpones the cleanup decision for nearly 99% of the site's radioactivity for up to 30 more years.

We strongly recommend that the Department of Energy (DOE) and NYS Energy Research & Development Authority (NYSERDA) select the Sitewide Removal Alternative. This is the only alternative that provides a comprehensive cleanup of the site through excavation of the large inventories of radioactive wastes in the burial grounds. Sitewide Removal also provides the safest solution by ultimately removing radioactive waste from an unstable site with serious erosion problems. This approach prevents catastrophic releases which could cause severe damage to communities, drinking water supplies and Lakes Erie and Ontario and the St. Lawrence Seaway.

The Sitewide Removal approach also is the most cost-effective. The state-funded study, The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (FCA Study) found that leaving buried waste on site is both high risk and expensive while a waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion while onsite buried waste costs \$13 billion to \$27 billion or more if a catastrophic release occurred.

We oppose the options which would leave radioactive waste buried on the site, including the preferred Phased Decision Making Alternative. The Phased Decision Making in Phase 1 would demolish the process building in order to excavate the suspected source of the radioactive strontium plume, remove a portion of the strontium plume, clean up the lagoons and install barriers in an attempt to control groundwater contamination. All of this cleanup work would address only 1.2% of the total radioactivity on the site. Decisions on a majority of the waste, or almost 99% of the radioactivity would be put off for up to 30 years and addressed in a vaguely described Phase 2 with no defined public process as required by NEPA (National Environmental Policy Act). Wastes left buried on site includes high-level radioactive waste tanks and sludge and the two burial grounds with enormous amounts of long-lasting radioactive waste. Given the decades of study of this site, and the 14 year delay on the DEIS, the Phased Decision Making approach is an unacceptable and unnecessary delay.

In addition, this Alternative not only fails to tell us about key elements of Phase 1, such as the type of data collection, but it is unclear about what future actions would be done in Phase 2. As such this DEIS is not in compliance with both the State Environmental

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116-1 DOE and NYSERDA have prepared a single, comprehensive EIS for the decommissioning and long-term stewardship of the WNYNSC. This EIS adequately analyzes the totality of the environmental impacts of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Close-In-Place, Phased Decisionmaking, and Sitewide Removal), as well as the No Action Alternative required by NEPA and SEQR.

While the Phased Decisionmaking Alternative temporarily defers a final decision on the disposition of the Waste Tank Farm, the NDA, and the Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within the current EIS.

116-2 DOE and NYSERDA acknowledge the commentors' preference for the Sitewide Removal Alternative and opposition to alternatives that would leave waste on site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

116-3 DOE and NYSERDA have reviewed the report referred to by the commentors. Please see the "Conclusions of the *Synapse Report*" Issue Summary in Section 2 of this CRD for further discussion of the report's issues and DOE's and NYSERDA's response.

116-4 The commentors' statement regarding actions that would be taken during Phase 1 of the Phased Decisionmaking Alternative is consistent with what is stated in the EIS. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue

**Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition**

Quality Review Act (SEQRA) and the National Environmental Policy Act (NEPA). Specifically, the DEIS does not fully assess the environmental impacts of a specific cleanup method because there is no decision on whether to even do a cleanup. Future decisions on the remaining 99% of the cleanup could be made by the agencies with no public input. No monitoring and maintenance of on-site facilities during the 30 year period is described. The Phased Decision Making does not commit to a full cleanup and is incomplete, thus the DEIS is incomplete.

**116-5
cont'd**

Among the problems with leaving wastes buried onsite at West Valley is that it does not protect the environment due to serious erosion problems, and it poses a significant risk to residents if controls fail and waste pollutes nearby drinking water. Erosion is an especially powerful and fast moving force at the West Valley site as it sits on a geologically young landscape which is undergoing a relatively rapid rate of erosion. Michael P. Wilson, Ph.D., SUNY Fredonia Professor of Geosciences found in the FCA study that, "Nuclear wastes, radioactive for tens of thousands of years, will be consumed by erosion and discharged downstream to Lakes Erie and Ontario in less than 3,000 years and may be dangerously exposed in less than 200 or 300 years."

116-6

Another problem is that the potential environmental and health impacts of leaving an estimated 99% of the radioactivity on site for another 30 years was not studied in the DEIS. For instance, the high-level waste tanks, with 300,000 curies of radioactivity, are nearing the end of their functional life (50 years) and any leaks could seriously pollute the EPA-recognized sole source aquifer. Scientists found the site poses a significant danger to people who live nearby, in Buffalo and along the shores of Lakes Erie and Ontario, and if just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and water replacement would cost hundreds of millions of dollars. (FCA Study) The DEIS underestimates such risks and was severely criticized by NYSERDA in the Forward to the DEIS. NYSERDA stated that the DOE's environmental assessments are fatally flawed and scientifically indefensible for analyzing impacts over the long term for erosion, engineering controls and health impacts. The failure to adequately analyze the long term impacts of buried waste biases the resulting cleanup decision.

116-7

Other problems include the fact that the DEIS ignores that the site must be maintained into perpetuity if buried waste is left on site. In this case, perpetuity is not a dozen years, or even two or three generations—the buried radioactive waste would have to be monitored, tracked, and maintained in place for tens of thousands of years with burdensome and expensive maintenance costs. The EIS failed to analyze long term costs of monitoring and maintaining controls at the site for even 1,000 years and failed to consider any impacts from climate change.

116-8

The site sits on top of a sole-source aquifer and has been plagued with problems, such as radioactive contaminated groundwater. We strongly recommend that the Final Environmental Impact Statement select the Sitewide Removal Alternative as it is the only remedial approach that will protect the precious Great Lakes of Erie and Ontario.

**116-2
cont'd**

ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA agree that public involvement is an essential component in the decisionmaking process for any EIS. Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQRA requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

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We have a unique opportunity at West Valley. The state and federal governments can take the long term cost effective approach and protect the Great Lakes by making the decision now to exhume all of the waste before more of it leaks and causes irreversible damage. Implementing a full cleanup decision will be challenging but now is the time to make that choice and put our best resources toward protecting the water and Great Lakes region. Thank you for considering our comments. We have enclosed a penny for each group and individual with this letter to symbolize the fact that the proposed 1% cleanup will not protect the Great Lakes, a priceless freshwater resource.

Please direct correspondence to Citizens' Environmental Coalition, 33 Central Ave., Albany, NY 12210.

Sincerely,

Barbara Warren
Citizens' Environmental Coalition
Albany, New York

Anne Rabe
Center for Health, Environment & Justice
Albany, New York

Tony Ciarfello
Community Concerned About NL Industries
Colonie, New York

Ellen Connett and Paul Connett, PhD
Fluoride Action Network
Canton NY

Diane D'Arrigo
Nuclear Information & Resource Service
Washington, DC

Doug Bullock
Solidarity Committee of the Capital District
Albany, NY

Victoria B. Ross
Western NY Peace Center
Buffalo, NY

**116-2
cont'd**

116-5 As indicated in the response to Comment no. 116-1, DOE and NYSERDA believe the analysis in this EIS meets the requirements of NEPA and SEQR.

Chapter 2, Section 2.4.3, of this EIS describes decommissioning activities under the Phased Decisionmaking Alternative and provides a discussion of the data collection, studies, and monitoring to be performed during implementation of Phase 1 and the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2. Section 2.4.3.3 explains how the additional data and studies would be used in making a decision regarding potential future activities. Information on current monitoring activities is provided in Chapter 3 and Appendix C; these activities would continue for the facilities remaining on site during Phase 1 implementation. The environmental impacts of Phase 1 implementation are described for each resource area in Chapter 4.

If the Phased Decisionmaking Alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA. DOE and NYSERDA believes this phased approach is consistent with NEPA and SEQR requirements. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Public involvement in the Phase 2 decisionmaking process is addressed in the response to Comment no. 116-4.

Section 3
Public Comments and DOE and NYSERDA Responses

Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

5

Raymond Turner Jr.
Seneca Nation of Indians
Salamanca, NY

Debra Hall
Hopewell Junction Citizens for Clean Water
Hopewell Junction NY

Wayne Bayer
Public Employees Federation/ Encon
Division 169
Albany, NY

Bob Ciesielski
Sierra Club Niagara Group
Niagara Falls, New York

Shirley Hamilton
Niagara Improvement Association
Niagara Falls, NY

Katherine Bourbeau
Finger Lakes Zero Waste Coalition
Geneva, New York

Dennis Walczyk
Catholic Charities of Buffalo
Buffalo, New York

Thomas Marks
Great Lakes Sport Fishing Council
Derby, NY

Sister Judith Elaine Salzman
Franciscan Sisters of St. Joseph
Hamburg, NY

Linda Ochs
Finger Lakes Citizens for the Environment
Waterloo, NY

Judy Braiman
Empire State Consumer Project
Rochester, New York 14618

116-6 DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE and NYSERDA's response.

116-7 Responses to the commentor's statements regarding "leaving an estimated 99 percent of the radioactivity on site" and the "FCA Study" are provided in the responses to Comment nos. 116-4, and 116-3, respectively.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flow is into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying.

Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile. Chapter 2, Section 2.3.1, of this EIS, as well as text in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)*, have been clarified to acknowledge that the liquids remaining in the tanks will be dried as a result of installation and operation of the tank and vault drying system and that this drying

Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

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Donald Weigel
Peace & Justice Committee
Immaculate Conception RC Church
East Aurora, NY

James Travers
Selkirk, Coeymans, Ravena Against Pollution
Ravena, NY

Lynn Jackson
Save the Pine Bush
Albany, NY

Gordon Edwards, PhD
Canadian Coalition for Nuclear Responsibility
Montreal, Quebec

Roger Cook
WNY Council on Occupational Safety & Health
Buffalo, NY

Michael J. Keegan
Coalition for a Nuclear-Free Great Lakes
Monroe, MI

Sister Sharon Goodremote, FSSJ
Buffalo Diocese Care for Creation Committee
Buffalo, NY

Renato Sanges
Sandra Fonda
Rainbow Alliance for Clean Environment
Gloversville, NY

Rachel Heckl
Great Lakes United
Amherst, New York

John Amidon
Veterans For Peace, Chapter 10
Albany, NY

Cecilia Resti and Jerry Lotierzo
Peace Action of Central New York
Syracuse, New York

will be complete before any Waste Tank Farm decommissioning actions are initiated.

DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analyses. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

116-8 As acknowledged in this EIS, long-term monitoring and maintenance would be required for alternatives that would leave waste on site. This EIS provides a summary description of current and potential future environmental monitoring programs. The descriptions of the alternatives were revised to further describe the use of engineered barriers and long-term monitoring and maintenance. Long-term monitoring and maintenance are described in Chapter 2, Sections 2.4.2.6 and 2.4.3.8. Information on current monitoring and institutional controls activities is provided in Chapter 3. Long-term monitoring and institutional controls are also discussed in Chapter 6. Additional information about current and proposed monitoring and institutional controls is provided in Appendices C, H, and I. Chapter 2, Table 2-4, includes estimates of the environmental consequences if (1) monitoring and maintenance are successful (institutional controls remain in place) and (2) monitoring and maintenance programs fail (institutional controls are lost).

Detailed information regarding long-term monitoring and maintenance programs and institutional controls under alternatives that would leave waste on site indefinitely have not been specifically defined at this time. Such definition

Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

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Laura Haight
NYPIRG
Albany, NY

Brian Smith
Citizens Campaign for the Environment
Buffalo, NY

Roger Downs
Sierra Club Atlantic Chapter
Albany, NY

Jim Riccio
Greenpeace
Washington DC

Jackson Morris
Environmental Advocates of New York
Albany, NY

Joanne Hameister
Coalition on West Valley Nuclear Wastes
Springville, NY

Kathy Fonte
Social Justice Ministry
Nativity of Blessed Virgin Mary Church
Williamsville, NY

Gloria McLaughlin
Social Justice Committee
St Joseph's Roman Catholic Church

Judith M. Anderson
Environmental Action Group of Western NY
Buffalo, NY

Lois Ann Zendarski
Concerned Citizens of Cattaraugus County

Betsey Swan
The League of Women Voters of New York State

Irene Senn
Religious Coalition for the Great Lakes

would occur after an alternative is selected for implementation and would include consultation with appropriate regulatory authorities. An element of the long-term programs would be the development of plans and procedures for responding to emergencies. The plans and procedures would include coordination and agreements with local police and fire departments and medical facilities. Consistent with current practices, DOE and NYSERDA would provide training to emergency responders (see Chapter 3, Section 3.10.3.2, of this EIS).

The analysis in this EIS recognizes the potential for climate change to influence the long-term consequences of waste management. Climate changes, whether natural or influenced by human actions, could change the nature and amount of precipitation. Appendix H, Section H.3.1, of both the Revised Draft EIS and the Final EIS discusses the sensitivity of groundwater flow to changes in annual precipitation. The revised erosion prediction used for the unmitigated erosion dose analysis is based on the assumption that storms could occur more frequently than indicated by current records. This prediction includes the effects of storms of greater severity than the one that occurred in the region in August 2009. The use of this higher erosion rate associated with an elevated precipitation rate is discussed in Appendix H, Section H.2.2.1. Chapter 4, Section 4.3.5, has been revised to include a discussion of how the uncertainties about future climate change are addressed in this EIS.

Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

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Cheryl Mendoza
Freshwater Future
Petoskey, MI

Sister Phyllis Tierney
Sisters of St. Joseph Global Environment Committee
Rochester, NY

Vincent Agnello
Niagara Watershed Alliance
Youngstown NY

Kevin Kamps
Beyond Nuclear
Takoma Park, MD

Alice Hirt
Don't Waste Michigan
Holland, MI

Keith Gunter
Citizens Resistance at Fermi 2
Livonia, MI

Individuals

Ronald J. Scudato, Ph.D.

Rev. John R. Long, DD
Pastoral Associate at First Presbyterian Church
Buffalo, NY

Margaret Holland
Doctoral Candidate
Teachers College, Columbia Univ.
NYC, NY

Elinor Weiss
East Amherst, New York

Kathleen Duwe
Springville, NY

Amy Witryol
Lewiston, NY

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Commentor No. 116 (cont'd): Barbara Warren,
Citizens' Environmental Coalition

Robin McClellan
Potsdam, NY

Arthur J. Giacalone
Attorney-at-Law
East Aurora, NY

Bob Sullivan
St. Pete, FL

Meryl Brott
Brighton, MA (formerly of E. Aurora, NY)

Judith Z Deck
Tonawanda, NY

Esther Bates
Kenmore, NY

Elaine Kellick
Tonawanda, NY

Linda Weiss
Williamsville, NY

cc. Nuclear Regulatory Commission, Rebecca Tadesse, Chief

Letters also to

Steven Chu
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Francis J. Murray, Jr.
President & CEO
New York State Energy Research and Development Authority
17 Columbia Circle
Albany, New York 12203-6399

Governor David A. Paterson
State Capitol
Albany, NY 12224

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Commentor No. 117: Michael and Joanne Middagh

June 10, 2009

Michael and Joanne Middagh

1082 Sweet Road

East Aurora, NY 14052

CLEAN IT UP! ISN'T IT ABOUT TIME

|| 117-1

117-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

**Commentor No. 118: Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

Citizens' Environmental Coalition

Nuclear Information and Resource Service

June 5, 2009

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
Germantown, MD 20874

Re: Draft Decommissioning and /or Long -Term Stewardship EIS Comments

Dear Ms. Bohan,

Our comments address both the Decommissioning Plan and the Draft EIS. There are numerous problems with these documents and public disclosure and involvement. While DOE is supposedly entertaining comments on 4 Cleanup Alternatives in the EIS, the Agency has chosen one alternative, Phased Decision-making for the Decommissioning Plan and submitted this to the Nuclear Regulatory Commission for review. This would indicate that the Agency is only going through the motions of a public process and that DOE has already made its final decision on an Alternative, no matter what the public and its elected officials have to say about it.

We believe that the public process and major portions of the documents are fatally flawed and require major corrections, which we discuss below. However, there is one alternative that has been adequately disclosed and presented to the public in the EIS: Site-wide Removal, a complete excavation and cleanup of all radioactive material. All other Alternatives have significant problems related adequate public disclosure of the entire project, a reasonable future public process, scientifically indefensible analyses of long term impacts and evidence of a reasonable rationale for selecting a particular alternative. The health and environmental assessments understate the future risks regarding loss of containment and control of dangerous radioactivity. In other words for NEPA purposes, the EIS is fatally flawed.

In the Decommissioning Plan DOE goes through a tortuous analysis of various legal and regulatory structures related to West Valley, and despite clear legal and regulatory requirements, DOE crafts a future scenario where its responsibilities are very limited and where the public and New York State will be left with an extensively

118-1

118-2

118-3

118-1 Consistent with an agreement between NRC and DOE, DOE is preparing the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project (Phase 1 Decommissioning Plan)* simultaneously with the preparation of this EIS. The proposed decommissioning approach described in the *Phase 1 Decommissioning Plan* is consistent with the Preferred Alternative in the EIS. NRC recognizes that the use of the Preferred Alternative in the *Phase 1 Decommissioning Plan* before completion of the EIS is preliminary and subject to change based on the content of the Final EIS and DOE's Record of Decision. If DOE selects an action other than the current Preferred Alternative, the *Phase 1 Decommissioning Plan* would be revised to reflect DOE's Record of Decision. While DOE is conducting the NEPA review and *Phase 1 Decommissioning Plan* preparation processes in parallel, the Agency has not yet made its final decision regarding its actions for completion of the West Valley Demonstration Project.

118-2 DOE and NYSERDA acknowledge the commentor's support for the Site-wide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

DOE and NYSERDA agree that public involvement is an essential component in the decisionmaking process for any EIS. Because of the interest in public participation expressed in the comments received on the Revised Draft EIS, DOE has decided that, should the Phased Decisionmaking Alternative be selected, DOE would seek additional public input prior to the Phase 2 decision regardless of the exact NEPA process utilized. Specifically, public involvement would continue until final decisions are made and implemented. Public meetings would continue to be held on at least a quarterly basis, and additional meetings would be held as necessary to assure timely communication with the public. DOE and NYSERDA would continue to support the West Valley Citizen Task Force, which is expected to remain in place during this time.

NYSERDA would assess results of site-specific studies and other information during Phase 1. NYSERDA expects to prepare an EIS, or to supplement the existing EIS, to evaluate Phase 2 decisions for the SDA and balance of WNYNSC. In accordance with SEQR requirements, a public comment period would be held by NYSERDA along with public meetings to further solicit stakeholder input.

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

2

contaminated site that will threaten the Great Lakes and the sole source aquifer. We believe DOE has a moral and legal obligation to fully cleanup the West Valley site in order to protect priceless natural resources and future generations and that can only be accomplished by choosing the Sitewide Removal Alternative.

Below we review the major problems we have found thus far. These major problems indicate that the Decommissioning Plan and the EIS are fatally flawed and cannot be used for Decommissioning or Long Term Stewardship. One cleanup alternative stands out in the EIS as having been adequately analyzed and presented to the public: the Sitewide Removal Alternative, which we support.

Thank you for your consideration. We would appreciate being kept informed of future meetings and deliberations on this important matter.

Sincerely,



Barbara Warren
Executive Director
Citizens' Environmental Coalition

Diane D'Arrigo
Radioactive Waste Project Director
Nuclear Information & Resource Service

118-3
cont'd

118-4

118-3
cont'd

118-3

Regarding the analysis of long-term impacts and future risks, DOE disagrees with statements that the long-term performance assessment is "scientifically indefensible." This point is discussed in more detail in response to Comment no. 118-4. Chapter 4, Section 4.1.10, presents the future risks associated with the alternatives evaluated in this EIS. The analysis accounts for human health risk for onsite and offsite receptors and considers the site hydrology and hydrological transport of contaminants under scenarios of continuing institutional control, loss of institutional control, and unmitigated erosion following loss of institutional control.

DOE and NYSERDA provide their rationale for identifying the Phased Decisionmaking Alternative as the Preferred Alternative in Chapter 2, Section 2.7, of this EIS. As noted above, a decision on the selected course of action and rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative, as well as the commentor's concern about continued DOE participation in the cleanup of the WNYNSC site. DOE will remain on site until it completes its responsibilities as assigned under the West Valley Demonstration Project Act. DOE would not leave the site after completion of the Phase 1 actions because it would not have completed the actions required under the Act. The description of the Phased Decisionmaking Alternative in Chapter 2 of the EIS has been revised to clarify this, and the wording in the *Phase 1 Decommissioning Plan* has been revised to avoid the implication that DOE would leave the site at the end of Phase 1.

118-4

Please see the response to Comment no. 118-2.

This EIS has been prepared in accordance with the requirements of NEPA and SEQR. DOE and NYSERDA have prepared this single, comprehensive EIS for the decommissioning and long-term stewardship of WNYNSC. As required by NEPA and SEQR, it analyzes the environmental impacts of a broad spectrum of reasonable alternatives that meet the respective purposes and needs of DOE and NYSERDA (Sitewide Removal, Sitewide Close-In-Place, and Phased Decisionmaking), as well as the No Action Alternative. A detailed work plan is not required to complete an EIS and normally is not developed until a decision is made.

This EIS adequately analyzes the totality of the environmental impacts, including costs, of the identified alternatives. These impacts are presented in Chapter 4 of this EIS.

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

3

**Comments on the West Valley Decommissioning Plan and
Draft Environmental Impact Statement**

I The Environmental Impact Statement and the Public Process are fatally flawed and cannot support moving forward with any option other than Sitewide Removal for the following reasons:

- A. An Environmental Impact Statement should contain these major and essential elements:
- A Complete Plan or Project
An EIS should start with a complete plan or project and then fully describe all elements of the project.
 - Identification of all Potential Environmental Impacts and then full Analysis of those impacts.
 - Full Public Disclosure involving a legitimate public process with information made available and an adequate opportunity for the public to have some influence on the decisions that are made.
 - A reasonable rationale for any decision, such as the choice of the Preferred Alternative
- B. The only cleanup option that has been fully analyzed and disclosed to the public is the Sitewide Removal Alternative-- full excavation and cleanup of the radioactive material. As a result this is the only cleanup option that is legally eligible under NEPA, National Environmental Policy Act, for consideration by the agencies for adoption.
- C. For all of the other options, there is no detailed description of the monitoring of containment for leaks or failures, no assessment of the impacts associated with containment failure, no plan for rapid response to containment failure and as a result there is little public information about an essential element of any cleanup option that allows buried waste to be maintained on site. Similarly there is no detail regarding the engineering and institutional controls needed to maintain buried waste on site. Items B & C here appear to be the result of the agency viewing only concrete actions, such as excavation, as something to be covered in the EIS. Neglecting or taking no action to cleanup major facilities at the site gets little attention in the EIS.
- D. In the case of the Phased Decision-making Alternative, the preferred alternative, the situation is even worse, because there is no complete plan or project described in the DEIS.
- Phased Decision-making is not a complete plan or project. Agency personnel engaged in thinking over a long time period can not be considered a project.

**118-4
cont'd**

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The public comment process for this EIS meets the requirements of NEPA and SEQR. The Revised Draft EIS was issued for public review and comment on December 8, 2009. DOE's Notice of Availability announced a 6-month public comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) and three public hearings. In response to requests from the public, DOE and NYSERDA extended the original public comment period for an additional 90 days, through September 8, 2009. An additional public hearing was held in Albany, New York, and the hearing originally scheduled for Blasdell, New York, was moved to a more central downtown Buffalo, New York, location. DOE and NYSERDA held the public hearings to provide interested members of the public with opportunities to learn more about the content of the Revised Draft EIS from exhibits, factsheets, and other materials; to hear DOE and NYSERDA representatives present the results of the EIS analyses; to ask clarifying questions; and to provide oral or written comments. A website (<http://www.westvalleyeis.com>) was established to further inform the public about the Revised Draft EIS, how to submit comments, the public hearings, and other pertinent information. Comment submission mechanisms and public hearing dates, times, and locations were announced in the *Federal Register* and New York State Environmental Notice Bulletin notices, in local newspapers, and on the website. Members of the public who expressed interest and are on the DOE and NYSERDA mailing list for the Revised Draft EIS were notified by U.S. mail regarding hearing dates, times, and locations.

In addition to the Sitewide Removal Alternative, this EIS addresses the Sitewide Close-In-Place Alternative, which would leave some radioactive and hazardous wastes in place. Phase 2 of the Phased Decisionmaking Alternative would have impacts ranging between these two alternatives, depending on the decision made during Phase 1 activities. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in the sense that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, the EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analysis. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

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- The action portion of Phase 1 only addresses 1.2% of on-site radioactivity. There is no explanation regarding why Phase 1 is limited to such a small amount of cleanup.
- Decisions regarding 99% of dangerous radioactive material needing cleanup are delayed for 30 years. The complete plan or project for cleanup is unknown.
- 30 years of Data Collection-- absolutely necessary additional studies, according to the agencies involved-- but only cursory information provided to the public in the DEIS. The public has received no justification as to why these studies are needed in lieu of an approach that plans to fully cleanup the site and completes needed studies while other cleanup tasks are in progress. If these studies are necessary for determining a safe and adequate work plan in Phase 2, we should have received more detail so that we could comment.
- At the end of Phase I, future final decisions on the remaining 99% of the cleanup will be made by the Agencies involved with no public input.
- No monitoring and maintenance of on-site facilities during the 30 year period is described—a fatal flaw- when the high level waste tanks are at the end of their 40 year life span and there is no plan for replacement as initially envisioned.
- An immediate cleanup of just 1% of the radioactive materials on site, with no rationale provided in the DEIS for why 10%, 20% or more of the radioactive waste was not slated for cleanup in Phase I.
- A reasonable person would naturally approach the two issues of limited clean-up and 30 year delay with a lot of questions regarding the wisdom of such an approach as it relates to safety, health and environmental contamination. A reasonable person would be disappointed that the major documents provided, the Decommissioning Plan and the Environmental Impact Statement, fail to adequately discuss appropriate care and maintenance for the major radioactive facilities that are being put off to Phase II.
- There is no definitive statement that Phase II is the final phase. If only 1% of radioactivity is dealt with in each phase we might have 100 phases before completion of the work at the site.

II The Draft Environmental Impact Statement is identified as for Decommissioning and Long Term Stewardship at the West Valley Site, yet fails to adequately analyze and discuss decommissioning or long term stewardship. The Decommissioning Plan also suggests that DOE will no longer be involved at the site after Phase I activities are completed.

- A. An immediate cleanup of just 1.2% of the radioactive materials on site could have been accomplished as a necessary remedial measure without wrapping it into a package identified as Decommissioning and Long Term Stewardship.
- B. Decommissioning and Decontamination of the site and the majority of the dangerous radioactive material, including those activities covered under the

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118-5 DOE and NYSERDA acknowledge the commentor's opposition to leaving radioactive or hazardous waste on site. Please see the response to Comment no. 118-2.

As acknowledged in this EIS, long-term monitoring and maintenance would be required for alternatives that would leave waste on site. This EIS provides a summary description of current and potential future environmental monitoring programs. The descriptions of the alternatives were revised to further describe the use of engineered barriers and long-term monitoring and maintenance. Long-term monitoring and maintenance are described in Chapter 2, Sections 2.4.2.6 and 2.4.3.8. Long-term monitoring and institutional controls are also discussed in Chapter 6. Additional information about current and proposed monitoring and institutional controls is provided in Appendices C, H, and I. Chapter 2, Table 2-4, includes estimates of the environmental consequences if (1) monitoring and maintenance are successful (institutional controls remain in place) and (2) monitoring and maintenance programs fail (institutional controls are lost). Chapter 4, Section 4.2, includes monitoring and maintenance costs for the alternatives that would leave waste on the site.

Detailed information regarding long-term monitoring and maintenance programs and institutional controls under alternatives that would leave waste on site has not been specifically defined at this time. Such definition would occur after an alternative is selected for implementation and would include consultation with appropriate regulatory authorities. An element of the long-term programs would be the development of plans and procedures for responding to emergencies. These plans and procedures would include coordination and agreements with local police and fire departments and medical facilities.

In addition, all DOE sites, including WNYNSC, have developed plans that assure prompt responses to emergencies. As discussed in Chapter 3, Section 3.10.3.2, of this EIS, agreements have been established among police and fire departments in the West Valley area that would ensure responders provide emergency services in the event of an incident or accident. Responders are trained and briefed annually by the Radiation and Safety Department at WNYNSC and NYSERDA on how to deal with potential emergencies, including training to provide assistance in chemical or radioactive occurrences. In the event of an emergency, a written protocol for emergency medical needs at WNYNSC provides the basis for support from Bertrand Chaffee Hospital and the Erie County Medical Center.

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West Valley Demonstration Project Act, were not presented in any detail. In fact the Decommissioning Plan went to great lengths to emphasize that future Decommissioning would be the responsibility of New York State as the owner of the site. The objectives identified therefore are much narrower than decontamination and decommissioning. As stated by DOE their primary objective is not prejudicing final decisions in Phase II.

- C. Long Term Stewardship and a complete description of what the Agencies consider to be necessary engineering and institutional controls were similarly not presented in the Decommissioning Plan and DEIS. The only possible explanation, we can find, for identifying the DEIS as covering Decommissioning and Long Term Stewardship is to attempt to avoid requirements under NEPA, the National Environmental Policy Act, for public involvement in critically important decisions about leaving radioactive material on site and the necessary engineering and institutional controls.

III Health Impact analyses are distorted by non-conservative assumptions. The examination of alternatives is not enlightening because DOE set up comparisons that were non-comparable.

- A. It is not conservative for DOE to assume minimal air and water releases subsequent to decommissioning under any of the alternatives, p. 4-51 EIS.
- B. It is not conservative to assume that the cessation of maintenance and other activities under the Close-in-place alternative will have little effect on the rate of release of contamination, P. 4-73.
- C. Table 4-12 of the EIS calculates the population dose for 64 years for Sitewide removal, 7 years for Close-In-Place and 8 years for No Action alternatives. Thus even before beginning the analysis you would know a priori that the highest person-rem would occur under the Sitewide removal alternative, but the answer would be incorrect.
- D. We also question the absence of any analysis of dairying, since it is a principle farm usage and there is potential for radionuclides to enter the human food chain in milk.

IV The DOE has chosen one option, Phased Decision-making as its preferred alternative. This alternative is the most INCOMPLETE of all the alternatives and yet it is the focus of the entire Decommissioning Plan. Indeterminate future decision-making cannot be considered an Action Plan for NEPA purposes.

Future indeterminate decision-making does not constitute a comprehensive Action Plan. NEPA is geared to Agency actions not long term decision-making and possible decisions. Specific agency actions, plans or projects must be analyzed for their potential environmental impacts. This is very difficult to accomplish in the absence of specific plans or projects. In this case the public has been denied basic information about the long term action plan, and essential information about environmental monitoring and studies that will inform Phase II. Indeterminate future decision-making with no public involvement and inadequate disclosure of the potential for environmental and health impacts cannot possibly meet the requirements of NEPA.

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As stated in the response to Comment no. 118-4, this EIS evaluates a Sitewide Removal Alternative that would remove all waste from the site; a Sitewide Close-In-Place Alternative that would leave some radioactive and hazardous waste safely stored in place; and a Phased Decisionmaking Alternative that ultimately would have impacts ranging between these two prior alternatives, depending on the Phase 2 decision made during Phase 1 activities. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, the EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analysis.

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While the Phased Decisionmaking Alternative temporarily defers a final decision on the disposition of the Waste Tank Farm, the NDA, and the Construction and Demolition Debris Landfill, DOE believes that the impacts of this deferred decision are adequately analyzed within the current EIS. Of course, as with all tiered decisions, DOE would continue to assess the results of any site-specific studies along with any emerging technologies to ascertain whether or not a Supplemental EIS is warranted prior to any Phase 2 decision. Based upon data available to date, however, DOE believes this EIS adequately evaluates the environmental impacts associated with the range of reasonable alternatives.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage

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- A. **Phase I activities at the site will handle just 1.2% of the radioactive contamination on site.** These activities could constitute Actions under NEPA.
- B. **Little Information on Phase I studies.** Phase I studies and data collection are critical to the decisions about the scope of Phase II. As such these studies could be considered an Agency action. However, the Draft EIS describes such studies very briefly and in vague terms. As a result the public has not been informed regarding the essential foundation for future decision-making.
- C. **No detailed information regarding Environmental monitoring.** There will be an up to 30 year delay in decision-making about handling almost 99% of the buried highly radioactive waste. Three major facilities will be untouched by Phase I—the NDA, the SDA and the High Level waste tanks. Leaving radioactive waste in the ground untouched by cleanup plans requires an examination of the potential for environmental impacts during this period. However, detailed information about the environmental monitoring that will be conducted to monitor for leaks, groundwater contamination and other untoward events was not presented in the Draft EIS. For two alternatives- No Action and Phased Decision-making—we are told only that existing monitoring and institutional controls will continue. We doubt that any elected public official or any member of the public could identify what this means. For the Close-in-Place Alternative there is a slightly expanded statement; we are told a series of monitoring devices would be installed for various environmental and geotechnical parameters and performance assessment reviews would take place. How many monitoring devices? Installed where? Which environmental and geotechnical parameters? What kind of performance assessment? Obviously a half page on this topic is not sufficient. We are not reassured regarding the adequacy of planned monitoring and institutional controls for 3 alternatives.
- D. **There is no future defined public process** where information will be presented for public consideration. There will be no opportunity for public comments. Presumably the DOE will make its future decisions in secret without further public input. This opens up the possibility that even new information about spreading contamination could be ignored by the Agency.

V The Documents, DEIS and Decommissioning Plan, are inadequately grounded in the on-the-ground realities at the site and other factual scientific information. Here we discuss information from the Independent Full Cost Accounting Study, NYSERDA comments in the Foreward to the EIS, the CHEJ report regarding Climate impacts, and earthquake potential.

- A. In December an independent, state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, was released. That study started from an obvious place: the existing conditions at the site. It found that:
- Erosion is a powerful and fast moving force at the West Valley site as it sits on a geologically young landscape which is undergoing a relatively rapid rate of erosion. Michael P. Wilson, Ph.D., SUNY Fredonia Professor of Geosciences found in the

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at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA agree that public involvement is an essential component in the decisionmaking process for any EIS. Public input as part of the Phase 2 decisionmaking process is discussed in the response to Comment no. 118-2.

Regarding the commentor's statement that the tanks are nearing the end of their 40-year lifespan, DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying.

Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile. Chapter 2, Section 2.3.1, of this EIS, as well as text in the *Phase 1 Decommissioning Plan*, have been clarified to acknowledge that the liquids remaining in the tanks will be dried as a result of installation and operation of the tank and vault drying system and that this drying will be complete before any Waste Tank Farm decommissioning actions are initiated.

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FCA study that "Nuclear wastes, radioactive for tens of thousands of years, will be consumed by erosion and discharged downstream to Lakes Erie and Ontario in less than 3,000 years and may be dangerously exposed in less than 200 or 300 years."

- Scientists found the site poses a significant danger to people through their drinking water. If just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars.

- The study looked closely at the necessary engineering and institutional controls that would be needed in order to contain the radioactive material on-site given the powerful forces of erosion. Then the study compared these costs to the cost of a full waste excavation cleanup. The study revealed leaving buried waste at the site is both high risk and expensive while a full waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion while trying to contain buried waste onsite would cost \$13 billion, and \$27 billion if a catastrophic release occurred.

B. In the Foreword to the DEIS, NYSERDA raises the problems that an independent scientific panel had with the analyses done by DOE, particularly the long term analyses. We summarize most of the points here.

- The Draft EIS analysis of Soil Erosion over the Long Term is not Scientifically Defensible and should not be used for Long-Term Decisionmaking. Predictions of population doses to the public will not be accurate, if using the current erosion models, to support decisions for the long term.
- The Draft EIS analysis of Contaminant Transport by groundwater needs improvement. Similarly the groundwater modeling used cannot be relied on in predicting radiation doses to the public and for making long term decisions about site cleanup.
- The Draft EIS Assumptions used for the performance of Engineered Barriers have not been substantiated and may be overly optimistic. Engineered barriers such as caps, slurry walls, grout, and other materials are "critical" to containment of radiation on site under the Close In-place Alternative. Since there is inadequate support for the performance of these barriers over the long term, the radiation doses to the public could be underestimated.
- The Connection between the Draft EIS Analyses and the Applicable Regulatory Framework must be strengthened. Here NYSERDA points out that the License Termination Rule is the applicable regulation not portions of NRC's low level disposal regulations. "It does not seem logical to prepare an EIS to assess the impacts from decommissioning actions that must meet the requirements of the NRC's LTR, and use regulations and guidance that are not part of the LTR regulatory framework to structure the analyses." The EIS should be reframed to reflect the LTR requirements.
- The Draft EIS Approach for Exhumation may be Overly Conservative. The approach for exhumation is overly conservative and based on extreme conditions, resulting in maximal costs. NYSERDA highlights that alternative

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Regarding appropriate care and maintenance of major radioactive facilities at the site, please see the response to this issue under Comment no. 118-5.

Regarding the commentor's request for a definitive statement that Phase 2 is the final phase of the Phased Decommissioning Alternative:

DOE Response:

DOE intends for the decision on the Phase 2 actions to complete decommissioning activities at the site, either by removal of the remainder of the waste and facilities or by in-place closure.

NYSERDA Response:

In the Final EIS, NYSERDA has clarified that, for the SDA, alternatives that would be considered for Phase 2 actions, if the Phased Decisionmaking Alternative is selected, would include at least: complete exhumation, close-in-place, or continued active management consistent with permit and license requirements. Unlike the West Valley Demonstration Project, the SDA does not have a decommissioning requirement. Through its rigorous monitoring and maintenance program, NYSERDA has demonstrated for the past 25 years that the SDA can be managed safely in its current configuration. However, NYSERDA also recognizes the dynamic nature of the environment at West Valley and decisions made 10 years from now would need to reflect the knowledge gained from scientific studies and data gathering (during Phase 1) as well as continued review of routine monitoring data collected for the SDA. NYSERDA's decisions have been and will continue to be protective of human health and the environment. And, as it has done for Phase 1, NYSERDA would solicit stakeholder input on its Phase 2 decision through a formal public comment period and public hearings.

118-7 DOE and NYSERDA note the comments.

Concerning the amount of radioactivity that would be removed under Phase 1 of the Phased Decisionmaking Alternative, please see the response to this issue under Comment no. 118-6.

Decontamination and decommissioning of the facilities at WNYNSC under the proposed action alternatives are discussed throughout this EIS. Please see, for example, Chapter 4, Sections 4.1.9 and 4.1.11. Additional discussion is provided in Appendices C, H, and I.

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methods could reduce the costs of exhumation and waste disposal. (This would add further support for the Site Removal Alternative.)

- **The Existing Long-Term Performance Assessment is not Adequate to Support the In-Place Closure of the Waste Tank Farm or any Other Facilities.** "NYSERDA believes that the Draft EIS long term performance assessment for the in-place closure alternative is seriously flawed and scientifically indefensible."
- C. The Center for Health and Environmental Justice addressed the threats that climate change and its attendant severe weather events have had on superfund sites around the nation in a report this year, *Superfund: In the Eye of the Storm*. We are enclosing Chapter One of that report as part of the official record. The report can be accessed at http://www.besafenet.com/media/superfund_2009_shtml The parallels to the West Valley site are obvious. With landslides a frequent occurrence in this area, extreme rainfalls are likely to exacerbate erosion. However, DOE, rather than dealing with reasonably likely scenarios such as climate change and accepting what thousands of reputable scientists and the federal government have accepted as fact, instead engages in wishful thinking that global warming will not occur for the next 10,000 years.
- D. Concerning seismic activity in this area, the original operator shut down the operation in order to increase the seismic stability of the Facility. The operator decided not to continue with the project. However, we would like to know whether a seismic evaluation of the burial grounds and the HLW tanks has been done in relation to current criteria for seismic stability.

VI The Long Term Containment of Radioactive Material that is Dangerous for Thousands of Years Poses Extraordinary Management Challenges.

About 50 years ago the federal government embarked on a plan to reprocess the nation's nuclear waste using private entities. The government was very enthusiastic and optimistic that its plan would work successfully and as a result sold the public and the state on the plan.

Fifty years later it is pretty clear that the plan was a stupendous failure:

- The private operator walked away from the project.
- A long list of accidents and spills have left the site extensively contaminated.
- The government now has responsibility for the site.
- The perpetual care fund was never adequately funded to deal with the massive amount of radioactive material that must be isolated and contained for thousands of years.
- The risks to groundwater, surface water, the Great Lakes and public health are enormous.

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DOE and NYSERDA acknowledge the commentor's concern about continued DOE participation in the cleanup of the WNYNSC site. As stated in the response to Comment no. 118-3, DOE will remain on site until it completes the actions required under the West Valley Demonstration Act. Please see this response for further discussion of this issue.

Regarding long-term stewardship and necessary engineering and institutional controls, please see the response to this issue under Comment no. 118-5.

Concerning continued public involvement in the Phase 2 decisionmaking process under the Phased Decisionmaking Alternative, please see the response to this issue under Comment no. 118-6.

118-8 DOE and NYSERDA note the comments. Responses to the comments are presented in the order provided by the commentor:

- A. Air and water releases subsequent to decommissioning were used to calculate the annual population doses presented in this EIS in Chapter 4, Table 4-15. These releases would be due to periodic replacement of the permeable treatment wall and demolition of the interim storage facility under the Sitewide Close-In-Place and Phased Decisionmaking Alternatives. The No Action Alternative population doses in Table 4-15 would be due to releases associated with the continued operation of the existing ventilation and wastewater treatment systems. The largest projected releases and population doses cited in this table are for the No Action Alternative, based on the radionuclide releases recorded from prior years of WNYNSC operation. The annual population dose for the No Action Alternative as shown in Table 4-15 is a very small fraction (less than 1 percent) of the peak annual population doses presented in Table 4-14 for decommissioning actions under the three action alternatives. The population doses after decommissioning that are presented in Table 4-15 are negligible compared to the doses presented in Table 4-14 during decommissioning actions.
- B. As described in Chapter 2, Section 2.4.2, during decommissioning activities associated with the Sitewide Close-In-Place Alternative, the leachate treatment system would have processed the leachate from the NDA and SDA and engineered multi-layer covers and erosion control structures would have been installed at the NDA and SDA. These actions would be designed to remove radionuclides in the leachate and isolate and confine the remaining radionuclides in the NDA and SDA for longer than 100 years. For the Sitewide Close-In-Place Alternative, the rate of release of contamination is based on an assumed loss of institutional controls

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The actual record of spills, mishaps, accidents and contamination spreading offsite provides a realistic picture of just a few decades of active management of highly dangerous radioactive materials and the abilities of regulatory agencies to safely contain these materials. The delay between discovery of the strontium leak and the extensive strontium plume that now must be dealt with at taxpayer expense is just one example of containment failure and inadequate management. The DOE approach for the long term assumes a degree of control never achieved by private companies and multiple federal and state agencies that have been actively involved at the site. If active management and control have not been successful historically in containing and controlling mishaps, spills and leaks it is difficult to imagine how DOE can justify a dramatically reduced level of control in the future for thousands of curies of buried radioactive waste. The Draft EIS makes the assumption that engineering and institutional controls will be successful for over a thousand years.

We believe that the historical record is a much more reliable indicator of the types of incidents that can occur in the future. If sophisticated models (with little public disclosure of inputs) display results that are optimistic or rosy compared to the historical record, there should be warning flags hoisted for everyone concerned.

Sophisticated models run by PhD mathematicians were used by Wall Street to assure themselves that the financial risks were being diluted when instead their financial instruments were linked, exposing them to very high systemic risks. We still don't have a clear path out of this financial meltdown and its economic impacts. Models are only as good as the care, judgment and wisdom of the people running the models and reviewing and reporting the results.

The public may have been fooled once by the optimism and salesmanship related to reprocessing, but it is unlikely to be fooled again. Fifty years of experience with the on-the-ground realities at West Valley has undermined trust and increased skepticism.

Rather than flippancy and vague assurances that dangerous radioactivity will be safely contained, we need a careful, realistic and sound approach to the difficulties of containing this material over the long term. Beyond the Sitewide Removal Alternative, that approach is absent for all of the other alternatives.

VII The Draft Environmental Impact Statement and the Proposed Decommissioning Plan are grossly inadequate for their stated purposes: decontamination, decommissioning and long term stewardship.

It should also be noted that the title of the EIS, *Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center*, does not reflect the contents of the EIS.

- A. **Decontamination.** Only one Cleanup Alternative would decontaminate the site and make it available eventually for unrestricted use. However, that Alternative:

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at 100 years. Loss of institutional controls has the same effect as cessation of maintenance and other activities.

- C. Chapter 4, Table 4-12, of this EIS correctly presents the total population dose for each alternative during decommissioning actions. It is true that, because the total removal alternative involves the largest removal of radioactive material, the decommissioning actions population dose for this alternative would be expected to be greater than those of the other three alternatives considered. In contrast, Table 4-15 presents the annual public dose for actions following decommissioning under each alternative. For this time period, the No Action Alternative is shown to have the largest public dose of the four alternatives.

- D. The transport of radionuclides into the human food chain through the ingestion of milk is included in the analysis of normal operations impacts in Chapter 4. The assumed consumption of milk by the general population and the maximally exposed individual is presented in Appendix I, Table I-6.

DOE and NYSERDA acknowledge the commentor's opposition to the Phased Decisionmaking Alternative. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in the sense that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, the EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analysis. As stated in the response to Comment no. 118-4, in general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

Impacts associated with both phases of the Phased Decisionmaking Alternative are presented for each resource area in Chapter 4 of this EIS. If the Phased Decisionmaking Alternative is selected, options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close

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Sitewide Removal is not examined in the Decommissioning Plan which was submitted to the NRC. The Decommissioning Plan only presents the Phased Decision-making Alternative and makes two important contrary statements: that the High Level Waste Tanks will be empty at the Start of Phase I and that they contain over 320,000 curies of radioactivity. In fact there are no plans to remove the remaining material that is stuck at the bottom of these tanks, thus they will not be empty at the beginning or at the end of Phase I. In addition, both the waste tanks and the NDA should be subject to the requirements of the West Valley Demonstration Project Act. The Decommissioning Plan offers no plan to decontaminate or decommission the NDA — fuel rods and cladding as well as reprocessing waste are buried in holes 50-70 feet deep over a sole source aquifer.

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B. **Decommissioning.** Despite the titles of the documents prepared by DOE, the Agency has very carefully constructed a limited legal framework for itself. DOE's own Decommissioning Plan states that long term decommissioning of the site will be the responsibility of NYSERDA. So the Decommissioning Plan is supposed to address only the requirements of the West Valley Demonstration Project Act, but ignores the Act's requirements to decontaminate and decommission facilities involved in reprocessing and solidification. The Plan also suggests that DOE's involvement at the site will end after Phase I is completed. We are concerned that DOE has constructed a 2 phased decision-making process with no intent to be involved in any work beyond the work defined for Phase I.

118-16

C. **Long-Term Stewardship.** In all scenarios where buried waste must be contained on site for thousands of years, proper stewardship is essential. Sitewide Removal avoids such long term monitoring, engineering and institutional controls because the radioactive material is dug up and removed. The analyses in the EIS related to long term engineering controls, monitoring and containment at the site have been called into serious question by both the independent state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full cost Accounting of Cleanup Options for the West Valley Nuclear Site*, released in December, and by NYSERDA's comments in the Foreword to the EIS, where it called the EIS' long term analyses fatally flawed and scientifically indefensible. DOE wants to avoid the immediate costs of a full cleanup as well as the long term costs necessary if buried waste is left on site. We believe DOE cannot be allowed to have it both ways.

118-17

VIII High Level Waste Tanks. The potential for serious environmental impacts from the failure of these HLW tank and the release of highly radioactive material has not been studied adequately in the EIS. Failure scenarios begin now and continue as long as the tanks remain in the ground.

118-18

Underground tanks used to store High Level Waste are also NOW nearing the end of their useful life (40-50 years) and have been subjected to extraordinary conditions during

in place is selected for Phase 2. The chapter also discusses which alternatives bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.

Responses to the comments are presented in the order provided by the commentor:

- A. Regarding the amount of radioactivity that would be removed under Phase 1 of the Phased Decisionmaking Alternative, please see the response to this issue under Comment no. 118-6.
- B. The Phase 1 studies are designed to further characterize the site and research technology developments and engineering to aid consensus decisionmaking for Phase 2 actions. These studies are described in Chapter 2, Section 2.4.3, of this EIS.
- C. Concerning appropriate care and maintenance of major radioactive facilities at WNYNSC, please see the response to this issue under Comment no. 118-5. DOE and NYSERDA believe the analysis conducted for this EIS provides a basis for understanding the environmental and health impacts of continuing to manage the inventory in the WTF, NDA, and SDA in their current configuration. The impacts of storage are presented in Chapter 4, Section 4.1.9, where the Phase 1 human health impacts are discussed. Potential mitigation measures that could be implemented during this period are discussed throughout Chapter 6. Information on the human health impacts during this period is also provided in Appendices I, J, and P. Decisions regarding how many monitoring devices will be installed and where, the environmental and geotechnical parameters, and the nature of performance assessments will be made after the decision on the selected course of action and the supporting rationale are announced in DOE's Record of Decision and NYSERDA's Findings Statement.

As noted in the response to Comment no. 118-6 regarding the "30-year delay" cited by the commentor, in response to public comments on this issue, DOE and NYSERDA have reconsidered this timeframe. The Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

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their installation and subsequently in operation with acidic liquids, then chemical reactions with bases, and sodium salts. The public is obviously concerned about the potential for the waste tanks to leak, contaminating the sole source aquifer, and potentially going undetected for some period of time.

Starting the Decommissioning Plan from an untruth—that the High Level Waste Tanks are empty at the start of Phase I—does not eliminate the responsibility to analyze potential environmental impacts of leaving these tanks in the ground for another 30 years. The tanks cannot both be empty and contain over 320,000 curies of radioactivity, yet according to the Decommissioning Plan, this contrary situation will be the condition for the waste tanks at the start of Phase I. We would like to understand where all this radioactivity resides if the tanks are empty.

The Decommissioning Plan indicates that Phase I is being limited to facilities and equipment used under the West Valley Demonstration Project for reprocessing and DOE's responsibilities under the WVDP Act. However the whole purpose of the Act was related to the vitrification of high level waste that was contained in the HLW tanks and its disposal. Why then is the remaining HLW in the underground tanks not being dealt with in Phase I?

p. ES-2 Decommissioning Plan

The WVDP Act and the WVDP

This decommissioning project is being conducted under the WVDP Act of 1980. The WVDP Act directed DOE to carry out the following activities: (1) solidify the high-level waste (HLW) at the site, (2) develop containers suitable for permanent disposal of the solidified HLW, (3) transport the waste to a federal repository for permanent disposal, (4) dispose of low-level radioactive waste and transuranic waste produced in the solidification of the HLW, and (5) decontaminate and decommission the tanks, facilities, materials, and hardware used in the project in accordance with requirements prescribed by the NRC. The WVDP was initiated to allow DOE to carry out its responsibilities under the WVDP Act. This plan focuses on the fifth activity—decontamination and decommissioning.

As stated on p. 2 of the Executive Summary of the Decommissioning Plan, the WVDP Act directed DOE to solidify HLW, transport it to a federal repository, dispose of LLW and decontaminate and decommission the tanks, facilities, materials and hardware used. It would appear that the DOE has not fulfilled the majority of its responsibilities under the Act, starting with the fact that high level waste in the form of sludge remains in the tanks. DOE was unable to remove this material at the bottom of the tanks during the vitrification project. Yet on p. ES-2 of the Decommissioning Plan, we are told that the Plan focuses on the fifth activity under the Act—decontamination and decommissioning. In fact the fifth activity under the Act refers to the tanks and this Plan proposes to do nothing with the remaining HLW and these tanks.

Is it possible under the WVDP Act and other NRC and DOE requirements to decontaminate and decommission the HLW tanks by claiming that they will be empty at the start of Phase I? We are unaware of any plan to actually remove sludge from the

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and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

D. Concerning continued public involvement in the Phase 2 decisionmaking process under the Phased Decisionmaking Alternative, please see the response to this issue under Comment no. 118-6.

118-10 DOE and NYSERDA acknowledge the commentator's support for the conclusions of the *Synapse Report* and for NYSERDA's View. Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for further discussion of the report's issues and DOE and NYSERDA's response.

DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analyses. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. As stated in the responses to Comment nos. 118-4 and 118-9, in general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

118-11 DOE and NYSERDA acknowledge the commentator's support for NYSERDA's View. Please see the response under Comment no. 118-10 above.

118-12 The analysis in this EIS recognizes the potential for climate change to influence the long-term consequences of waste management. Climate changes, whether natural or influenced by human actions, could change the nature and amount of precipitation. Appendix H, Section H.3.1, of both the Revised Draft EIS and the Final EIS discusses the sensitivity of groundwater flow to changes in annual precipitation. The revised erosion prediction used for the unmitigated erosion

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

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HLW tanks between now and the start of Phase I. If there is no plan to remove sludge from the HLW tanks, how exactly will DOE decontaminate and decommission the tanks in accordance with this fifth activity in the Act, when the Phase I plan states it will do nothing with the tanks? And when the DOE states it will no longer be involved with the West Valley site after Phase I?

DOE stated its objective as fulfilling its responsibilities under the WVDP, yet DOE is not dealing with the HLW waste tanks. What then are DOE's objectives? What was the rationale for choosing not to remove the tanks?

We note that the Decommissioning Plan indicates very little environmental monitoring in the area of the Waste Tank Farm, despite transfer leaks having occurred. (p. 4-40) No surface or subsurface soil monitoring has been done despite findings related to groundwater contamination and very few samples have been taken. The single groundwater monitoring well in the vicinity of the HLW tanks record a depth of only 22 feet, when the tanks are 27 feet deep. As a result monitoring could entirely miss a leak occurring at a depth beyond that of the monitoring well. It is possible that the tanks could be contributing to the Strontium plume.

Pumps remove excess groundwater near the tanks. Equipment that will aid the drying of the vaults will be installed in Phase I. Several problems exist. Apparently the work on the strontium plume and the barrier wall will alter groundwater flow potentially significantly increasing the water in the area of these tanks. Climate change could increase the occurrence of severe weather events such as flash flooding following downpours. Existing pumps and planned drying equipment may be totally inadequate under these circumstances in preventing flooding of the vaults.

IX The NRC Disposal Area

This area is under DOE control and has been undergoing measures to limit surface water flow into the area and to cap the site. A large amount of radioactive material is buried at this site including high level wastes. NRS used the NDA prior to 1972 to bury high level solid waste from reprocessing. Unprocessed fuel from a Hanford reactor and cladding from processed fuel have been buried in deep holes the NDA. Sludge from vitrifying activity was being disposed at the NDA post 1975. The deep holes are from 50-70 feet deep. These deep holes that reach the Kent Recessional Sequence pose significant risks of leaks to the sole source aquifer, that could go undetected for some time. In addition, the 2004 monitoring data indicate high contamination levels near the NDA. A responsible decommissioning plan should address this.

X The Work Plan, Construction Impacts and Facilities Being Removed

We have noted the absence of a detailed work plan. The absence of a Work Plan is however consistent with all the other elements that have not been adequately disclosed to the public. We naturally had questions about the proximity of the HLW tanks to the excavation for the source of the Strontium plume. Construction impacts ordinarily are the

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dose analysis is based on the assumption that storms could occur more frequently than indicated by current records. This prediction includes the effects of storms of greater severity than the one that occurred in the region in August 2009. The use of this higher erosion rate associated with an elevated precipitation rate is discussed in Appendix H, Section H.2.2.1. Chapter 4, Section 4.3.5, has been revised to include a discussion of how the uncertainties about future climate change are addressed in this EIS.

118-13 DOE and NYSERDA note the comment. Information about the hazard to the site presented by earthquakes is presented in this EIS in Chapter 3, Section 3.5. Please also see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue.

118-14 DOE and NYSERDA note the comment.

118-15 DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. Please see the responses to Comment nos. 118-1, 118-2, 118-5, and 118-6.

The *Phase 1 Decommissioning Plan* only presents information on the proposed Phase 1 actions. The disposition of the high-level waste tanks and the NDA would be the subject of future Decommissioning Plans that would be prepared after DOE and NYSERDA identify a Phase 2 decision for these facilities. Text in the *Phase 1 Decommissioning Plan* has been revised to clarify that the radionuclide inventory in the tanks would be dry at the beginning of Phase 1 activities.

If a different approach is selected in the Record of Decision, the Decommissioning Plan will be revised as necessary to reflect the changes.

118-16 DOE and NYSERDA acknowledge the commentor's concern about continued DOE participation in the cleanup of the WNYNSC site. As stated in the response to Comment no. 118-3, DOE will remain on site until it completes the actions required under the West Valley Demonstration Act. Please see this response for further discussion of this issue.

118-17 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. Please see the responses to Comment nos. 118-1, 118-2, 118-5, 118-6, 118-10, and 118-14.

Section 3
Public Comments and DOE and NYSERDA Responses

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

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subject of an entire Chapter in an EIS. Despite extensive construction activity we are provided with very brief descriptions. Extensive demolition and excavation will be occurring in WMA-1 and 2. As a site map clearly shows the High Level Waste Tanks are in an adjacent area known as WMA-3. The potential for demolition and excavation to impact the waste tanks is real, yet the EIS fails to explore the potential for damage to the tanks and groundwater contamination impacting the sole source aquifer. No precautionary measures are discussed.

Facility Removals. DOE states its primary objective for Phase I as not prejudicing any options in Phase 2, however, there is inadequate explanation of the planned site activities to assure us that these actions won't actually preclude a complete excavation and cleanup later. Waste water treatment capacity is being removed. The remote handling facility is being removed. Pumps are being removed in the High Level tanks. We are not told when in the sequence of things these are being done, or why they are not needed for remaining activities. Won't removing the pumps and the lines increase the potential for leakage?

Similarly, it is not clear why facilities that have not been impacted by radioactivity are a priority for removal under Phase I of the Preferred Alternative such as the new Warehouse in WMA-10. We are concerned that eliminating this facility and others could hinder a full excavation and cleanup of the NDA and the SDA in the future. Also included in this area and slated for demolition are an administration building, an environmental laboratory, and a waste management storage area. If the Preferred Alternative is chosen, we object to any buildings, facilities or equipment being removed in phase I that pose no radioactive or hazardous material problem, because we can see no benefit to prioritizing such facilities for removal and we fear it could hinder or foreclose reasonable and cost-effective options for full clean-up. In the hearings others testified that they believed a purpose might be to reduce the visual presence of the facility to its neighbors. While not actually cleaned up the facility would have less of a presence with more buildings removed.

A complicated procedure will probably be necessary to remove the vitrified canisters from the Process building to the new interim storage facility given the very high radiation emissions of as much as 1760 Rads per hour. Yet we are not provided any detail about how this will be undertaken and remote handling is not even mentioned.

XI Cost Analysis

A Full Cost-Benefit Analysis was not done in this EIS. Instead only a limited cost analysis was done.

DOE avoided thorny questions related to Cost-Benefit Analysis by simply not completing one. However, a cost analysis alone provides a one-sided picture of the issue by looking only at the costs of an action without considering the benefits. We acknowledge that the mechanisms for cost benefit analysis do not take account of our values and as a result undervalue priceless assets, like the Great Lakes, the sole source aquifer and the health of future generations -- children and grandchildren. Some things are priceless.

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118-18 DOE and NYSERDA note the comments. Please see the responses to Comment nos. 118-5, 118-6, 118-9, and 118-15 regarding the topics mentioned in this comment. Note that DOE maintains tank leak detection equipment located in the tank pans and vaults and the tanks have never leaked; therefore, they have not contributed to the source of groundwater contamination on the North Plateau. Please also see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's responses.

118-19 Please see the responses to Comment nos. 118-6 (regarding the tanks) and 118-12 (regarding climate change).

118-20 A detailed work plan is not required to complete an EIS, and normally is not developed until a decision is made. Appendix C describes the construction and demolition activities to be conducted to the extent known and provides a basis for determining impacts for each alternative. At the starting point of the time period analyzed in this EIS, the contents of the High Level Waste Tanks would be in a dry form and would not readily migrate to groundwater should the tanks be breached. Appendix I, Section I.5, contains an evaluation of an accident scenario whereby the roof of the vault and the tank collapse, exposing the tank contents to the atmosphere. Because the contents are dry, the exposure route that is considered in the accident analysis is through the air. It should be noted that the tanks have never leaked and have not contributed to the source of groundwater contamination on the North Plateau. It should also be noted that, should an accident occur resulting in breaching of the tanks, mitigative measures would be immediately implemented to minimize environmental and worker impacts.

118-21 DOE and NYSERDA acknowledge the commentor's concerns that the removal of facilities under Phase I of the Phased Decisionmaking Alternative could affect a future decision on site cleanup. However, their removal under Phase 1 would not bias any decision to be made about Phase 2 implementation.

Phase 1 would involve short-term actions where there is Agency consensus and would undertake characterization work and studies that would facilitate future decommissioning decisionmaking for the remaining facilities or areas including a full excavation and cleanup of the NDA and the SDA. Many of the facilities and areas identified by the commentor as being eliminated under Phase 1 of the Phased Decisionmaking Alternative would actually be removed to their floor slabs or to grade prior to the starting point of the EIS (see Chapter 2, Section 2.3.1, of this EIS). These include the Administration Building and Expanded Environmental

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

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DOE's Cost- analysis devalues future priceless assets by calculating a present value for expenditures today to protect priceless assets. Present values are calculated using discount rates. For long time periods priceless assets and future generations can only be protected by assuming a discount rate of zero.

Discounting was used in the cost analysis of the cleanup options. The total costs of their analysis should be an undiscounted cost. The economists who authored the Full Cost Accounting Study critiqued the use of discounting in nuclear waste cleanups over long time periods for the following reasons. In standard shorter investments, a discount rate is applied to account for future interest earnings. For instance, at a 3 percent discount rate, \$103 next year has a present value of \$100 today, because \$100 is the amount one would have to put in the bank today at 3 percent interest, in order to end up with \$103 next year. But, since West Valley's waste is radioactive for tens of thousands of years, a cost analysis should start out with at least a review over the next 1,000 years as a first step.

Over periods of 1000 years, any substantial discount rate implies that the health and wellbeing of future generations has no present value—or no worth to us today. Since the cleanup options are meant to protect the public for many generations, we cannot reasonably assume that there is no value to public health in the 1000th year. Also, the existence of regulatory requirements for protection of sites that will remain dangerous for 1,000 years must imply that we care today about health hazards that will be experienced in 3008. Costs and benefits incurred in that distant year must have a significant present value; otherwise, we could ignore them and we could "prove" via discounting that it is not cost-effective to spend anything today on our successors a thousand years down the road. At a discount rate of 1.4 percent, considered low by many economists, \$1 million in 3008 has a present value of \$1 today. Thus it would not be worth spending more than \$1 today to prevent \$1 million of harm in 3008. To validate the commonsense idea and the moral imperative that outcomes in 3008 matter today, the discount rate must be no more than zero. If we care about the long-term impacts of today's nuclear waste, then the only supportable discount rate is zero. While the choice of a discount rate for short term decisions is an economic question, the choice of an intergenerational discount rate is a matter of ethics and policy.

It is also worth noting in relation to the West Valley site that prevention is usually a fraction of the cost of response, remediation and clean-up. Protecting New Orleans from storms and flooding would have prevented hundreds of billions of dollars in damages from Hurricane Katrina at a fraction of the ultimate cost. The FCA Study showed that a catastrophic release could have costs far exceeding a full cleanup, \$27 billion and this estimate is based on replacing the water supply for only one drinking water system taking water from Lake Erie.

Sitewide Removal or Full Cleanup could be considered prevention of future catastrophic outcomes.

XII The Sitewide Removal Alternative is the ONLY Alternative that:

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118-23

Laboratory in Waste Management Area (WMA) 10 and most of the facilities in WMA 5. The decisions regarding which facilities will be removed prior to the EIS starting point were developed by DOE and NYSERDA after careful consideration of all facilities and areas on WNYNSC.

All facilities to be closed at the starting point of the EIS are not expected, either individually or collectively, to affect the decommissioning plans for the site. None of them would be needed to safely monitor and maintain or support future removal of the vitrified high-level radioactive waste on the site or to assist in site decommissioning. Leaving the unneeded facilities in place would require continued maintenance and monitoring, resulting in unnecessary costs. The only facility that will not be removed prior to the EIS starting point is the New Warehouse in WMA 10. The New Warehouse and other facilities and storage areas that would be removed from the site during Phase 1 of the Phased Decommissioning Alternative, if that alternative is selected in the Record of Decision, are addressed in Chapter 2, Section 2.4.3.1, of this EIS. Again, DOE and NYSERDA carefully reviewed the facilities that would be removed during Phase 1 to assure that no reasonable and cost-effective options for decommissioning under Phase 2 would be foreclosed. The facilities that could be used in future decommissioning actions would be monitored and maintained.

118-22 DOE and NYSERDA acknowledge the commentor's concern about cost discounting and interest in the cost-benefit analysis included in the Revised Draft EIS. Please see the Issue Summary for "Questions about Cost-Benefit Analysis" in Section 2 of this CRD for further discussion of these issues and DOE and NYSERDA's responses.

The cost-benefit analysis presented in Chapter 4, Section 4.2, of the Revised Draft EIS was performed to support NRC's request for cost-benefit information consistent with its as low as is reasonably achievable (ALARA) analysis guidelines. This cost-benefit analysis follows the principles in the NRC ALARA guidance presented in NUREG-1757, "NRC Consolidated Decommissioning Guidance." The analysis in Section 4.2 has been revised for this Final EIS and uses several relatively low discount rates (1, 3, and 5 percent) to investigate the sensitivity of the results to lower discount rates. The use of a single discount rate of zero for the ALARA analysis is not considered to be consistent with the NRC guidance.

118-23 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. Please see the responses to Comment nos. 118-2 an 118-17.

**Commentor No. 118 (cont'd): Barbara Warren, Executive Director,
Citizens' Environmental Coalition**

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- Provides a complete and comprehensive cleanup of the entire site through excavation of radioactive and toxic waste, including any off-site contamination;
- Provides a permanent and safe solution that removes radioactive waste from a site with serious erosion problems, earthquake hazards, and a sole source aquifer;
- Prevents any catastrophic releases which could pollute community drinking water supplies, Lakes Erie and Ontario, harm public health and cost billions of dollars;
- Significantly lowers health risks to nearby communities, leaving behind a contamination-free area after 64 years;
- Provides the most cost-effective approach over the long term according to a recent study (An independent, state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, revealed leaving buried waste at the site is both high risk and expensive while a full waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion while containing onsite buried waste costs \$13 billion, and \$27 billion if a catastrophic release occurred);
- Is not jeopardized by the powerful forces of erosion, weather, water, earthquakes or human intruders;
- Eliminates the worry for nearby residents and public officials;
- Does not require maintenance of emergency radiological services in nearby towns;
- Does not require a financial set aside to guarantee care at the site for thousands of years; and,
- Has been adequately disclosed to the public, so they can have some confidence in the outcome.

Finally, the Sitewide Removal Alternative is the only Alternative that has our Full support for all the reasons contained in these comments.

Enclosure:
Superfund: In the Eye of the Storm, CHEI, 2009.

**118-23
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Information about the environmental impacts that could be associated with WNYNSC activities is presented in several places in this EIS. For example, information about the hazard to the site presented by earthquakes is presented in Chapter 3, Section 3.5. Projected short-term and long-term impacts for each EIS alternative are summarized in Chapter 2, Section 2.6, and presented in detail for each environmental resource area (human-health and safety, ecological and water resources, etc.) in Chapter 4, Section 4.1. In particular, a detailed assessment of the effects of radioactive and toxic wastes on human health, including potential impacts to individuals and populations assumed to consume and use water from Lake Erie and other water bodies in the region, is given in Section 4.1.10. This section includes the public impacts that could result from a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. Chapter 4, Section 4.2, presents a discussion of costs associated with each alternative.

Chapter 4, Section 4.2, of this EIS presents a discussion of costs associated with each alternative. Please also see the "Conclusions of the *Synapse Report*" Issue Summary in Section 2 of this CRD for information regarding DOE's response concerning the report's cost estimate associated with waste remaining on site and the apparent inconsistencies employed to arrive at the cost estimate.

Commentor No. 119: Town of Aurora (Erie County)



TOWN OF AURORA
5 South Grove Street, East Aurora, NY 14052
www.townofaurora.com

June 4, 2009

NYS Energy Research & Development Authority
Paul Bembia, Program Director
West Valley Site Management Director, NYSERDA
Ashford Office Complex
9030 Route 219
West Valley NY 14170

Dear Mr. Bembia:

The Town of Aurora (Erie County) Planning Board has become aware that the U.S. Department of Energy and NYS Energy Research & Development Authority are proposing to leave buried waste on-site including high level radioactive waste tanks, even when subject tanks are at the end of their useful safe storage life and could leak contamination at any time. These agencies are delaying the final cleanup decisions for up to 30 years. Radioactive wastes reputedly do not diminish in concentration, migrating through the ground, essentially are time dependent for diminishing the health hazard.

Based on the above information, the Town of Aurora Planning Board passed a motion to remove all buried wastes from the West Valley Site.

119-1

119-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. The selected course of action, including appropriate mitigation measures, will provide protection of water and other natural resources. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 120: D. S. Kiefer

8 June 2009

To: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P. O. Box 2368
Germantown, MD 20874

in re Revised DEIS for
Decommissioning and/or
Long-term Stewardship at the
West Valley Demonstration
Project and Western New
York Nuclear Service Center

From: D. S. Kiefer
629 Highland Rd.
Ithaca, NY 14850

Dear Sirs and Madams,

Thank you for using soy-based ink on recycled paper!

In keeping with that enlightened approach, it follows that the best thing for the environment and human health is a comprehensive cleanup of West Valley, including excavation of the entire contaminated site. We have learned over and over that humans underestimate consequences of their supposedly scientific decision. West Valley remains a stunning example.

The preferred alternative of two phases seems a reasonable approach at this time, but a phase two achieving complete clean up is crucial. NYSERDA's view appears to be more conservative and seems closer to the precautionary principle. Removal of contamination in our lifetimes is the best we can do to be sure of the future...

Good luck.

D. S. Kiefer (Ms.)

120-1

120-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative and support for Phase 1 of the Phased Decisionmaking Alternative as an initial step toward complete removal. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. It should be noted that, based on the results of Phase 1 investigations, the decision for implementation of Phase 2 could be either sitewide removal of remaining facilities and contamination (Sitewide Removal Alternative) or in-place closure of remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements.

Commentor No. 121: Donald C. Kosloff

Donald C. Kosloff
11800 Edgewater Drive #815
Lakewood OH 44107
June 10, 2009

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874

Dear Ms. Bohan:

I strongly **oppose** the Sitewide Removal Alternative.

We humans have a moral obligation to care for God's good creation and to clean up our mess before handing the work off to our descendents.

Therefore, I am writing you in **opposition** to the Sitewide Removal Alternative (full waste excavation cleanup) for the West Valley Demonstration Project (WVDP) as described in the Draft Environmental Impact Statement issued by the DOE and the NYS Energy and Research Authority in December, 2008.

I **support the Preferred Alternative** because it would delay the final cleanup decision for the majority of the wastes for another 30 years, leaving most of the nuclear waste **safely** on the site.

Such a delay is the most responsible because it will reduce the dose to humans and better protect the environment.

The radioactive materials from the site that has been found already at the juncture of the Niagara River and Lake Ontario is harmless and may actually be beneficial to human health.

The Sitewide Removal Alternative provides no benefits.

Sincerely:



Donald C. Kosloff

cc: President Barack Obama
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

121-1

121-1

DOE and NYSERDA acknowledge the commentor's opposition to the Sitewide Removal Alternative and preference for the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 122: Janice R. Bodie, Clerk,
City of Tonawanda

STATE OF NEW YORK
County of Erie, City of Tonawanda, N.Y. { SS

I, Janice R. Bodie, Clerk of the City of Tonawanda, do hereby certify that I have compared the annexed copy of..... RESOLUTION..... duly offered and adopted by the COMMON COUNCIL..... of said City at a REGULAR..... meeting thereof held on the..... 17TH day of..... MARCH 2009..... with the original record on file in my office and the annexed..... RESOLUTION..... is a true correct copy thereof and the whole thereof.

In Testimony Thereof, I have hereunto set my hand and affixed the seal of said City this9TH..... day of..... JUNE 2009.....

Janice R. Bodie
..... Clerk

Response side of this page intentionally left blank.

Commentor No. 122 (cont'd): Janice R. Bodie, Clerk,
City of Tonawanda

52. By the Council seconded by the Council
 Whereas, thirty miles south of Buffalo, New York, the West Valley nuclear waste site, located in Cattaraugus County, is burdened with vast amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years, some for millions of years, including plutonium, uranium, strontium-90 and iodine-129, and can cause leukemia and cancer at low doses;

Whereas, the site is the nation's only venture into commercial reprocessing of irradiated nuclear fuel, was operated by Nuclear Fuel Services and ended in a total failure in 1976 with the company leaving and passing on cleanup responsibility to the government and taxpayers;

Whereas, the site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater, and radioactivity from the site has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario demonstrating a potential for the leaking site to contaminate drinking water supplies for millions of people;

Whereas, the Department of Energy and NYS Energy Research & Development Authority are proposing to leave buried waste onsite, (including high level radioactive waste tanks when such tanks are at the end of their useful lives and could leak contamination at any time), and delay final cleanup decisions for up to 30 years;

Whereas, economists and scientists recently released a first-ever study on the long-term cleanup costs, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, funded by a New York State grant sponsored by Senator Catharine Young (R-Olean), and the study was conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates;

Whereas, the study investigated the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that a full waste excavation cleanup costs less, at \$9.9 billion, and presents the least risk to the population than leaving buried waste onsite, which is expensive, at \$13 billion, carries high risks, and could also cost an additional \$27 billion or more if a catastrophic release of radioactive waste contaminated drinking water supplies;

Whereas, scientists found that erosion is a powerful and fast moving force in the region, and leaving buried waste onsite poses a risk to people if controls fail and dangerous radioactive waste pollutes local, regional and international waterways into Lake Erie, the Niagara River and beyond;

Whereas, scientists found the site poses a significant danger to people who live along nearby creeks, Buffalo residents and people living along the shores of Lakes Erie and Ontario, and if just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars;

Whereas, scientists and economists concluded that if wastes are left buried at West Valley and a release occurs, it can have expensive and disastrous consequences irreparably contaminating the precious Great Lakes region, and the costs of maintaining buried waste in an attempt to thwart future disaster will be far more expensive and far more risky than excavating the radioactive waste which is the safest, precautionary approach, now therefore be it

Resolved, that the City of Tonawanda, supports the full cleanup of the entire West Valley nuclear waste site (also known as the Western NY Nuclear Service Center & Demonstration Project) through waste excavation; and be it further

Resolved, that the City of Tonawanda, supports cleanup standards that are at least as protective as current state radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water.

Ayes: Perkins, Waterhouse, Kossow, Davis, Zeisz
 Nays: None

Resolution declared adopted

03/17/09 Mtg.

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122-1 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

122-2 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

122-3 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

Section 3
 Public Comments and DOE and NYSERDA Responses

*Commentor No. 122 (cont'd): Janice R. Bodie, Clerk,
City of Tonawanda*

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

- 122-4 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being

Commentor No. 122 (cont'd): Janice R. Bodie, Clerk,
City of Tonawanda

further reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., “fixed”) to metal surfaces and is not readily mobile.

- 122-5** Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.
- 122-6** DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 122-7** DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.
- 122-8** The conclusions referenced in the comment are taken from the *Synapse Report*. As noted above, please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.

*Commentor No. 122 (cont'd): Janice R. Bodie, Clerk,
City of Tonawanda*

122-9 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 123: Patti Jankowski

July 9, 2009

Patti Jankowski

10690 Autumn View Trail

West Valley, NY 14171

I have lived here in West Valley now 10 plus years now.I moved here fully knowing what was my neighbor(the Plant)I myself Would Really like to see what ever is left at plant to be stored above ground to be monitored.(I live 2 miles from plant)I think it is the safest way !Also I would like to see the State give anyone living with in a 5 mile radius a major property tax cut.I think its only fair as we live with it on a daily bases.It affects and would affect us if anything would go array

123-1

123-1 DOE and NYSERDA note the comment.

As explained in Chapter 2, Section 2.5.1, of this Final EIS, DOE and NYSERDA do not consider the use of existing structures or construction of new aboveground facilities at WNYNSC for indefinite storage of decommissioning or long-term management of waste to be a reasonable alternative for further consideration because it would not meet the Purpose and Need for Agency Action stated in Chapter 1, Section 1.3.

Decisions about New York property tax rates are not made by DOE or NYSERDA.

Commentor No. 124: Bruce C. Chapman

July 9, 2009

Bruce C. Chapman

Landowner Zoar Valley/ Cattaraugus Creek

166 Juniper Dr.

North Kingstown, RI 02852

NYS DEC informed us that we have Bald Eagles nesting on our property in East Otto. What is to become of them and all the other valley wildlife, should there be leakage of nuclear material from the storage sight? This could be the single most catastrophic environmental disaster in the history of mankind. The entire St. Lawrence basin including lakes Erie and Ontario would be devastated. What about our neighbors to the north in Canada?

124-1

124-1

DOE and NYSERDA note the commentor's concerns. DOE's site monitoring program addresses media (air, water, crops) where wildlife and humans could come into contact with radioactive contamination. Chapter 4 of this EIS presents a screening-level analysis of the impacts of radionuclide releases to biotic receptors for the Sitewide Close-In-Place Alternative (Section 4.1.6.2) and the No Action Alternative (Section 4.1.6.4). In addition, see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for a discussion of potential impacts to regional and Great Lakes water users.

Commentor No. 125: Angela Knisley

May 31, 2009

Dear Mr. Murray,

If there was ever a time to act ...for the protection of your people and your environment...it is now. You have the power to protect the Great Lakes (and as a result drinking water for western New York). I urge you to please support the immediate and complete clean-up of the West Valley nuclear waste site.

You play a vital role in the stewardship of one of the greatest fresh water supplies in the world and the danger to these waters is imminent. Waiting thirty years for some type of alternate solution to this clean-up is courting an environmental disaster.

Please use your position of authority to help the people under your protection as well as one of the most sensitive and important eco-systems in the world. Thank you for your time.

Sincerely,
Angela Knisley



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DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of all Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for a discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 126: Jacqueline E. Rushton,
Common Council, City of Buffalo



Common Council
CITY OF BUFFALO

Council Staff

Chief of Staff
James S. Pajak

April 1, 2009

Senior Legislative Assistant IV
Kevin Linder

Dr. Steven Chu, Secretary of Energy
US Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Senior Legislative Assistants

Marie Gelfand

Shan C. Bray

Muk J. Jaiskuta

William Licata

Karen D. Privater

Jacqueline E. Rushton

Legislative Aide

James N. Jackson

Dear Secretary Chu:

At the Common Council meeting held on Tuesday, March 31, 2009, the following resolution was **ADOPTED** by the full Council:

Item #100 CCP 3/31/09, "West Valley Nuclear Waste Site Cleanup"

65 Niagara Square, Room 1413
Buffalo, New York 14202-3318
Phone: (716) 851-8185
Fax: (716) 851-4234

Please review the enclosed item and address and file your comments and/or recommendations with the Common Council, 1308 City Hall, by **2:00 PM Thursday, April 9, 2009.**

Your assistance is greatly appreciated.

Sincerely yours,

JACQUELINE E. RUSHTON
Senior Legislative Assistant

Encl.-1

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Commentor No. 126 (cont'd): Jacqueline E. Rushton,
Common Council, City of Buffalo

By: David Franczyk

Re: WEST VALLEY NUCLEAR WASTE SITE CLEANUP

Whereas: Thirty miles south of Buffalo, NY, the West Valley nuclear waste site, located in Cattaraugus County, is burdened with vast amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years, some for millions of years, including plutonium, uranium, strontium-90 and iodine-129, and can cause leukemia and cancer at low doses;

Whereas: The site is the nation's only venture into commercial reprocessing of irradiated nuclear fuel, was operated by Nuclear Fuel Services and ended in a total failure in 1976 with the company leaving and passing on cleanup responsibility to the government and taxpayers;

Whereas: The site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater, and radioactivity from the site has been found as far away as the shore at the juncture of the Niagara River and Lake Ontario demonstrating a potential for the leaking site to contaminate drinking water supplies for millions of people;

Whereas: The Department of Energy and NYS Energy Research & Development Authority are proposing to leave buried waste onsite, (including high level radioactive waste tanks when such tanks are at the end of their useful lives and could leak contamination at any time), and delay final cleanup decisions for up to 30 years;

Whereas: Economists and scientists recently released a first-ever study on the long-term cleanup costs, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, funded by a New York State grant sponsored by Senator Catharine Young (R-Clean), and the study was conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates;

Whereas: The study investigated the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that a full waste excavation cleanup costs less, at \$9.9 billion, and presents the least risk to the population than leaving buried waste onsite, which is expensive, at \$13 billion, carries high risks, and could also cost an additional \$27 billion or more if a catastrophic release of radioactive waste contaminated drinking water supplies;

Whereas, scientists found that erosion is a powerful and fast moving force in the region, and leaving buried waste onsite poses a risk to people if controls fail and dangerous radioactive waste pollutes local, regional and international waterways into Lake Erie, the Niagara River and beyond;

Whereas: Scientists found the site poses a significant danger to people who live along nearby creeks, Buffalo residents and people living along the shores of Lakes Erie

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126-1 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

126-2 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

126-3 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS. Please refer to the Issue Summary for "Concerns

Commentor No. 126 (cont'd): Jacqueline E. Rushton,
Common Council, City of Buffalo

and Ontario, and if just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars;

Whereas: Scientists and economists concluded that if wastes are left buried at West Valley and a release occurs, it can have expensive and disastrous consequences irreparably contaminating the precious Great Lakes region, and the costs of maintaining buried waste in an attempt to thwart future disaster will be far more expensive and far more risky than excavating the radioactive waste which is the safest, precautionary approach;

Now Therefore, Be It Resolved:

That the Buffalo Common Council, supports the full cleanup of the entire West Valley nuclear waste site (also known as the Western NY Nuclear Service Center & Demonstration Project) through waste excavation; and

Now Therefore, Be It Further Resolved:

That the Buffalo Common Council supports cleanup standards that are at least as protective as current state radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water.

Be it Finally Resolved That:

This resolution will be distributed to state and federal elected officials and the US Department of Energy and NYS Energy Research and Development Authority.



David Franczyk

126-8
cont'd

126-9

126-10

about Potential Contamination of Water” in Section 2 of this CRD for a discussion of this issue and DOE’s and NYSERDA’s response.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

126-4 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level

Commentor No. 126 (cont'd): Jacqueline E. Rushton,
Common Council, City of Buffalo

waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., “fixed”) to metal surfaces and is not readily mobile.

- 126-5** Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected
- 126-6** DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 126-7** DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 126 (cont'd): Jacqueline E. Rushton,
Common Council, City of Buffalo

126-8 DOE and NYSERDA note that the impacts of a release of 1 percent of the site radioactivity referred to by the commentor are taken from the *Synapse Report*. Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response. See also the response to Comment no. 126-7 regarding the long-term impacts analysis addressed in this EIS.

126-9 The conclusions referenced in the comment are taken from the *Synapse Report*. As noted above, please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.

126-10 DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

Commentor No. 127: Deborah Bruch Bucki, Town Clerk,
Town of Amherst

Amherst Town Clerk's Office

5583 Main Street Williamsville, New York 14221

Deborah Bruch Bucki RN, PhD
Town Clerk

Adrienne I. Kotler
Mary E. Wik
Deputy Town Clerks



Phone (716) 631-7021
Fax (716) 631-7152

www.amherst.ny.us

June 3, 2009

NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203

Gentlemen:

At its meeting on May 18, 2009, the Amherst Town Board unanimously voted to approve a resolution supporting the option of full cleanup of the West Valley Nuclear Waste Site using standards that are at least as protective as current state radiation standards and toxic standards for unrestricted use.

As an elected official representing this area of New York State, the Town of Amherst wanted to make you aware that the enclosed resolution was approved by the Amherst Town Board.

Please contact me should you have any further questions or concerns.

Sincerely,

Deborah Bruch Bucki
Amherst Town Clerk

DBB:aik

Serving the Community of Amherst

127-1

127-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, these regulatory requirements include, in part, RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

**Commentor No. 127 (cont'd): Deborah Bruch Bucki, Town Clerk,
Town of Amherst**



Town of Amherst
5583 Main Street
Williamsville, NY 14221
www.amherst.ny.us

Deborah Bruch Bucki
Town Clerk

Meeting: 05/18/09 07:00 PM
Department: Councilmembers
Initiated by: **Daniel J. Ward**
ADOPTED

DOC ID: 4225

RESOLUTION 2009-474

West Valley Nuclear Waste Site CleanUp

Consent

Whereas the West Valley nuclear waste site (also known as the Western New York Nuclear Service Center & Demonstration Project) is located 30 miles south of Buffalo and contains large amounts of toxic and radioactive wastes, some of which will remain dangerous for thousands of centuries and;

127-2

Whereas the site represents the nation's sole venture into commercial reprocessing of irradiated nuclear fuel, and whereas this venture ended in 1976 when the private partner failed, leaving cleanup responsibility to government taxpayers, and

127-3

Whereas contamination from this site has been found as far away as the Niagara River at Lake Ontario, and

127-4

Whereas Lake Erie represents the drinking water supply source for Erie County, and the Great Lakes represent a drinking water source for millions of people, and

127-5

Whereas the Department of Energy has identified alternatives for the remediation of the West Valley site ranging from complete removal of all radioactive materials to taking no action, and proposes a partial remediation while leaving buried waste onsite, including high level radioactive waste tanks, and

127-6

Whereas the Department of Energy preference would postpone a final cleanup decision for up to 30 years, and

127-7

Whereas independent joint economic and scientific analysis, funded by a New York State grant, was conducted by expert consultants and academics. And whereas these experts concluded that over time full clean up is approximately 30% less expensive than partial clean up and maintenance, not including any future leaks that would increase clean up costs exponentially.

127-1
cont'd

Therefore, Be It Resolved that the Town of Amherst Town Board supports the option of full cleanup of the West Valley nuclear waste site using standards that are at least as protective as current state radiation standards and toxic standards for unrestricted use.

Be it further resolved that copies of this resolution be sent to all state and federal elected officials representing Niagara, Erie and Cattaraugus counties, as well as the U.S. Department of Energy, and the New York State Energy Research and Development Authority.

The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site, conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia and Radioactive Waste Management Associates

127-2 WNYNSC has inventories of radionuclides and hazardous chemical constituents from past facility operations in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of WNYNSC.

127-3 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

127-4 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS. Please refer to the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for a discussion of this issue and DOE's and NYSERDA's response.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

127-5 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal

Commentor No. 127 (cont'd): Deborah Bruch Bucki, Town Clerk,
Town of Amherst

Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., "fixed") to metal surfaces and is not readily mobile.

127-6 Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

Commentor No. 127 (cont'd): Deborah Bruch Bucki, Town Clerk,
Town of Amherst

- 127-7 DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.

Commentor No. 128: New York State Legislature



NEW YORK STATE LEGISLATURE

June 22, 2009

Dr. Steven Chu, Secretary of Energy
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585

Catherine Bohan
Department of Energy
PO Box 2368
Germantown, MD 20874

Frank Murray
President
NYSERDA
17 Columbia Circle
Albany, NY 12203

Dear Secretary Chu, Ms. Bohan & Mr. Murray:

The Western New York Great Lakes region is threatened by the state's largest nuclear waste site, West Valley, located 30 miles south of Buffalo. The final resolution of this site's clean-up plan is an extremely important issue which will have a major impact on the future of the Great Lakes and Western New York's environment, drinking water supplies, public health and economic vitality.

We recommend that the Department of Energy (DOE) and NYS Energy Research & Development Authority (NYSERDA) select the Sitewide Removal Alternative. This is the only alternative that provides a comprehensive cleanup of the site through excavation of the large inventories of radioactive wastes in the burial grounds. Sitewide Removal also provides the safest solution by ultimately removing radioactive waste from an unstable site with serious erosion problems. This approach prevents catastrophic releases which could cause severe damage to communities, drinking water supplies and Lakes Erie and Ontario. Lastly, this approach provides the most cost-effective approach. The state-funded study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site* (FCA Study) found that leaving buried waste on site is both high risk and expensive while a waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion while onsite buried waste costs \$13 billion and \$27 billion if a catastrophic release occurred.

We oppose the options which would leave radioactive waste buried on the site. This includes the Phased Decision Making Alternative. While opposing the choice of this alternative, it is imperative that the work proposed be completed without further delay and in a manner that assures future complete cleanup of the site as well as excavation and safe, above ground storage

PRINTED ON RECYCLED PAPER

128-1

128-2

128-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, have been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for discussion of the report's issues and DOE's and NYSERDA's response.

128-2 If DOE and NYSERDA select the Phased Decisionmaking Alternative, the Agencies are committed to progressing to Phase 2 as soon as possible.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for

Commentor No. 128 (cont'd): New York State Legislature

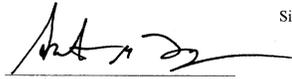
of all buried waste until those materials can be removed to an off-site repository. The Phased Decision Making in Phase 1 would demolish the process building in order to excavate the strontium plume source area, clean up the lagoons and install barriers for groundwater contamination. All of this new cleanup work would address only 1.2% of the total radioactivity on the site. Decisions on a majority of the waste, or almost 99% of the radioactivity, would be addressed in Phase 2 including high-level radioactive waste tanks, and the two burial grounds with enormous amounts of long-lasting radioactive waste. Given the decades it has taken to address this site, and the 14 year delay on the DEIS, the Phased Decision Making approach is an unacceptable delay.

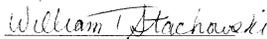
Leaving wastes buried onsite does not protect the environment due to serious erosion problems, and poses a significant risk to residents if controls fail and waste pollutes nearby drinking water. Erosion is an especially powerful and fast moving force at the West Valley site as it sits on a geologically young landscape which is undergoing a relatively rapid rate of erosion. Michael P. Wilson, Ph.D., SUNY Fredonia Professor of Geosciences found in the FCA study that, "Nuclear wastes, radioactive for tens of thousands of years, will be consumed by erosion and discharged downstream to Lakes Erie and Ontario in less than 3,000 years and may be dangerously exposed in less than 200 or 300 years."

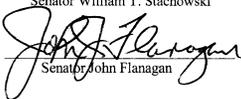
Another problem is that the potential environmental and health impacts of leaving an estimated 99% of the radioactivity on site for another 30 years were not studied in the Draft Environmental Impact Statement (DEIS). For instance, the high-level waste tanks, with 300,000 curies of radioactivity, are nearing the end of their functional life (50 years) and any leaks could seriously pollute the EPA-recognized sole source aquifer. Scientists found the site poses a significant danger to people who live nearby, in Buffalo and along the shores of Lakes Erie and Ontario. If just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, risking hundreds of cancer deaths, and water replacement could cost hundreds of millions of dollars. (FCA Study) The DEIS was criticized by NYSERDA in the Forward to the DEIS for underestimating these risks.

The site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated groundwater. We recommend that the Final Environmental Impact Statement support a Sitewide Removal Alternative as it is the only remedial approach that will protect the precious Great Lakes of Erie and Ontario. Thank you for considering our views.

Sincerely,


Senator Antoine Thompson


Senator William T. Stachowski


Senator John Flanagan


Senator Catharine M. Young


Senator John A. DeFrancisco


Senator Kenneth P. LaValle

128-2
cont'd

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making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

128-3 DOE and NYSERDA acknowledge the legislators' concerns about long-term erosion at the site. This EIS analyzes the consequences of unmitigated erosion. The results of the erosion modeling are presented in Appendix F. The human health consequences for the unmitigated erosion scenario are presented in Chapter 4, Section 4.1.10.3.3. See the "Questions about Long-term Erosion Modeling" Issue Summary in Section 2 of this CRD for a further discussion of this issue and DOE's and NYSERDA's response.

128-4 Please refer to the Issue Summary for "Conclusions of the *Synapse Report*," which addresses the comment on the alleged costs and impacts of the leakage of 1 percent of radioactivity.

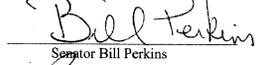
Potential environmental and health impacts of leaving waste on site for 30 years: The analysis conducted for this EIS provides a basis for understanding the environmental and health impacts of continuing to manage the inventory in the Waste Tank Farm, NDA, and SDA in their current configuration. The impacts of storage are presented in Chapter 4, Section 4.1.9, where the Phase 1 human health impacts are discussed. Potential mitigation measures that could be implemented during this period are discussed throughout Chapter 6. Information on the human health impacts during this period is also provided in Appendices I, J, and P.

Status of the underground tanks in the Waste Tank Farm: DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State, or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults

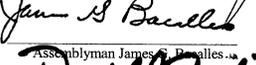
Commentor No. 128 (cont'd): New York State Legislature


Senator George P. Mazarz

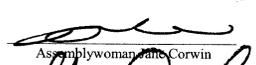

Senator George Onorato

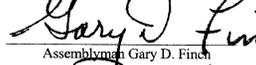

Senator Bill Perkins

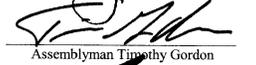

Senator Ruth Hassell-Thompson


Assemblyman James J. Ballew


Assemblyman Dan Burling


Assemblywoman Jane Corwin


Assemblyman Gary D. Finch

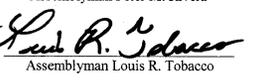

Assemblyman Timothy Gordon


Assemblyman Sam Hoyt


Assemblyman David R. Koon


Assemblywoman Crystal D. Peoples


Assemblyman Peter M. Rivera

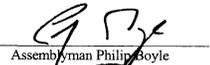

Assemblyman Louis R. Tobacco


Senator Michael E. Nozzolio


Senator Frank Padawan

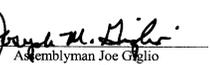

Senator Michael Rantzenhofer


Senator Dale M. Volker


Assemblyman Philip Boyle

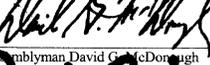

Assemblyman William Colton


Assemblyman Adriano Espaillat

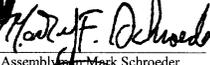

Assemblyman Joe Giglio

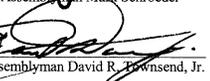

Assemblyman James P. Hays


Assemblyman Elliot Jaffe


Assemblyman David G. McDonough


Assemblyman Jack Quinn


Assemblyman Mark Schroeder


Assemblyman David R. Townsend, Jr.

and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying.

NYSERDA's View in the EIS Foreword. DOE disagrees with many of the points raised in NYSERDA's View, which is included as the Foreword to this EIS. At the core, differences between DOE and NYSERDA center on different views about the nature of analysis required for an EIS and the attendant level of acceptable risk associated with any uncertainties in that analysis as it relates to decisionmaking. DOE believes the analysis in this EIS meets the requirements of NEPA and SEQR in that, when there is incomplete or unavailable information relevant to reasonably foreseeable significant adverse environmental impacts, this EIS (1) acknowledges the information limitation and its relevance to environmental consequence, (2) summarizes existing credible scientific evidence, and (3) presents an analysis using a theoretical approach that is generally accepted by the scientific community involved in such analyses. This Final EIS contains text boxes in the relevant subject matter areas that acknowledge the differences of opinion between DOE and NYSERDA. In general, DOE's position is that the Agency spent much time and effort engaging highly qualified and respected experts in hydrology and hydrological transport, landscape evolution (erosion), human health and environmental risk analysis, and other technical fields, and stands behind the analyses performed for this EIS.

128-5 Please refer to the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for a discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 129: Mary Ann Jordan

June 27, 2009
Dear Dept. of the Environment + NY State Energy Research
+ Development Authority,

The West Valley nuclear site needs to
be fully cleaned up Now.

I was not impressed with any of
your plans. The idea of doing this project
in phases that could take 30 years is not
acceptable. It has already taken years
to begin to address this site, and the NYs.
delay on the DEIS. The phased decision-
making approach, an unacceptable delay.

Your plan to contain contaminants, has
a major flaw. The Buffalo Evening News
printed an article on Sat. May 24, 2009

entitled "Parts of Area slip - sliding away."
I quote "Questions raised in 1991 about the
storage of low-level nuclear wastes in
Catt. County, Town of West Valley, subject to
serious erosion along its water ways"
That was 18 years ago and there are still
problems. It does not protect the environment
due to erosion problems and it poses a
serious threat to residents if controls fail
and waste pollutes near by drinking water.

I believe if the final decision were put to
public vote a full clean up would be the result.

Clean up will be expensive, however can
anyone project how much it will cost if there
is a major disaster involving not only human
life, but uncontrolled nuclear waste in land,
air and drinking water?

129-1

129-1 Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected. Please see the Issue Summary for "Modified Phased Decisionmaking Alternative" in Section 2 of this EIS for further discussion of this issue and DOE's and NYSERDA's response.

129-2

129-2 DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. Please see the Issue Summaries for "Concerns about Potential Contamination of Drinking Water" and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

129-3

129-3 DOE and NYSERDA acknowledge the commentor's support for the full clean up of the WYNSC site. The estimated costs for implementing each of the alternatives are presented in Chapter 4, Section 4.2, of this EIS. The cost estimates include the costs of resources for repairing engineered barriers and isolation systems. Analysis of site processes does not suggest that any single natural event would result in any major release of radionuclides.

Commentor No. 129 (cont'd): Mary Ann Jordan

I would think that as a Dept.
concerned with Environment that you
would agree with a 100% clean up.
A total cleanup that begins Now.

Most Sincerely Concerned Citizen

Mary Ann Jordan

P.S. I noticed at the Bilo. presentation that
members of the DEIS on stage were drinking
bottled H₂O. In 30 years we could lose
Lake Erie & Lake Ontario and shortly
thereafter "the Fresh Water - Great Lakes"
could be - History! -

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Commentor No. : 130: Members of Congress of the United States

Congress of the United States
Washington, DC 20515

June 5th, 2009

The Honorable Steven Chu
United States Department of Energy
1000 Independence Ave SW
Washington, DC 20585

Secretary Chu:

We are writing to support a full cleanup of New York's largest nuclear waste site, West Valley, located in Western New York.

|| 130-1

West Valley is a large, complex site with vast amounts of long-lasting radioactive pollution. The final resolution of the West Valley cleanup plan will have a major impact on the future of the Great Lakes and Western New York's environment, drinking water supplies, public health, and economic vitality. We are concerned about the environmental and public health risks intrinsic in the Phased Decision Making approach and urge you to support full cleanup of the site.

Under the Phased Decision Making approach, Phase 1 would include moving vitrified high-level waste to a new storage facility. The Phase 1 new cleanup work includes excavating part of the migrating radioactive strontium plume, demolishing and removing the suspected source of the plume, cleaning up lagoons, and installing barriers for groundwater contamination. This cleanup work addresses only 1.2% of the total radioactivity on the site. Decisions on a majority of the waste and almost 99% of the radioactivity, including high-level radioactive waste tanks and two burial grounds, would be addressed in Phase 2.

|| 130-2

Site-wide removal is the only alternative that truly protects the Great Lakes region. This approach would prevent a catastrophic release of radio nuclides which could cause severe damage to communities, resources and drinking water supplies and Lakes Erie and Ontario. This approach is also the most cost-effective according to a recent study funded by the New York State Legislature. The study, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste*, found leaving buried waste at the site is both high risk and expensive while a waste excavation cleanup presents the least risk to a large population and the lowest cost. Over 1000 years, waste excavation costs \$9.9 billion while onsite buried waste costs \$13 billion to \$27 billion or more if a catastrophic release occurred.

|| 130-1
cont'd

Leaving waste buried onsite does not protect the environment due to serious erosion problems, and poses a significant risk to residents if controls fail and waste pollutes nearby drinking water. The state-funded study found that erosion is an especially

|| 130-3

130-1 DOE and NYSERDA acknowledge the commentors' preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., has been addressed in this CRD, consistent with the Council on Environmental Quality's NEPA regulations. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Waste," "Conclusions of the *Synapse Report*," and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

130-2 The statements regarding actions to be taken during Phase 1 of the Phased Decisionmaking Alternative are consistent with the descriptions in this EIS. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no

Commentor No. 130 (cont'd): Members of Congress

powerful and fast moving force at the West Valley site as it sits on a geologically young landscape which is undergoing a relatively rapid rate of erosion. We are concerned that the potential environmental and health impacts of leaving an estimated 99% of the radioactivity on site for another 30 years was not studied in the DEIS. For instance, the high-level waste tanks, with 300,000 curies of radioactivity, are nearing the end of their functional life (50 years) and any leaks could pollute the local aquifers.

We cannot jeopardize the irreplaceable natural resources of the Great Lakes by leaving West Valley largely unaddressed for another three decades. We urge you to support the Site-wide Removal Alternative as it is the only cleanup approach will effectively protects New York's Great Lakes region. We also strongly advocate extending the public comment period for 90 additional days.

Thank you for your consideration.

Charles Schumer
Senator

Kirsten Gillibrand
Senator

Brian Higgins
Member of Congress

Eric Massa
Member of Congress

Maurice Hinchey
Member of Congress

Jose Serrano
Member of Congress

Steve Israel
Member of Congress

Nita Lowey
Member of Congress

Christopher Lee
Member of Congress

Daniel Maffei
Member of Congress

130-3
cont'd

130-4

later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

130-3

This EIS estimates the environmental consequences of leaving the waste on site in both an "as-is" condition (No Action Alternative), as well as an arrangement with increased isolation and supporting monitoring and maintenance (Sitewide Close-In-Place Alternative). The analysis considers two cases: ongoing institutional controls and loss of institutional controls after 100 years. One of the scenarios analyzed for the postulated loss of institutional control situation is termed "the unmitigated erosion scenario." This analysis relies on a long-term erosion model calibrated to available site-specific data and used in a manner that is consistent with theoretical approaches generally accepted by the scientific community.

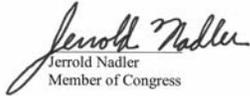
The impacts of managing the Waste Tank Farm in an "as-is" configuration is discussed in this EIS. DOE's actions to dry the waste heel remaining in the tanks also extends the service life of the tanks and reduces the potential for and consequences of a leak from the Waste Tank Farm.

The environmental impacts of implementing Phase 1 of the Phased Decisionmaking Alternative are described for each resource area in Chapter 4 of this EIS. If this alternative is selected, the options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close-in-place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. For each resource area, Chapter 4 discusses the impacts that would occur if either removal or close-in-place is selected for Phase 2. The chapter also discusses which alternative(s) bound the impacts in the event that continued active management is selected for the SDA. The short-term impacts of a Phase 2 decision that involves continued active management of the SDA are bounded by either the removal or close-in-place impacts. The post-decommissioning impacts of a continued active management decision for the SDA, which include staffing, occupational exposure, and waste generation related to SDA monitoring and maintenance, as well as long-term impacts on public health and safety, would be similar to the no action impacts for the SDA.

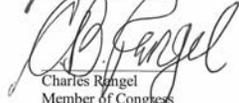
Commentor No. 130 (cont'd): Members of Congress



John Hall
Member of Congress



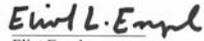
Jerrold Nadler
Member of Congress



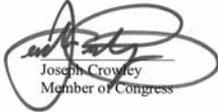
Charles Rangel
Member of Congress



Carolyn Maloney
Member of Congress



Eliot Engel
Member of Congress



Joseph Crowley
Member of Congress



Timothy Bishop
Member of Congress



Paul Tonko
Member of Congress

130-4 In response to requests from the public, DOE and NYSERDA extended the original 6-month comment period (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE) for an additional 90 days, through September 8, 2009.

*Commentor No. 131: Jonathan Weston,
Staff of Congressman Brian Higgins*

From: Weston, Jonathan <Jonathan.Weston@mail.house.gov>
To: Lerner, Steve; Milone, Lauren
Cc: Sermonis, Nathan <Nathan.Sermonis@mail.house.gov>
Sent: Mon Jul 13 14:49:09 2009
Subject: RE: Extension of Public Comment Period for 90 Days

Steve –

I am writing to clarify upon the New York State delegation letter regarding West Valley.

Congressman Higgins strongly supports moving forward with Phase One of the Preferred Alternative and believes it is a vital next step in the remediation process. We believe that the other cosigners of the letter feel the same as this was communicated in conversations with the delegation.

The letter is only meant to highlight our desire for DOE to make a stronger commitment to the site in Phase Two. If you have any questions or concerns, please do not hesitate to contact me.

Best regards –

Jonathan Weston
Senior Policy Advisor
Congressman Brian Higgins
431 Cannon House Office Building
P: 202.225.3306
F: 202.226.0347

131-1

131-1

DOE and NYSERDA appreciate the clarification and acknowledge the commentor's support for the Phased Decisionmaking Alternative followed by a strong commitment to Phase 2 cleanup. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 132: Kathleen McCormick

August 8, 2009

Kathleen McCormick

53 Milton Street

Williamsville, NY 14221

I strongly support the Sitewide Removal option for West Valley. The health risks of the other two options are too high. Leaving the waste in place at West Valley brings those of us living in Western New York one step closer to making one of my childhood nightmares a reality -- the human race dying out because we've contaminated our water. Please do a complete clean-up of West Valley.

132-1

132-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 133: Johanna M. Coleman, Town Clerk,
Town of Lancaster



JOHANNA M. COLEMAN
Town Clerk

Town of Lancaster

21 CENTRAL AVENUE
LANCASTER, NEW YORK 14086
PHONE: (716) 683-9028
FAX: (716) 683-2094

July 23, 2009

NYS Energy Research & Development Authority
Paul Bernia, Program Director
West Valley Site Management Director
9030 Route 219
West Valley, New York 14171

US Nuclear Regulatory Commission
Chad Glenn, Project Manager
NRC MS T-7-F27
11555 Rockville Pike
Rockville, Maryland 20852

U.S. Environmental Protection Agency
Paul A. Giardinia, Chief
Radiation & Indoor Branch
EPA Region 2
290 Broadway
New York, New York 10007-1866

NYS Department of Environmental Conservation
Tim Rice, Division of Solid & Hazardous Materials
NYS Department of Environmental Conservation
625 Broadway, 9th Floor
Albany, New York 12233-7255

Coalition on West Valley Nuclear Wastes
PO Box 603
Springville, New York 14131

Re: Resolution adopted by Lancaster Town Board

Gentlemen:

Enclosed is a copy of a resolution adopted by the Town Board of the Town of Lancaster on July 20, 2009.

This resolution states that the Town Board of the Town of Lancaster supports the cleanup of the West Valley Nuclear site with the clean up standards as protective as current state radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water.

Sincerely yours,

OFFICE OF THE TOWN CLERK


Johanna M. Coleman, Town Clerk

JMC/mp
Encl.

133-1

133-1 DOE and NYSEDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSEDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSEDA's response.

Agency actions would comply with the applicable cleanup and decommissioning criteria for WNYNSC that are embodied in Federal and New York State environmental, safety, and health regulatory requirements promulgated under various statutory authorities (see Chapter 5 of this Final EIS). As summarized in Chapter 1, Section 1.3, these regulatory requirements include RCRA permitting and corrective actions under New York State and/or EPA requirements, decommissioning according to NRC requirements in its License Termination Rule, and EPA assessments of compliance with National Emission Standards for Hazardous Air Pollutants.

**Commentor No. 133 (cont'd): Johanna M. Coleman, Town Clerk,
Town of Lancaster, New York**

THE FOLLOWING RESOLUTION WAS OFFERED
BY SUPERVISOR GIZA, WHO
MOVED ITS ADOPTION, SECONDED BY
COUNCIL MEMBER STEMPNIAK, TO WIT:

WHEREAS, thirty miles south of Buffalo, New York, the West Valley nuclear waste site, located in Cattaraugus County, is burdened with vast amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years, some for millions of years, including plutonium, uranium, strontium-90 and iodine-129, and can cause leukemia and cancer at low doses; and

133-2

WHEREAS, the site is the nation's only venture into commercial reprocessing of irradiated nuclear fuel, was operated by Nuclear Fuel Services and ended in total failure in 1976 with the company leaving and passing on cleanup responsibility to the government and taxpayers; and

133-3

WHEREAS, the site sits on top of a sole source aquifer and has been plagued with problems, such as radioactive contaminated ground water, and radioactivity from the site has been found as far away as the shore at the juncture of the Niagara River, and Lake Ontario demonstrating a potential for the leaking site to contaminate drinking water supplies for millions of people; and

133-4

WHEREAS, the Department of Energy and NYS Energy Research and Development Authority are proposing to leave buried waste onsite, (including high level radioactive waste tanks when such tanks are at the end of their useful lives and could leak contamination at any time), and delay final cleanup decisions for up to 30 years; and

133-5

133-6

WHEREAS, economists and scientists recently released a first-ever study on the long-term cleanup costs, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, funded by a New York State grant sponsored by Senator Catherine Young (R-Olean), and the study was conducted by Synapse Energy Economics, experts from Tufts University, SUNY Fredonia, and Radio Active Waste Management Associates; and

133-7

WHEREAS, the study investigated the costs of digging up radioactive waste versus leaving waste buried onsite for the next 1,000 years and found that a full waste excavation cleanup costs less, at \$9.9 billion, and presents the least risk to the population. Leaving buried waste onsite, which is expensive, at \$13 billion, carries high risks, and could also cost and additional \$27 billion or more if a catastrophic release of radioactive waste contaminated drinking water supplies; and

133-2 WNYNSC has inventories of radionuclides and hazardous chemical constituents in the facilities (buildings, lagoons, and waste disposal areas) as well as environmental contamination from past facility operations (e.g., in the North Plateau Groundwater Plume). A description of the facilities and inventories of the radionuclides and hazardous chemical constituents is included in Appendix C of this EIS. This EIS was prepared to evaluate the potential environmental impacts, including impacts from radiological and hazardous chemical constituents, of alternatives for decommissioning and/or long-term stewardship of the site.

The commentor is correct that scientific studies have not clearly demonstrated the existence of a threshold below which exposure to ionizing radiation conveys no risk of health effects. By assuming that the risk of health effects at low doses is proportional to the exposure (i.e., doubling the exposure also doubles the risk), regulatory agencies such as EPA and NRC have adopted a prudent approach to establishing standards to protect human health and the environment from the effects of ionizing radiation. EPA typically regulates radiation exposure based on a lifetime cancer risk of 1×10^{-6} to 1×10^{-4} (1 in a million to 1 in 10,000), consistent with its approach for chemical carcinogens. NRC's license termination dose criterion of 25 millirem per year total effective dose equivalent is consistent with the recommendations of advisory bodies such as the International Commission on Radiological Protection to limit exposures to members of the public from individual sources of radiation. Estimated exposures from the alternatives considered in this EIS are presented throughout this document in a manner that allows a comparison with these levels of protection.

133-3 Chapter 1 of this EIS summarizes the history of WNYNSC. Section 1.1 provides an accurate history of the development of the site and how DOE and NYSERDA became responsible for their respective roles.

133-4 Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS. Please refer to the Issue Summary for "Concerns

**Commentor No. 133 (cont'd): Johanna M. Coleman, Town Clerk,
Town of Lancaster, New York**

WHEREAS, scientists found that erosion is a powerful and fast moving force in the region, and leaving buried waste onsite poses a risk to people if controls fail and dangerous radioactive waste pollutes local, regional and international waterways into Lake Erie the Niagara River and beyond, and

133-8

WHEREAS, scientists found the site poses a significant danger to people who live along nearby creeks, Buffalo residents and people living along the shores of Lakes Erie and Ontario and if just 1% of radioactivity leaked from the site, Lake Erie water users would be exposed to substantial radiation, causing hundreds of cancer deaths, and Buffalo and Erie County water replacement would cost hundreds of millions of dollars, and

133-9

WHEREAS, scientists and economists concluded that if wastes are left buried at West Valley and a release occurs, it can have expensive and disastrous consequences irreparably contaminating the precious Great Lakes region, and the costs of maintaining buried waste in an attempt to thwart future disaster will be far more expensive and far more risky than excavating the radioactive waste which is the safest, precautionary approach.

133-10

NOW, THEREFORE, BE IT

RESOLVED that the Town Board of the Town of Lancaster supports the full cleanup of the entire West Valley nuclear waste site (also known as the Western NY Nuclear Service Center & Demonstration Project) through waste excavation; and

133-1
cont'd

BE IT FURTHER

RESOLVED, that the Town Board of the Town of Lancaster supports cleanup standards that are at least as protective as current state radiation standards and unrestricted use toxic standards, and are fully protective of vulnerable populations, including children, fish, wildlife and water.

The question of the adoption of the foregoing resolution was duly put to a vote on roll call which resulted as follows:

COUNCIL MEMBER ABRAHAM	VOTED YES
COUNCIL MEMBER AMATURA	VOTED YES
COUNCIL MEMBER RUFFINO	VOTED YES
COUNCIL MEMBER STEMPNIAK	VOTED YES
SUPERVISOR GIZA	VOTED YES

July 20, 2006

about Potential Contamination of Water” in Section 2 of this CRD for a discussion of this issue and DOE’s and NYSERDA’s response.

The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program.

133-5 Some of the alternatives evaluated in this EIS, including the Preferred Alternative (Phased Decisionmaking), could result in some facilities and waste remaining on the site, including the high-level radioactive waste tanks. Under the Phased Decisionmaking Alternative, action would be undertaken during Phase 1 for all facilities except the Waste Tank Farm, NDA, SDA, and Construction and Demolition Debris Landfill. Options for Phase 2 (exclusive of the SDA) are sitewide removal of the remaining facilities and contamination (Sitewide Removal Alternative), close in place of the remaining facilities and contamination (Sitewide Close-In-Place Alternative), or a combination of activities from these two alternatives. For the SDA only, NYSERDA is also considering continued active management consistent with permit and license requirements. DOE is required by the West Valley Demonstration Project Act to decontaminate and decommission the waste storage tanks and facilities used to solidify high-level radioactive waste, as well as any material and hardware used in connection with the WVDP, in accordance with such requirements as NRC may prescribe.

DOE recognizes and has been managing the hazard associated with the underground tanks in the Waste Tank Farm. Following removal and solidification of the majority of the Waste Tank Farm inventory, DOE has developed and is implementing actions to reduce the potential for a leak from the underground tanks. Specifically, it is working to install a tank and vault drying system designed to dry the liquid heel remaining in the waste tanks. The installation of this system and the drying of the tank inventories is part of the Interim End State or EIS starting point. In addition to drying the tanks to reduce the potential for a leak, DOE operates the groundwater pumping system that reduces groundwater seepage into the tank vaults while still maintaining a hydraulic gradient so that any liquid flows into, rather than out of, the vault system. DOE also maintains the tank leak detection equipment located in the tank pans and vaults and regularly samples the monitoring wells surrounding the tank vaults to ensure no leakage into the groundwater. Mitigation measures would be taken if any leakage were detected. It should be noted that none of the high-level

Commentor No. 133 (cont'd): Johanna M. Coleman, Town Clerk,
Town of Lancaster, New York

waste tanks has ever leaked. While there is no quantitative estimate of risk from the tanks while the contents are being dried, it is clear that the risks are being further reduced by tank drying. Additionally, much of the residual contamination in the tanks is attached (i.e., “fixed”) to metal surfaces and is not readily mobile.

- 133-6** Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.
- 133-7** DOE and NYSERDA are aware of the report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, and it has been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.
- 133-8** DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for “Questions about Long-term Erosion Modeling” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 133 (cont'd): Johanna M. Coleman, Town Clerk,
Town of Lancaster, New York

- 133-9** DOE and NYSERDA note that the impacts of a release of 1 percent of the site radioactivity referred to by the commentor are taken from the *Synapse Report*. Please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response. See also the response to Comment no. 133-8 regarding the long-term impacts analysis addressed in this EIS.
- 133-10** The conclusions referenced in the comment are taken from the *Synapse Report*. As noted above, please see the Issue Summary for “Conclusions of the *Synapse Report*” in Section 2 of this CRD for a discussion of the report’s issues and DOE’s and NYSERDA’s response.

Commentor No. 134: Orlando C. Monaco

From: Orlando C. Monaco [mailto:monacos@monacos.us]
Sent: Monday, August 10, 2009 11:12 PM
To: Paul J. Bembia
Subject: West Valley Contamination of Cattaraugus Creek and Lake Erie & Cleanup Recourse

Good evening Mr. Bembia..

I am a Western New Yorker who lives in East Aurora and the news out of West Valley gravely concerns me. The fact that we have a facility of this nature which has improper interim storage of radioactive waste and currently an active underground water leak tainted with Strontium 90 that is entering Cattaraugus Creek is disheartening. Does anyone care about the environment here in WNY? Isn't bad enough we now have to contend with this clean up and also the clean of the Lake Ontario Ordinance Works in Niagara County, which was formerly a site for development of nuclear material for the Manhattan Project. West Valley facility needs a complete cleanup plan starting **immediately**, not partially and then pick up the majority 30 years from now. If a major leakage at this facility occurs into Cattaraugus Creek the effects will be disastrous to say the least and not just to WNY but the entire Great Lakes region. Does the Department of Energy want this kind of scenario to play out? The water shed of Cattaraugus Creek empties into Lake Erie which is the fresh water supply to millions along its 725 mile perimeter. Contaminate Cattaraugus Creek and Lake Erie and you are looking at a protracted long term manmade disaster of proportions this country has never seen. It is time for Department of Energy to put the lives and health of millions first in making a decision on the course of action to take. We have a active underground leak with radioactive contamination at West Valley, we have radioactive sediment in Cattaraugus Creek, we also have Plutonium traces showing up in the lower Niagara River and Lake Ontario. How much more does it take to convince the Department of Energy to clean up this site and move this material to an alternate location with a more suitable hydrological makeup for safe long term storage? This of course would remove the high probability of contaminating the surrounding environment of course and allow this material to be monitored long term with minimal expense. I sincerely hope the right decision is made for all our sakes. Best Regards...

Orlando C. Monaco

134-1

134-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please note that the contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. DOE and NYSERDA are adequately managing the waste and contamination in its current configuration and releases are minimal, as demonstrated by the results from the ongoing environmental monitoring program that are reported in the annual site environmental reports. Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (e.g., the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for the decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

Commentor No. 135: Orlando C. Monaco

August 10, 2009

Orlando C. Monaco

584 Crescent Ave

East Aurora, NY 14052

Given the past history of pollution debacles in WNY and the fact that currently the West Valley Project has a major leak of strontium 90 tainted water that is currently polluting the Cattaraugus Creek and potentially if not already Lake Erie. This is unacceptable and any deferred 30 year clean up plan is a complete failure to recognize the severity of this situation. Close this facility, clean this 3000+ acre site up and move these materials to a safer location. That is the only recourse, and I know in your hearts if you lived in West Valley NY that is what you would want as well.

135-1

135-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion.

Note that, during the implementation of Phase 1 of the Preferred Alternative or the Phased Decisionmaking Alternative, the source area of the North Plateau Groundwater Plume would be removed. The nonsource area would be contained by the permeable treatment wall.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 136: Peter Mercurio

August 6, 2009

Peter Mercurio

129 Center

East Aurora, NY 14052

Please rectify the problem now, rather than risk everyone's health and cost us and our kids more later! Thank you. Peter Mercurio East Aurora, NY Village Trustee

136-1

136-1

DOE and NYSERDA note the commentor's desire for prompt action to address site cleanup. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 137: Kevin Manne

August 14, 2009

Kevin Manne

1178 Akron Road

Corfu, NY 14036

Please clean up the ENTIRE West Valley site immediately, not just the “bad” nuclear waste. As a concerned citizen of Western New York, I urge you to take immediate action on this issue before Lake Erie is contaminated, and subsequently the rest of the Great Lakes for the sake of the generations to come and for the good of the environment.

137-1

137-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 138: Melanie Scherer

August 17, 2009

Melanie Scherer

46 Brookpark Drive

Amherst, NY 14228

I am asking you to support a full clean up of the West Valley area. It is essential to our current health, and to the future health of our community.

||| 138-1

138-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 139: Dr. H. Rosalie Bertell

August 17, 2009

Dr. H. Rosalie Bertell

1750 Quarry Rd.

Yardley, PA 19067-3910

It was in 1975 that I first heard about the desecration of the lush farm and dairy land south of Buffalo with a failed nuclear reprocessing plant and nuclear waste dump! I was working at Roswell Park Cancer Hospital at the time and had been studying low level radiation for ten years - measuring its age acceleration effect on humans. It is hard to believe that West Valley has not been cleaned up! It is an outrage against Public Health and the people of New York State. The failure of State and Federal government to record the damage to the health of the people does not make that damage disappear. All of Western New York has experienced the economic and damaged health legacy of this failed experiment. The children have suffered the most. There is no excuse for walking away from this environmental disaster!

139-1

139-1

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, which are presented in Chapter 4 of this EIS. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 140: Mary Herbst

August 17, 2009

Mary Herbst

5541 East River Road

Grand Island, NY 14072

For many years now citizens in the Western New York area have been asking to clean up the West Valley Demonstration Project in order to prevent dangerous carcinogenic materials from entering the water supply. Due to erosion, it is unacceptable to continue to allow nuclear waste products to remain on the site and contaminate the water. This has been recognized for long enough and to study it further only causes more problems.

140-1

140-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in Appendix F of this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users.

Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

*Commentor No. 141: James Steinwachs,
St. Joseph's University Parish Social Justice Committee*

August 16, 2009

James Steinwachs

St. Joseph's University Parish Social Justice Committee

Buffalo, NY 14214

This problem has been ongoing for years. It is about time to put a plan together with a reasonable timetable to clean up this DUMP.

|| 141-1

141-1

DOE and NYSERDA note the commentor's desire for prompt action to address site cleanup. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 142: Charlotte Koons

August 19, 2009

Charlotte Koons

CODEPINK, LONG ISLAND

81 Locust Lane

Northport, NY 11768-1150

A complete clean up of West Valley Nuclear Waste site is imperative. More and more of the surrounding environment, the ground water, and the lives of surrounding wildlife and people are in danger. This is neglect and malfeasance of giant proportions. Better our tax dollars for this than endless war! A deadly oxymoron = Safe Nukes!

142-1

142-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 143: Alice Shields

August 20, 2009

Alice Shields

7 West 96 St.

New York, NY 10025

Please approve a full clean-up of the West Valley nuclear waste site.
Thank you.

|| 143-1

143-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 144: Lia and Avery Braico

August 20, 2009

Lia & Avery Braico

138 Howe Rd

Lake Luzerne, NY 12846

Please clean fully clean up the West Valley demonstration project. My wife and I are starting a family this fall, and we hope that our daughter can grow up in a nuclear contamination free NYS.

||| 144-1

144-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 145: Rosalinda Iacovitti

August 20, 2009

Rosalinda Iacovitti

1 Avon Place

Suffern, NY 10901

Good Morning! This is a short and quick plea. Please show your support for a clean and safe drinking water supply. I urge you to approve a full cleanup of the West Valley nuclear waste site. Our environment needs everyones help. Many Thanks.

145-1

145-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 146: Hazel Landa

August 19, 2009

Hazel Landa

3837 NY Highway 2

Cropseyville, NY 12052

Please do a complete cleanup of the West Valley nuclear waste site.

|| **146-1**

146-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 147: H. Reiser

August 19, 2009

H. Reiser

611 W. 239th St.

#4B

Bronx, NY 10463

I strongly urge the Department of Energy and NYS Energy Research & Development Authority to select the Sitewide Removal Alternative as it provides a full cleanup for the West Valley nuclear waste site. Sitewide Removal is the safest solution by ultimately removing radioactive waste from an unstable site with serious erosion problems. It is the only alternative that will prevent catastrophic releases which can cause severe damage to communities, drinking water supplies and Lakes Erie and Ontario.

147-1

147-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in Appendix F of this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users.

Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 148: Thomas Connor,
St. Peter Damian Fraternity Secular Franciscan Order

August 20, 2009

Thomas Connor

St. Peter Damian Fraternity Secular Franciscan Order

17 Dubois Street

Wallkill, NY 12589-3113

Now is the time to begin a thorough clean-up of the West Valley nuclear waste site. Thank you.

|| 148-1

148-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 149: Dale Saltzman

August 21, 2009

Dale Saltzman

3091 Hickory St.

Yorktown Hts., NY 10598

Please remediate the entire West Valley site no matter what the cost. For the future of us all do a really good job. The money that is spent to do this work should come from the Nuclear Industry that has reaped the benefits for years and been subsidized by the government.

149-1

149-1

DOE and NYSEERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSEERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSEERDA's response.

Commentor No. 150: Craig C. Chapman

August 24, 2009

Craig C. Chapman

Concerned Citizen of Gowanda and Buffalo

105 Fargo Avenue

Buffalo, NY 14201

Dear Ms. Bohan, As the recent severe weather in the region, and subsequent severe erosion of the banks and cliffs along the Cattaraugus Creek has made abundantly clear, the parties responsible for this mess cannot afford to take a 10,000 year approach to this problem. Failure to fully remediate this site constitutes a clear and present threat to the health of hundreds of thousands of people, in addition to the Lakes Erie and Ontario ecosystems, Niagara Falls and the economies of every community downstream from West Valley. I have been in contact with the offices of Representatives Higgins, Slaughter, Lee, and Massa, as well as Senators Schumer and Gillebrand. I will likewise be alerting the Mayors of Niagara Falls, U.S.A and Canada and the government of the Greater Toronto Region to draw this matter of paramount environmental importance to their attention. The time to sit on hands is over. It's time to act and clean up the West Valley Demonstration Project, with all speed. Sincerely, Craig C. Chapman

150-1

150-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in Appendix F of this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," "Concerns about Potential Contamination of Water," and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.1.6, of this EIS also presents the results of an ecological risk assessment showing the projected long-term ecological impacts of the alternatives. The results of the human health and ecological impacts analysis imply that any impacts on the economies of communities downstream of WNYNSC would be negligible.

150-1 cont'd

Commentor No. 151: Bob Catalano

August 22, 2009

Bob Catalano

7339 Erie Road

Derby, NY 14047

Recent flooding around the West Valley Nuclear Facility demonstrates how close that facility is to a disaster. A nuclear spill could contaminate the drinking waters of Buffalo and Toronto. Our Canadian neighbors should have a say in what happens here. They should be part of the discussion. Our water is their water. Our danger is their danger. A FULL cleanup at W.Valley is necessary.

151-1

151-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Please also see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes," "Concerns about Potential Contamination of Water," and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses. As noted in the "Questions about Long-term Erosion Modeling" Issue Summary, calibration of the erosion model uses climatology data comparable to current conditions and includes consideration of storms comparable to those that occurred in the region in August 2009.

This EIS considers the proximity of Canada in evaluating human health impacts. As explained in Chapter 4, Section 4.1.9.1, potential doses from radiological air emissions during decommissioning are evaluated for the population within 80 kilometers (50 miles) of WNYNSC, including residents of Canada. As explained in the Issue Summary for "Concerns about Potential Contamination of Water," the dose analysis evaluates impacts to the population served by downstream water treatment plants on Lake Erie and the Niagara River using conservative assumptions regarding dilution of contaminants. As a result of the dilution that would occur due to distance and mixing with large volumes of water, the impacts to people at other locations on the Great Lakes would be much less than those presented for people served by the Lake Erie and Niagara River water treatment plants.

Commentor No. 152: Diane Doster

August 23, 2009

Diane Doster

2 Harmony Circle

Orchard Park, New York 14127

I feel that only a FULL cleanup at the West Valley site is acceptable!

|| 152-1

152-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 153: David J. Schachne

August 20, 2009

David J. Schachne

409 State Street, #1

Albany, NY 12203-1013

Please provide for a FULL CLEANUP of Lake Erie so that drinking water is not effected. The nuclear putrefaction of our environment has gone on too long in this country. For decades, the public has been poisoned and sickened by an unscrupulous nuclear power industry. Enough. Please take action to correct the destruction and contamination of our environment.

153-1

153-1

DOE and NYSEDA acknowledge the commentor's concern about contamination of Lake Erie. This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSEDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion.

Commentor No. 154: Gudrun Scott

Frank Murray
President, NYSERDA
17 Comubia Circle
Alabany, NY 12203

and

Catherine Bohan
EIS Document manager
West Valley Demonstration Project
Department of Eerngy
PO Box 2368
Germantown, Md 20874

Re: Draft decommissioning and/or Long term Stewardship EIS Comments on Clean up at West Valley Nuclear Waste Site

Dear Mr Murray and Ms Bohan

YES- it should be cleaned up according to option #1 and here are my reasons:

Although it is true that the radioactive waste will only be transferred to some other place and continue to be dangerous, it is better off to lay it to rest at a stable geological site. The West Valley area this month was involved in serious rainstorm that washed trucks down the road and left campers stranded in the Zoar valley while a rip flood covered them up to their necks and they had to remain there because of road washout and wait for a sheriff helicopter to pluck them out of there in the middle of the night.

What if radioactive waste was thus transported down the valley and for all we know it might have been actually happening.

We have more instability in the weather now than ever and Western New York was rained out all summer 2009 with the water that Seattle was hoping for etc. The specific newsreport of the unstable weather condition was printed in the Buffalo news on August 11,2009 "Sheriff's copter to the rescue" by Michael Beebe and Brian Meyer and you can google it to read it. Here were I am writing from in the neighboring county we experienced more than one tornado this summer.

We need jobs and the cleanup can be part of the stimulus. The nuclear industry will get a black eye if this West Valley area leaks and becomes another poster child of how the nuclear energy is unsafe and unclean so they should be contributing heavily to this cleanup we know Exxon and others have the money and they want to go into nuclear energy- let them contribute to this cleanup.

Go for option #1 and please send me a report what you decide and why.

154-1

154-2

154-3

154-1 cont'd

154-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

154-2 DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. There were no indications of any releases of radioactive material from WNYNSC as a result of the large rainstorms in August 2009. The potential impacts of climate change are evaluated through sensitivity analyses, but this EIS does not attempt to address extreme global-scale climate change. Although there are no reliable projections of future specific climate changes in the WNYNSC region, the groundwater dose analysis investigates the sensitivity of wetter or drier climates on the estimates of human health impacts. This includes evaluation of the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. The analysis of doses due to unmitigated erosion uses a gully advance rate associated with a climate that is wetter than current site conditions. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies and long-term erosion modeling are discussed in Appendix F. Please also see the Issue Summaries for "Concerns about Potential Contamination of Water" and "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

154-3 DOE and NYSERDA note the comment. The cumulative socioeconomic impacts of the alternatives proposed in this EIS are discussed in Chapter 4, Section 4.5.12.

This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC, a legally required step to support a decision on a course of action. The U.S. Congress and the President are responsible for establishing funding levels for various Federal Government programs, while the New York State Legislature and the Governor are responsible for establishing funding levels for state government

Commentor No. 154 (cont'd): Gudrun Scott

In addition the SEQRA law requires that a DEIS have a complete plan and does not allow segmentation which is the case in this DEIS and so it should be revised.

Sincerely


Gudrun Scott
1759 Hawk Rd
Andover NY 14806
Gudrun.Scott@Gmail.com

cc: Governor David Paterson
State Capitol
Albany NY 12224

|| 154-4

154-4

programs. Implementation of the decision made in DOE's Record of Decision and NYSERDA's Findings Statement is contingent on the level of funding allocated.

The commentor is referring to the fact that the decision to clean up the site would occur in separate phases under the Phased Decisionmaking Alternative. It is NYSERDA's position that segmentation refers to the improper division of one project into multiple smaller projects to circumvent NEPA (or SEQR) requirements. NYSERDA does not believe that improper segmentation would be involved under the Phased Decisionmaking Alternative because the proposed Phase 1 actions would be independent of and would not bias actions conducted in Phase 2. In other words, the actions proposed under Phase 1 would not automatically trigger certain actions to take place under Phase 2; to the contrary, DOE and NYSERDA could opt for any alternative or combination of alternatives during Phase 2. The test for improper segmentation is whether or not projects (in this case Phase 1 and Phase 2) are interdependent. In this case, they are clearly not.

Commentor No. 155: Rosalinda Iacovitti

From: Rosalinda.iacovitti@avon.com
Sent: Thursday, August 20, 2009 8:32 AM
To: frank.murray
Subject: Cleanup of the West Valley nuclear waste site

This is a short and quick plea. Please show your support for a clean and safe drinking water supply. I urge you to approve a full cleanup of the West Valley nuclear waste site. Our environment needs everyones help. Many Thanks.

Regards,
Rosalinda Iacovitti
AVON Products
Consumer Sciences
1 Avon Place
Suffern, New York 10910

155-1

155-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 156: Hazel Landa

From: dryland2@aol.com
Sent: Wednesday, August 19, 2009 7:13 PM
To: frank.murray
Subject: Clean-up of West Valley

Please do a complete cleanup of the West Valley nuclear waste site.
This will help to protect Lake Erie.

Hazel Landa
3837 NY Highway 2
Cropseyville, NY 12052

156-1

156-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 157: C. Avery and Lia Braico

From: Avery Braico [averybraico@gmail.com]
Sent: Thursday, August 20, 2009 10:13 AM
To: frank.murray
Subject: West Valley Demonstration Project

Frank Murray, Director of NYSERDA

Please insure that the West Valley site is fully cleaned up. My wife and I are starting a family this autumn and we hope to raise our daughter in a NYS that is free of nuclear contamination.

C. Avery & Lia Braico
Lake Luzerne NY

157-1

157-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summary for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” in Section 2 of this CRD for further discussion of this issue and DOE’s and NYSERDA’s response.

Commentor No. 158: Mary Herbst

From: Lee Herbst [herbstlee994@gmail.com]
Sent: Monday, August 17, 2009 4:34 PM
To: frank.murray
Subject: West Valley Nuclear Wastes

For many years now the citizens of Western New York have been asking for radioactive materials to be removed from the West Valley Demonstration Project. It is time now to prevent further contamination of our water with material that is known to be dangerous and carcinogenic. To delay this cleanup for further studies is unsafe and without conscience on the part of those making the decisions.

Thank You,
Mary Herbst

158-1

158-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative, as well as concerns about contamination of water resources and potential delays in cleaning up the WYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 159: Mary Steuer

August 27, 2009

Mary Steuer

660 Evergreen

Tonawanda, NY 14150

Hello, The FULL clean-up of West Valley is long overdue. We urge the Department to simply completely clean the site, now. Thank you.

|| 159-1

159-1

DOE and NYSERDA acknowledge the commentor's support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 160: Frank C. Baldwin

August 29, 2009

Frank C. Baldwin

149 Pine Tree Road

Ithaca, NY 14850

please clean up West Valley now.

|| 160-1

160-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 161: John V. Kim

09/02/2009 04:49 19149970946 OCEWHITEPLAINS PAGE 01

~~Dear~~ Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Zermantown, MD 20874

Dear Ms Bohan,

I support cleanup of the West Valley nuclear waste site, the Sitewide Removal Option, which will ensure comprehensive cleanup and excavation of the entire site.

Sincerely,

J V K
John V Kim
10 Lake St Apt 3D
White Plains NY 10603

161-1

161-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 162: Brian LaLange

09/02/2009 04:49 191.49970946

CCEWHITEPLAINS

PAGE 02

~~Dear~~ Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Fermentown, MD 20874

I support the Removal Option
For Cleaning up of the west
Valley nuclear waste time.

Yours truly,
Brian LaLange
19 Court St., Lower Level
White Plains, NY
10601

162-1

162-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 163: Eymi Aquino

~~Dear~~ Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Zermentown, MD 20874

Dear Ms. Bohan,

I am writing to support the sitewide Removal Option, which will ensure comprehensive cleanup and excavation of the entire site, I believe this is the safest and most cost effective solution.

Eymi Aquino
210 Martine Ave. Apt 2A
White Plains, NY-10601

163-1

163-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 164: Steve Monroe

09/02/2009 04:49 19149970946

CCEWHITEPLAINS

PAGE 04

Dear Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Fermentown, MD 20874

Dear Ms. Bohan,

I am writing to urge you to support the Sitewide Removal Option, which will ensure comprehensive cleanup and excavation of the entire site* the safest, most ~~cost-effective~~ cost-effective solution.

Sincerely,
Steve Monroe
46 Sunset Drive
Ossining, N.Y. 10562

~~Steve~~

* of the West Valley nuclear waste site.

164-1

164-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 165: Brian Moyer

09/02/2009 04:49 19149970946

CCEM/WHITEPLAINS

PAGE 05

~~Dear~~ Catherine Bohan
 EIS Document Manager
 West Valley Demonstration Project
 U.S. Department of Energy
 P.O. Box 2368
 Germantown, MD 20874

Dear Ms. Bohan,

I am a resident of White Plains, NY
 & HAVE MANY FRIENDS in your region.
 I'm CONCERNED with their safety. Please
 ENSURE THAT the West VALLEY NUCLEAR
 site is ~~entirely~~ excavated entirely.
 I support the state wide removal option,

Sincerely,

Brian Moyer
 325 Main St LI
 White Plains, NY 10601

165-1

165-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 166: Ikenna Achilihu

09/02/2009 04:49 19149970946

CCEWHITEPLAINS

PAGE 06

~~Dear~~ Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Fermontown, MD 20874

Dear Ms. Bohan,

I just want to let you know that I strongly urge you
to support the statewide Removal Option which will ensure
comprehensive cleanup and excavation of the entire site - which
I believe is the most cost effective solution.... Thank you!

Sincerely,

Ikenna Achilihu
45 Lawton Avenue
Hartsdale, NY 10530

166-1

166-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 167: Michael Aidos

09/02/2009 04:49 19149970946

CCEWHITEPLAINS

PAGE 07

~~Dear~~ Catherine Bohan
 EIS Document Manager
 West Valley Demonstration Project
 U.S. Department of Energy
 P.O. Box 2368
 Germantown, MD 20874

Dear DOE,

As a concerned citizen,

I support a comprehensive cleanup
 and excavation of the West Valley Site
 now in its entirety, rather than waiting!
 You should support this as well. Thank you.
 Please respond ~~now~~ in writing as to how
 you will address this issue.

Sincerely Michael Aidos
 855 Madison St, Apt 2
 Brooklyn, NY 11221
 9/2/09

167-1

167-1

DOE and NYSERDA acknowledge the commentor's preference for a prompt, comprehensive cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 168: Omar Cardenas

09/02/2009 04:49 19149970946

CCEWHITEPLAINS

PAGE 08

~~Dear~~ Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Fermentown, MD 20874

Hi my name is Omar Cardenas and I want
to express my support of a ~~prompt~~ comprehensive
cleanup in West Valley now rather than
wait later. (The entire site)

83 South Regent St
Port Chester, NY, 10573
9/2/09

168-1

168-1

DOE and NYSERDA acknowledge the commentor's preference for a prompt, comprehensive cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 169: Robert Martin

09/02/2009 04:49 19149970946

COE\HTEPLAINS

PAGE 09

Dear Catherine Bohan
 EIS Document Manager
 West Valley Demonstration Project
 U.S. Department of Energy
 P.O. Box 2368
 Jermantown, MD 20874

Dear Ms. Bohan:

This letter is in support of the proposed comprehensive cleanup and excavation of the West Valley nuclear waste site. This issue is far too serious to expend only a minor effort and further study. Please do everything in your power to get this done in a complete manner.

Sincerely,

Robert Martin

107 Nottingham Rd, F
 Bedford Hills, NY 10507

169-1

169-1

DOE and NYSERDA acknowledge the commentor's preference for a prompt, comprehensive cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 170: Stephen Howell

09/02/2009 04:49 19149970946

CCEWHITEPLAINS

PAGE 10

~~Dear~~ Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
Zerantown, MD 20874

I support the Sitewide Removal Option
for cleaning up of the West Valley nuclear
waste site.

Stephen Howell
Stephen Howell
34 Everts Ave,
White Plains, NY 10607

170-1

170-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 171: Matthew Becker

09/02/2009 04:49 19149970946

COEWITEPLAINS

PAGE 11

~~Dear~~ Catherine Bohan
 EIS Document Manager
 West Valley Demonstration Project
 U.S. Department of Energy
 P.O. Box 2368
 Germantown, MD 20874

I SUPPORT the Sitewide Removal
 Option for Cleaning up of the west valley
 nuclear waste site.

Sincerely, Matthew Becker
 Matthew Becker
 164 Glendale RD
 SCARSDALE, NY 10586

171-1

171-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 172: Peter Maniscalco

Sep 02 09 03:07p Peter Maniscalco 631-874-4104 p.1

Peter Maniscalco

P.O. Box 104, Manorville, NY 11949 (631) 874-4104

September 2, 2009

Mr. Steven Chu
U.S. Department of Energy
Washington, DC

Dear Secretary Chu,

With regard to West Valley, please undertake a complete clean-up of this site and accomplish the task. Make the decision now for full cleanup of the West Valley Nuclear Waste Site -- for the site-wide removal alternative, total waste excavation

As you may know, heavy rain and flooding eroded a wall of Buttermilk Creek causing a landslide bringing - in just one day - the Creek closer to the radioactive waste trenches.

Please oppose leaving buried waste on site. I oppose Phased Decision-Making: to delay cleanup of ~ 99% of the site's radioactivity for up to 30 years is not acceptable.

Thank you for your consideration.

Sincerely,

Peter Maniscalco

172-1

172-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Finding Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length

Section 3
Public Comments and DOE and NYSERDA Responses

Commentor No. 172 (cont'd): Peter Maniscalco

of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 173: Andrew Cdao

ATTN: Catharine Bohaw
EIS Document Manager
West Valley Demonstration Project
U.S. Dept of Energy
P.O. Box 2368
Germantown, MD 20874

We really need you guys to re-think your proposal about the West Valley Nuclear Waste Site. ~~Cleaning~~ up 1% of the waste and waiting 30 years is absolutely OBSESO. Now is the time to take action, not 30 yrs from now. I am aware of the fact that West Valley Waste Site is significantly close to the Great Lakes which I am sure you know is 20% of our planets source of fresh water. This is not the place for 660,000 gallons of nuclear waste. Never mind the wildlife, drinking water, tourism, & fishing industries. Please re-think this proposal and get back to me as soon as possible

Andrew Cdao
261 Walnut Tree Hill Rd
Shelton, CT, 06484.

0000

09/27/2016 02:46 FAX

173-1

173-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The 660,000 gallons referred to in the comment is the volume of high-level radioactive waste that was generated by the reprocessing of spent nuclear fuel from 1966 through 1972. DOE solidified this waste, resulting in 275 canisters of vitrified high-level radioactive waste. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 173 (cont'd): Andrew Cdao

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.1.6, of this EIS also presents the results of an ecological risk assessment showing the projected long-term ecological impacts of the alternatives. The results of the human health and ecological impacts analysis imply that any impacts on wildlife and the economies of communities downstream of WNYNSC would be negligible.

Commentor No. 174: Astrid M. Cardona

September 2, 2009.

To: Catherine Behan:

We need to clean West Valley Nuclear Waste and we need to do it NOW!!!

The proposal of a minute 1% clean up from 600,000 gallons of radioactive waste is an INSULT it is RIDICULOUS to the population of Ashford, NY

600,000 gallons nuclear waste vs. 1% of radioactive waste "clean up" is preposterous.

Have you consider the proximity of 1% of our major natural resources the "Great Lakes", the largest source of fresh water in the world, and the prospect this will have with our public health, fishing....?

Stop insulting us and trying to kill us!!!

Astrid M. Cardona
1 Front St. Apt 201
New Haven, CT 06513

174-1

174-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The 660,000 gallons referred to in the comment is the volume of high-level radioactive waste that was generated by the reprocessing of spent nuclear fuel from 1966 through 1972. DOE solidified this waste, resulting in 275 canisters of vitrified high-level radioactive waste. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 175: Richard J. Hayden

9-2-09

To Whom it may Concern
 Clean up of the West Valley site
 concerns us all! 1% over the next thirty
 years is not even worth the effort!!
 Lets get serious. Our future as a
 species depends on people, now, - All
 People NOW.

We cannot continue to ignore these
 huge issues. If we - all of us, act now -
 there may be still a chance to give our
 children and their children a planet that
 can still sustain life - a good life
 as we know it.

Sincerely



PS - Please respond either by mail ~~or~~ by phone
 Richard J. Hayden
 227 Mansion Rd
 Wallingford CT 06492
 Phone # [REDACTED]

175-1

175-1

DOE and NYSERDA acknowledge the commentor's opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 176: Allyson Dubois

ATTN: Catherine Boran
EIS Document Manager
West Valley Demonstration Project
U.S. Dept. of Energy
P.O. Box 2368 Germantown, MD 20874

We need to clean West Valley nuclear waste site in Ashford, NY immediately! Cleaning 1% now, then waiting another 30 years is ridiculous. This is our planet and we are responsible for our garbage and waste. Evaluation of this issue needs to be done now... NOT LATER. This waste is jeopardizing our wildlife, drinking water and many more HEALTH issues I know your aware of, and I am disgusted to think this can be ignored. 660,000 gallons of radioactive waste ??? and people want to clean up only 1% ?? in 30 years we will be buried!!! This issue is vital, and we need a NEW PLAN!!! please respond to my concerns ASAP! Thank you, and please re-read my letter until it sinks in.

ALLYSON DUBOIS
261 Walnut Tree Hill Rd
Shelton, CT 06484

176-1

176-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The 660,000 gallons referred to in the comment is the volume of high-level radioactive waste that was generated by the reprocessing of spent nuclear fuel from 1966 through 1972. DOE solidified this waste, resulting in 275 canisters of vitrified high-level radioactive waste. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 176 (cont'd): Allyson Dubois

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.1.6, of this EIS also presents the results of an ecological risk assessment showing the projected long-term ecological impacts of the alternatives. The results of the human health and ecological impacts analysis imply that any impacts on wildlife would be negligible.

Commentor No. 177: Carla White

ATM: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Dept. of Energy
P.O. Box 2368
Germantown, MD 20874

9-2-09

I am addressing you with my highest concern about the West Valley nuclear waste site in Ashford NY. I am personally ashamed and disturbed that you only plan on cleaning up only 1% of the 660,000 gallons of radioactive waste. You honestly plan on polluting our greatest fresh water source and putting all of our child in danger over the next 30 years? Then it will be recalled? What is the point of waiting? So you don't need to spend the time and effort now? Sure lets put this on our children's just like so many of our other problems. Please take action today so my child can have clean water and a healthy life.

Thanks for your time
Carla White
20 Anderson St.
Shepherdstown, WV 25451

05/27/2018 02:46 FAX

177-1

177-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The 660,000 gallons referred to in the comment is the volume of high-level radioactive waste that was generated by the reprocessing of spent nuclear fuel from 1966 through 1972. DOE solidified this waste, resulting in 275 canisters of vitrified high-level radioactive waste. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 178: Henry Allen

Attn: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Dept. Of Energy
P.O. Box 2368
Germantown, MD 20874

9-2-09

Why do you think that cleaning only 1% of Nuclear Waste at West Valley Nuclear Waste Site is absurd and weak. The Great Lakes are way too vulnerable and important to mess with. They are 20% of our WORLD'S fresh water supply. Do you really think its okay to mess with that? And please make sure you don't wait 30 long years to only re-evaluate the clean up let alone actually clean it up. The tourism is at risk, fishing and other industries will be at harm. We need to stimulate the economy, not make it worse. Please respond to my concerns as soon as possible, my health is at risk, along with everyone elses.

Concerned,
Henry Allen
HA Allen

20 Anderson St.
New Haven, CT 06511



178-1

178-1 DOE and NYSDERDA acknowledge the commentor's opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSDERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSDERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSDERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSDERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSDERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSDERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSDERDA's response.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and

Commentor No. 178 (cont'd): Henry Allen

4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.1.6, of this EIS also presents the results of an ecological risk assessment showing the projected long-term ecological impacts of the alternatives. The results of the human health and ecological impacts analysis imply that any impacts on tourism, fishing, and other industries would be negligible.

Commentor No. 179: Chester Hughes III

9/2/09

Catherine Bohan,

I think the West Valley Nuclear Waste Facility deserves more attention than the proposed 1% cleanup. Waiting thirty-years to decide the fate of 99% of the waste is absolutely ridiculous. Being close to the Great Lakes, this facility is a huge threat to contaminating 20% of the world's fresh water supply. This is a matter of great priority. 660,000 gallons of nuclear waste is not something that should be sitting around for three decades. I am including my return address, please respond with your departments thoughts on this matter.

Chester Hughes III.
[Redacted]
29 Willis St
New Haven, CT 06511

179-1

179-1 DOE and NYSERDA acknowledge the commentor's opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The 660,000 gallons referred to in the comment is the volume of high-level radioactive waste that was generated by the reprocessing of spent nuclear fuel from 1966 through 1972. DOE solidified this waste, resulting in 275 canisters of vitrified high-level radioactive waste. It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 180: John Sumner

9-2-09

Catherine Bahan
EIS Document Manager
West Valley Demonstration Project
U.S. Dept. of Energy
P.O. Box 2368
Germantown, MD 20874

It has come to my attention that nuclear waste is being dumped in Ashford, NY. Being that this is incredibly close to the Great Lakes I find this absurd. It has also come to my attention that only 1% is being cleaned up, and we must wait 30 yrs for an evaluation to see if the rest is cleaned. Fresh water and nuclear waste certainly do not mix well and considering 20% of the world's fresh water comes from the Great Lakes this is UNACCEPTABLE! Obviously there is a better solution to this problem and I'd hope you and your department can find one. Please respond to me in writing on your next step on this issue.

Sincerely

John Sumner
20 Anderson St.
New Haven, CT 06511

180-1

180-1 This EIS was prepared to evaluate the environmental impacts of the alternatives for decommissioning and/or long-term stewardship of WNYNSC. No additional radioactive material is being generated at or brought to the site. DOE and NYSERDA acknowledge the commentor's opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Commentor No. 181: Kyle Phelps

Dear D.O.E

I am upset with West Valley, NY.
I demand a Clean up effort on the
Nuclear waste. Also I am very disappointed
in your lack of transparency and your
refusal to take calls.

Very Concerned
Citizen,
Kyle Phelps
~~12~~ 202 YE. Geneva
Syracuse NY 13210

181-1

181-1 DOE and NYSERDA acknowledge the commentor's support for cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 182: Kristen Pellizzari

To Whom It May Concern:

We need the West Valley cleaned up now! I cannot express my disappointment in your lack of transparency and refusal to take phone calls in this matter. Take the action we need now! Thank you!

Sincerely,
Kristen Pellizzari

127 South Ave
Solvang, NY 13209

182-1

182-1

DOE and NYSERDA acknowledge the commentor's desire for prompt action to cleanup WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQ, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

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Commentor No. 183: Christian Bucknell

Dear Department of Energy,

Work needs to be done in order to clean up West Valley immediately! The idea to clean up 1% now and wait 30 years is as ridiculous as waiting 30 years to do the remaining 99% of spring cleaning.

Not only is your lack of action unacceptable the fact that you are not taking phone calls on this issue is a sore sign for democracy and the decency of your administration.

Take action Now and don't let the millions of New Yorkers for whom you are responsible suffer. Please reply to let me know what you are gonna do about this.

C: ()

Christian Bucknell
4434 Swisecroft Dr
Manlius, NY 13104

183-1

183-1 DOE and NYSERDA acknowledge the commentor's support for prompt cleanup of WNYNSC and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA provided opportunities for the public to provide input regarding the EIS for decommissioning and/or long-term stewardship of the

Commentor No. 183 (cont'd): Christian Bucknell

WNYNSC as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 184: Kelley Louer

Dear Department of Energy,

I would like West Valley cleaned up immediately! It is completely unacceptable to only clean up 1% and take a 30 year "lunch break" to evaluate the rest. The lack of transparency and refusal to take phone calls regarding this matter is beyond disappointing. please respond to this letter.

Kelley Louer
453 Wescott St.
Syracuse, NY
13210

184-1

184-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

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DOE and NYSERDA provided opportunities for the public to provide input regarding the EIS for decommissioning and/or long-term stewardship of WNYNSC,

Commentor No. 184 (cont'd): Kelley Louer

as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 185: Sarah Tuttle

TO THE DEPARTMENT OF ENERGY,

WE NEED WEST VALLEY CLEANED UP NOW.
 UNDER NO CIRCUMSTANCES ARE A 30 YEAR WAIT
 ACCEPTABLE!

- SARAH TUTTLE

108 HADDONFIELD DR
 SYRACUSE, NY 13214

REISE.REISE87@GMAIL.COM

185-1

185-1

DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 186: James F. Ferraro

To: Department of Energy
From: James F. Ferraro
425 Westcott St
Syracuse NY 13210
Re: West Valley Cleanup

As a concerned New York State
Resident, I believe it is critical that
we fully clean up the West Valley nuclear waste
site. It is also imperative that you
listen to community input and take the
needs of concerned citizens.



186-1

186-1 DOE and NYSERDA acknowledge the commentor's support for cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the Federal Register (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 187: Thomas J. Edinger

Dear Department Of Energy,

I am disgusted by the current West Valley clean-up plan. Only cleaning one percent of the toxic waste and waiting thirty years to see what happens is frightening and unacceptable. Immediate and complete clean-up is necessary to protect public health and welfare. Your refusal to take calls and lack of transparency on this matter is appalling.

Please take action.

Thomas J. Edinger
560 Allen St.
Syracuse NY 13210

187-1

187-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup, opposition to the Phased Decisionmaking Alternative, and support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

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The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives.

Commentor No. 187 (cont'd): Thomas J. Edinger

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

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Commentor No. 188: Benjamine Mason

DOE,
PLEASE CLEAN MORE THAN
1% OF THE WEST VALLEY WASTE SITE
BEFORE THE NEXT THREE
DECADES. NUCLEAR WASTE
WILL NEVER (IN ANY OF OUR LIFE-
TIMES) BE LESS OF A TOXIC MESS
THAN IT IS NOW, SO PLEASE
STOP PUTTING THE CITIZENS OF
UPSTATE N.Y. AT RISK.

I, FOR ONE, AM DISAPPOINTED IN YOUR LACK OF
TRANSPARENCY ON THIS ISSUE, AND YOUR NOT
TAKING PHONE CALLS LIMITS THE ACCESSIBILITY
OF YOUR CONSTITUENTS TO THE ISSUE.

PLEASE REPAIR THESE POLICIES.

Thank you kindly,
Benjamine Mason

BENJAMINE MASON
504 GREENWOOD PL
SYRACUSE, NY 13210

188-1

188-1
cont'd

188-1 DOE and NYSERDA acknowledge the commentor's support for cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

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Commentor No. 188 (cont'd): Benjamine Mason

(73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

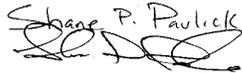
The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 189: Shane P. Paulick

DOE —

You need to clean up West Valley Now!
 Cleaning up 1% and waiting 30 years to
 evaluate the rest is unacceptable. Clean
 up must happen now! Nuclear Waste sites
 are not healthy for human existence.
 Money and greed do not sustain life.
 It is appalling that you refuse to take
 phone calls regarding your blunders. -
 Your lack of transparency shows
 what matters most to you. Your
 corporate greed and lack of
 consideration for human life WILL
 come to an end. The question is
 what will resonate on your conscience?

PEACE AND WELL BEING

Shane P. Paulick
312 Comstock Ave
 Syracuse NY 13210

189-1

189-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address cleanup of the site and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of

Commentor No. 189 (cont'd): Shane P. Paulick

WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 190: Joshua Ehrenpfort

To the Department of Energy,

I am demanding that the NYSERDA clean up West Valley Now. Cleaning 1% and leaving the rest for later is not ~~enough~~ enough and is unacceptable. The DOE's refusal to take phone calls regarding this important matter is appalling. This administration's lack of transparency is unacceptable and needs to change. The West Valley nuclear site needs to be cleaned up now, and this administration needs to address this issue in a more timely and respectful manner.

JOSHUA EHRENPFORT
4399 PLANTATION BLVD #9
LIVERPOOL, NY
13090

190-1

190-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of

Commentor No. 190 (cont'd): Joshua Ehrenpfort

WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQR, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 191: Amy L. Chase

Dear Dept. of Energy,

My name is Amy Chase. I'm extremely disappointed in your Department's lack of transparency and refusal to take phone calls regarding the West Valley Nuclear waste clean-up. How can we know that you are going to take IMMEDIATE action on this issue if you won't even pick up the phone?

Sincerely,

Amy Chase

Amy L. Chase, A concerned citizen.

838 Ackerman Ave.

Syracuse, NY 13210

please call and let me know what you plan to do about this.

You may not be answering the phone, but I will. [REDACTED]

191-1

191-1

DOE and NYSERDA provided opportunities for the public to provide input regarding this EIS for decommissioning and/or long-term stewardship of WNYNSC, as described in Section 1 of this CRD. In December 2008, DOE issued a Notice of Availability for the Revised Draft EIS in the *Federal Register* (73 FR 74160). Under New York State's SEQ, NYSERDA also issued a Notice of Acceptance of the Revised Draft EIS and Public Hearings in an Environmental Notice Bulletin for Region 9 (http://www.dec.ny.gov/enb/20081210_not9.html).

The formal comment period was originally scheduled for 6 months (required by the 1987 Stipulation of Compromise Settlement between the Coalition on West Valley Nuclear Wastes and Radioactive Waste Campaign and DOE), but lasted 9 months, beginning on December 8, 2008, and ending on September 8, 2009. During this comment period, public hearings were held in Albany, Irving, Ashford, and Buffalo, New York. In addition, Federal agencies, state and local governmental agencies, Native American Tribal Governments, and the general public were encouraged to submit comments on the Revised Draft EIS via the U.S. mail, e-mail, a toll-free fax line, and a DOE website (<http://www.westvalleyeis.com>). DOE and NYSERDA considered all of the comments, including those received after the comment period ended, in preparing this Final EIS.

Commentor No. 192: Nikita Jolicoeur

09/02/2008 21:20 FAX 15163907160

CITIZENS CAMPAIGN

001/001

9/2/09

Attn: Catherine Bohan
EIS document Manager

I support the Sitewide Removal Option, we can't wait 30 yrs
We need to act and clean up now! Millions of people's health
is at risk! A full clean up is necessary and expected for the
West Valley nuclear waste site!

192-1

192-1

DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

Nikita Jolicoeur
1310 Commodore Rd
Uniondale NY 11553

Commentor No. 193: Johanna Ingrao

09/02/2009 17:38 FAX 15183907160

CITIZENS CAMPAIGN

001/006

Dear Catherine Bohan,

I Johanna Ingrao support the ~~site wide~~ ^{Sitewide} Removal option and would like to see this waste site cleaned up. As a New Yorker I love drinking our clean contaminant-free water and I enjoy watching all of our wildlife. Please do your best to see that everything that the beautiful things that I love about New York stay beautiful.

Sincerely
Johanna Ingrao

156 Cushing Ave
Williston Park NY 11596

193-1

193-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion and DOE's and NYSERDA's responses.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.1.6, of this EIS also presents the results of an ecological risk assessment showing the projected long-term ecological impacts of the alternatives. The results of the human health and ecological impacts analysis imply that any impacts on wildlife would be negligible.

Commentor No. 194: Jessica Dempsey

09/02/2009 17:38 FAX 15163907160

CITIZENS CAMPAIGN

002/006

Catherine Bolkan
EIS Document Manager
West Valley Demonstration Project
US Dept of Energy
P.O. Box 2368
Germantown, MD 20874

Dear Catherine Bolkan,

I'm writing you concerning the West Valley Nuclear Waste Site, letting you know I support the Sitewide Removal Option. I feel it's unacceptable to leave radioactive ~~waste~~ waste buried on-site for 30 years while deciding what to do with it. The Sitewide Removal Option ensures a comprehensive cleanup and excavation of the entire site which is the safest most cost-effective solution. Please let me know what you plan on doing for this issue.

Thank you.

Jessica Dempsey
165 Vermont Ave
Bay Shore NY 11706

194-1

194-1 DOE and NYSERDA acknowledge the commenter's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Regarding the 30-year timeframe cited by the commenter, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 195: Shawn Frank

09/02/2009 17:40 FAX 15183907160

CITIZENS CAMPAIGN

003/008

September 2, 2009.

Attn: Catherine Bohan
 EIS Document Mgr
 West valley Demonstration Project
 U.S. DOE, P.O. Box 23108
 Germantown, MD 20874

Dear Ms. Bohan,

I am writing to you in support of the sitewide removal option regarding the west valley nuclear waste site. The leakage of radioactive waste into the local groundwater deeply concerns me and I would like nothing more than the site being fully cleaned up so the public can be safe again. Thank you for your time in this matter.

Sincerely,

Shawn Frank
 4 W. Park Dr.
 Old Beth Page, NY 11604

195-1

195-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS.

Commentor No. 196: John S. Campo

09/02/2009 17:40 FAX 15183907180

CITIZENS CAMPAIGN

004/008

Attn: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project,
U.S. Department of Energy
P.O. Box 2368
Germantown, MD 20874

Dear Ms. Bohan:

I am writing this letter in reference to the West Valley Nuclear Waste Site. I urge the Department of Energy and NYSERDA to support the sitewide Removal option, which will ensure comprehensive cleanup and excavation of the entire site. I firmly believe this is the safest, most cost-effective solution!

Best Regards,

John S. Campo
3 Dale Lane
Hauppauge, NY 11788

196-1

196-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 197: Megan Noonan

09/02/2008 17:40 FAX 15183907160

CITIZENS CAMPAIGN

005/008

Attn: Catherine Bohan

I Megan Noonan am writing you
to say I strongly support a
Comprehensive Clean up and excavation
of the West Valley Nuclear waste site.
This Needs to be done Now it
Can Not wait!

- Megan Noonan
80 Fairview Ave
Deer Park Ny
11729

197-1

197-1

DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and preference for comprehensive cleanup. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 198: Sharon Abel

08/02/2008 17:40 FAX 15163907160

CITIZENS CAMPAIGN

008/008

9/2/09

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
U.S. Dept. of Energy
P.O. Box 2368
Geermantown, MD 20874

Dear Ms. Bohan,

I care about our Great Lakes. Although I do not live currently in Great Lakes area, I did live in Syracuse, NY. We need to fully clean up the West Valley Nuclear Waste Site now! This affects the drinking water & public health of millions of people. It sits on top of an aquifer. All water is connected. Our ^{future} generations do not need to be plagued with this. It is unacceptable to even suggest cleaning up only 1%. I support the Sitewide Removal Option.

Please respond to me in writing regarding this important issue.

Sincerely,
Sharon Abel

Sharon Abel
109 S. 15th St.
Lindenhurst, NY 11757

198-1

198-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and support for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses. The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 199: William P. Denison

09/02/2009 15:48 FAX 15183907180 CITIZENS CAMPAIGN 002/021

nmz
Attention: Catherine Brown
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
P.O. Box 2368
Georgetown, MD 20874

Public officials that have been put into positions of power in order to promote and protect the health of the public should not need to be reminded to do that which is obviously correct. Leaving harmful radioactive waste in a condition that threatens the health of our citizens is a lapse in morality comparable to genocide, be it indirect. Shape up, and clean up 100% of this life-threatening waste.

Sincerely,
William P. Denison
84 Craft Avenue
Glen Cove, NY 11542

199-1

199-1

DOE and NYSERDA acknowledge the commentor's support for the full cleanup of WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives.

Commentor No. 200: Carolyn McKenn

09/02/2009 15:48 FAX 15183907160

CITIZENS CAMPAIGN

003/021

Sept. 2 2009

Catherine Bohan,

Support the sitewide Removal option, which will ensure comprehensive cleanup and excavation of entire site - the safest most cost-effective solution! Radioactive waste is plaguing our waters. Only 1% of this nuclear waste is being taken care of while the other 99% is left for 30 years so the 1% can be tested.

This is simply unacceptable putting residents in danger as well our great lakes is just ridiculous! Scientists recognize that over time erosion will occur and will lead to release of buried toxic waste threatening the health of our great lakes. I believe that you should take this more seriously. Our natural resources are important, not to be left and ignored


Carolyn McKenn

200-1

200-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and

Commentor No. 200 (cont'd): Carolyn McKenn

NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Commentor No. 201: Kyle Wilson

08/02/2008 15:48 FAX 15183907160

CITIZENS CAMPAIGN

@004/021

Kyle Wilson

To The D.O.E. and N.Y.S.E.R.D.A. I am happy to hear that you are cleaning up The West Valley nuclear waste site, but one percent isn't enough. your plan fails to protect public safety and health. Waiting to see what happens is dangerous. The site is highly susceptible to erosion, and you already knew what that leads to.

201-1

201-1 DOE and NYSERDA acknowledge the commentor's support for cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Section 3
Public Comments and DOE and NYSERDA Responses

Commentor No. 201 (cont'd): Kyle Wilson

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Commentor No. 202: Jordan Christensen

08/02/2008 15:48 FAX 15163907160

CITIZENS CAMPAIGN

005/021

Dear Catherine Bohan,

I am writing to you to urge ~~you~~ the DOE to support a comprehensive clean up and evacuation of the West Valley nuclear waste site. It is irresponsible and negligent to leave radioactive waste near the Great Lakes where erosion can and likely will lead to the release of toxic waste into our land, air, and water. Cleaning 1% is NOT a comprehensive evaluation of possible damage and is an unacceptable solution to a large and dangerous problem. By not supporting the ~~Statewide~~ Removal Option and ensuring a comprehensive cleanup and excavation of the entire site, you are putting people in danger, threatening a natural resource, and not pursuing the fastest and most cost-effective solution to this problem.

Thank you,

Jordan Christensen
1676 Holly St.
Baldwin, NY 11510

202-1

202-1 DOE and NYSERDA acknowledge the commentor's preference for a comprehensive cleanup of the WYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA recognize that erosion is a concern at WYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to

Commentor No. 202 (cont'd): Jordan Christensen

be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 203: Jason Kulczyk

09/02/2008 15:48 FAX 15163907160

CITIZENS CAMPAIGN

006/021

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Dept. of Energy
P.O. Box 2368
Germantown, MD 20874

Dear Catherine Bohan,

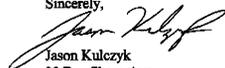
The plan to clean up 1% of the West Valley nuclear waste site in Ashford, NY is completely irresponsible and deplorable. Just because it is a small rural town, it doesn't make those people any less important. Was 1% of the oil that spilled from the Exxon-Valdez cleaned? 1% of the aftermath of Love Canal? Does one ask their children to clean 1% of their room? If these questions aren't ridiculous enough, here's another one. Why would you clean up such a modest amount and then wait 30 years to finish the job? Cost-effectiveness? Lack of a labor force? Apathy?

None of these reasons are good enough. At what time in American history did it become acceptable to leave nuclear waste pools be? Is our government that lethargic?

Well, the People aren't. We are awake and alive and we want a clean environment to live and raise families in. Preventative measures are extremely important in healthcare (which I am supporting Obama on), which is all the more reason to tackle sites like this. This is not an issue to hedge on. "American Exceptionalism" is a phrase I hear tossed around a lot, and if it actually exists, it has to start with people treating each other with decency and with their good health in mind.

Thank you for your time and please make sure that this letter is recorded as a Public Comment. I would also appreciate a response in writing.

Sincerely,



Jason Kulczyk
28 Bay Shore Ave.
Bay Shore, NY 11706
(former WNY resident)

203-1

203-1 DOE and NYSERDA acknowledge the commentor's position. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Chapter 2, Section 2.4.3, of this EIS describes decommissioning activities under the Phased Decisionmaking Alternative and provides a discussion of the data collection, studies, and monitoring to be performed during implementation of Phase 1 and the purpose of each of these activities. The overall intent of these Phase 1 activities is to further characterize the site and to research technology developments and engineering to aid consensus decisionmaking for Phase 2. Section 2.4.3.3 explains how the additional data and studies would be used in making decisions for potential future activities. Chapter 2, Section 2.7, provides the rationale for the Preferred Alternative.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a

Section 3
Public Comments and DOE and NYSERDA Responses

Commentor No. 203 (cont'd): Jason Kulczyk

result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 204: Brittany Brower Fererz

09/02/2009 15:48 FAX 15163907160

CITIZENS CAMPAIGN

007/021

Sept 2, 2009

Department of Energy
Lauren Malone

As a concerned resident of New York state the West valley nuclear waste site needs to be cleanup and evaluated immedi. While, approaching the concern to cleanup 1%, leaves the question of the other 99% of toxic waste. The 30 year wait period is an entire generation of ~~our~~ urban kids to adults. The health ramifications of this site ~~can~~ can cause asthma to concern the environmental impact of erosion of buried toxic waste. This waste ~~can~~ will also contaminate groundwater that will devastate the Great Lakes, a prized possession of New York state. These Lakes provide our source of clean drinking water and irrigation systems for farming industries. Please hold yourselves accountable and be a model for the rest of the nation. Cleanup your own mess instead of saddling taxpayers with the burden.

Thank you for your concern
Brittany Brower Fererz
59 Arbutus Rd
11411

204-1

204-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to clean up the site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well

Commentor No. 204 (cont'd): Brittany Brower Fererz

as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

The potential human health impacts of the alternatives evaluated in this EIS, including the increased risk of developing cancer, are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives.

Commentor No. 205: Bari Jay

08/02/2009 15:48 FAX 15163907160

CITIZENS CAMPAIGN

008/021

9/2/2009

To whom it may concern,
Cleaning up the West Valley Nuclear waste site ~~is~~ in a timely fashion is imperative for the safety of all NYS residents, as well as the future of environmental policy. Our nation, in conjunction with the world, is at a pivotal point in our history: reconciling human desire with human need. Consumption is at an all time high, while ~~no~~ self-imposed responsibility is lower than ever. The time for action is now. ~~Please~~ Asking people to wait thirty years, to wait until they've watched themselves and their community become potentially riddled with toxic waste, is not only unacceptable, it's unfathomable. The evidence is abundantly clear that nuclear waste is toxic, apt to leak over time, and ~~is~~.

205-1

205-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address cleanup of the site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 205 (cont'd): Bari Jay

08/02/2008 15:48 FAX 15183907160

CITIZENS CAMPAIGN

009/021

detrimental to the health of
our Great Lakes. We no longer
have the luxury of tomorrow —
please do your part, on behalf
of us all, today. Cleanup
West Valley.

Thank you for your ~~action~~
urgent action,

Bari Jay
575 W. Kings Dr. South
Oceanside, NY 11572

205-1
cont'd

Response side of this page intentionally left blank.

Commentor No. 206: Michael Kilmer

09/02/2009 15:49 FAX 15183907160

CITIZENS CAMPAIGN

010/021

To Whom it may concern,

Leaving radioactive waste at the West Valley Nuclear Waste Site is unacceptable. This plan fails to protect public health and the environment from radioactive waste. To clean 1% of the waste and wait 30 years is negligent. The contamination of our great lakes with radioactive waste. Would destroy our country's drinking water as well as our lively hood. Please ACT NOW!!

yours truly,
Michael Kilmer
36 Berkley St.
Valley Stream, N.Y.
11581


206-1

206-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and opposition to leaving radioactive waste on site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Section 3
Public Comments and DOE and NYSERDA Responses

3-447

Commentor No. 207: signature illegible

08/02/2009 15:50 FAX 15163907180

CITIZENS CAMPAIGN

011/021

Attention: Catherine ~~Polan~~
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
P.O. Box 2368
Germanstown, MD 20874

1 East ^{19th} ~~19th~~ ^{Highway}
Bethesda, MD 20814

This plan the people have in mind is an
excavation to a completely safe. You must and
will support a comprehensive cleanup and
excavation of the entire site now. This is a monstrously
to not do it or even a baby steps first. For
you not to act now and endangering lives is
with us your self in the future. To only clean
one percent is a mockery especially since you our
future can do so much more. This dangerous radioactive waste
must be cleaned up right away. Thank you.

Kozly

207-1

207-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to provide comprehensive clean up and excavation of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Site-wide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 208: Tara Bono

09/02/2009 15:50 FAX 15183907160

CITIZENS CAMPAIGN

012/021

September 2nd

Tara Bono
282 Swansboro
Sturford, NY 11783

Catherine Bonan,

The recently released DEIS for the clean up for the West Valley Nuclear Site ^{severely} under-estimates the necessary actions imperative in cleaning up the site. Cleaning up ^{only} 1% of the waste is irresponsible, neglectful, and disrespects the citizens and the environment that reside in West Valley. If more action is not immediately taken, the area faces exposure to the buried toxic waste which will result in harmful and irreversable damageS to the area. All of New York State supports the West Valley community in urging the DOE to include a larger scale clean-up in the EIS. Thank you for your time. I would appreciate a response when more plans are finalized on this issue.

-Concerned,
Tara Bono

208-1

208-1 DOE and NYSERDA acknowledge the commentor's support for clean up of the WNYNSC. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 209: Aubrey Dee

09/02/2009 15:50 FAX 15183907180

CITIZENS CAMPAIGN

013/021

Attention: Catherine Baran
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
P.O. Box 2368
Germanstown, MD 20874

The draft environmental project that is being proposed, in my personal opinion is negligent to United States Citizens. Cleaning up only 1% of radioactivity and waiting 30 years would probably be pointless and would put citizens in the same danger therefore not fixing the problem but prolonging it. Something needs to be done. Something more effective and way quicker actions should be taken. Not fixing this problem would only add insult to injury. As a citizen I support the sitewide removal option, which will ensure comprehensive cleanup and excavation of the entire site the safest, most cost effective solution. Take this into consideration and support the residents of the Great lakes.

Sincerely,
Aubrey Dee
432 Ferraris St.
Capique NY 11723

209-1

209-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs;

Commentor No. 209 (cont'd): Aubrey Dee

Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 210: John Mannion

09/02/2009 15:50 FAX 15163907160

CITIZENS CAMPAIGN

@014/021

9/2/09

To Catherine Bohn
EIS Document Manager
West Valley Demonstration Project
US Dept. of Energy
PO Box 2368
Cerritos, MD, 20874

I have recently become aware of the ~~the~~ clean-up plan of the West Valley nuclear waste site. In this plan only 70% of the radioactivity presently, and holding the rest for 30 years, it is extremely alarming to me that you would take the easy way out in this situation and forget to take care of the 99% of this problem. This is absolutely unacceptable! This is a major problem and must be handled immediately! Please respond to me as soon as possible,

sincerely, *John Mannion*

John Mannion
1034 Bay 25th St.
Far Rockaway, NY
11697

210-1

210-1 It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 211: Damien Betner

08/02/2008 15:50 FAX 15163907160
FAX 866 306 9074

CITIZENS CAMPAIGN

015/021

Catherine Bohan
EIS Document manager
West Valley Demonstration Project
U.S. Department of Energy
P.O. Box 2368
German town MD 20874

9/2/09
The Time is Now!

Leaving Radioactive waste Buried and unattended on site is unacceptable and to even consider an alternative to cleaning it up as soon as possible is absurd, incompetent and completely negligent on your part, so where is the accountability!?

30 years!? Nuclear waste is not something we can allow to fester and erode into the "eventual" spread and contamination of this natural environment. Most of us still call home... Do not let this great danger consume our Great Lakes

I, as a concerned citizen, am now holding you fully responsible for approving the site-wide removal plan to clean up the entirety of this nuclear waste travesty in West Valley. No rock can be left unturned!

Do something now before it becomes any more environmentally or economically taxing. The price of clean up now will be nothing compared to the price it will be if we let things get any worse! And remember, ~~before~~ **before** things ever get like this again (which is sure it will). An ounce of prevention is worth a pound of cure...

I would appreciate any and all responses addressing ~~my~~ **my** concerns and how you will delegate the ~~situation~~ **situation**... our future depends on this...

Yours truly, Damien Betner
Damien Betner

Do not take this lightly
P.S. I can be reached at...
41 Brocton Court
in Shoreham, New York 11786
...or via your own understanding

211-1

211-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA recognize that erosion is a concern and have addressed it in detail in this EIS. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. In addition to the previously cited Issue Summaries, please see the Issue Summary for "Questions about Long-term Erosion Modeling" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Section 3
Public Comments and DOE and NYSERDA Responses

Commentor No. 212: signature illegible

09/02/2008 15:51 FAX 15163907160

CITIZENS CAMPAIGN

@ 016/021

9/3/09

Catherine Bohan
EIS Document Manager
WVDP

U.S. Department of Energy
P.O. Box 7368
Germanstown, MD 20874

We need to ~~approve~~ Approve the sitewide
Removal plan to clean up the ENTIRE
nuclear waste site at West Valley. It
makes no sense whatsoever to leave the
waste there for another 30 years, so that it
becomes more costly to maintain and then MAYBE
if we decide to clean up later. Also that leaves
ample time for the site to erode and eventually
spread contamination to nearby environments. Not to
mention the great danger to the Great Lakes.

Please Do something ~~soon?~~
NOW

Concerned Citizen



212-1

212-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

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DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Commentor No. 213: signature illegible

09/02/2009 15:51 FAX 15163907160

CITIZENS CAMPAIGN

@ 017/021

Attn: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
German town, MD 20874

09/03/09

Dear Catherine Bohan,

I am extremely disturbed by the lack of care for the American people your inaction at the West Valley nuclear waste site displays. Proposing to clean up an insignificant amount of radioactive waste now and then deliberate for 30 years on whether it was a good idea - may keep immediate costs low and measures politically expedient, but at a terrible eventual cost. As you are no doubt aware, the West Valley site is an especially large risk to the cleanliness and survival of our Great Lakes and their ecologies due to erosion, which is inevitable. The cost to undo that damage will far exceed commitments to rehabilitate the site immediately, and will be borne by our children. It is time we stopped passing the buck, and set an example of environmental responsibility rather than neglect.

Sincerely and Urgently,

Il. and Thaniel

213-1

213-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after they are determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Site-wide Removal of All Radioactive and Hazardous Waste" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well

Commentor No. 213 (cont'd): signature illegible

as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Regarding the costs of cleanup, Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 214: James L. Burke

08/02/2008 15:51 FAX 15183907180

CITIZENS CAMPAIGN

@ 018/021

Attention: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
Germentown, MD 20874

Dear Catherine Bohan,

I am writing to you today as a concerned, angry citizen.
A short while ago I discovered a curious article on the internet stating a site of nuclear waste, in West Valley, was to be cleaned up... to the extent of 1% of the total waste. I do not claim to be a nuclear physicist or even particularly intelligent, but this seems quite moronic and lazy. And to further add insult to injury, the project will wait thirty years before anyone even considers taking further action.

This is unacceptable Miss Bohan, as well as, ~~per the language,~~ [expletive deleted] lazy. The closest example I can think of is paying my landlord 1% of my rent for the month and thinking about paying more 30 months later. Miss Bohan, please don't be lazy. Please support a clean up plan which actually cleans up the site. I certainly hope you take the time to read or listen to more than 1% of the concerned citizens' opinions on this issue.

Thank You,
James L. Burke
September 2nd, 2009
James L. Burke
11 Cherry Lane, Side Entrance
Port Jefferson Station, New York
11776

214-1

214-1 DOE and NYSERDA acknowledge the commentor's position. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 215: Katie L. DeLucia

09/02/2009 15:52 FAX 15183807160

CITIZENS CAMPAIGN

018/021

Cathrine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
Germantown, MD 20874

September 2nd '09

I am writing in regards to the Cleanup of
the West Valley Nuclear Waste Site in Buffalo.

It is absolutely unacceptable to even consider leaving
radioactive material buried for any length of extended
time. 1% Cleanup is irresponsible to future generations
in America. I urge you to invest in a FULL cleanup
of this sensitive and dangerous site.

Scientists agree that over time erosion will cause detrimental
effects to our greatest fresh water resource, The Great
Lakes, which for years have sought funding for protection.

Please do right by the citizens of our country and
provide for a full cleanup of this site immediately.

Please respond to my concerns in writing, and
thank you for your consideration.

Sincerely, *Katie L. DeLucia*

Katie L. DeLucia
28 Bayshore Ave.
Bayshore, NY 11706

215-1

215-1 DOE It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

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Commentor No. 215 (cont'd): Katie L. DeLucia

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F. Please see the Issue Summaries for “Concerns about Potential Contamination of Water,” “Questions about Long-term Erosion Modeling,” and “Conclusions of the *Synapse Report*” in Section 2 of this CRD for further discussion of these topics and DOE’s and NYSERDA’s response.

Commentor No. 216: Kathleen Maroney

09/02/2008 15:52 FAX 15163907160

CITIZENS CAMPAIGN

020/021

Attention: Catherine Bohan

9-2-09

Dear Ms. Bohan,

In regards to the West Valley nuclear waste site, it is imperative to take strong action in cleaning up this site, in its complete form. Not only will this greatly damage the health of our inextinguishable Great Lakes, it will deeply hinder the health of the public.

I am urging the DOE and NYSERDA to support a statewide removal option, which will ensure comprehensive cleanup + excavation of the entire site - the safest, most cost-effective way

Sincerely,
Kathleen Maroney
Kathleen Maroney

20 November Walk
Long Beach, NY 11561

216-1

216-1

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Commentor No. 217: Katie Phillips

09/02/2009 15:52 FAX 15163907160

CITIZENS CAMPAIGN

021/021

September 2, 2009

Attention: Catherine Bohan

Dear Ms. Bohan,

I support the Sitewide Removal Option for the West Valley nuclear waste site. Only cleaning up 1% of the facility is ridiculous. I don't want to wait 30 years for the government to possibly clean up nuclear waste in my backyard and I'm sure you wouldn't either.

Sincerely,

Katie Phillips
7 Belmont Place
Hicksville, NY 11801

217-1

217-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" Issue Summary in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

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Commentor No. 218: David Kowalski,
Re-Energize Buffalo

September 2, 2009

David Kowalski

Re-ENERGIZE BUFFALO

166 Burbank Dr.

Amherst, NY 14226

DECIDE NOW to FULLY CLEAN UP the West Valley Nuclear Waste Site! FULLY REMOVE ALL of the WASTE so it can not spread into Lake Erie, the source of drinking water for Buffalo and western New York. Re-ENERGIZE BUFFALO RenewNrg.blogspot.com

218-1

218-1

DOE and NYSERDA acknowledge the commentor’s preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

Commentor No. 219: Matthew Roland

September 2, 2009

Matthew Roland

1011 Northwood Drive

Williamsville, NY 14221

I urge you to do the appropriate thing and fully cleanup the West Valley Demonstration project immediately. Wasting time over 30 years to decide that 99% of the contamination must be removed is NOT acceptable. Please do the right thing and FULLY clean up the site NOW.

219-1

219-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

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Commentor No. 220: Donald Nowak**September 2, 2009****Donald Nowak****7852 Kuhn Road****West Valley, NY 14171**

The West Valley nuclear demonstration site needs a 100% clean-up, and not a solution that leaves most of the nuclear wastes on-site to threaten future generations. Recent weather events and local soil conditions have caused several landslides near the site and along the Route 219 construction area. The regions soils are unstable and subject to movement, which makes leaving residual contaminants on-site dangerous for all Western NY residents. The location of these materials jeopardizes Catt Creek and lakes Erie and Ontario; drinking water sources for millions of people. All of the nuclear waste must be removed and relocated to safer and more stable sites. The local geology and geography require a 100% clean-up.

220-1**220-1**

DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

Commentor No. 221: Mary Sullivan

September 2, 2009

Mary Sullivan

30332 Salem Drive

Bay Village, OH 44140

Make the decision now for full cleanup of the West Valley Nuclear Waste Site -- for the sitewide removal alternative, total waste excavation Heavy rain and flooding eroded a wall of Buttermilk Creek causing a landslide bringing the Creek closer to the radioactive waste trenches in just one day!

221-1

221-1

DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

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Commentor No. 222: Robert Zywno**September 2, 2009****Robert Zywno****94 Forest St****Naugatuck, CT 06770**

Please support the sitewide removal of the West Valley nuclear waste site. Leaving waste buried at the site threatens public health, the environment, and our economy. The site has been plagued with problems from the start, including leakage of radioactive waste in several areas. A significant underground plume of radioactive elements is spreading through groundwater. The waste site is on a plateau, which is highly susceptible to erosion. Scientists recognize that over time erosion will lead to release of buried toxic waste. The site is in the Great Lakes watershed, and waste leaks threaten drinking water, public health, wildlife, and billion dollar industries such as fishing and tourism. The safest and most cost-effective option in the long run is to excavate and clean up the entire site as soon as possible!

222-1

222-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to address site cleanup and preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Chapter 3, Section 3.6.2.1, of this EIS addresses groundwater at WNYNSC that was contaminated due to past activities (for example, the North Plateau Groundwater Plume). This EIS was prepared to evaluate the environmental impacts of alternatives for decommissioning and/or long-term stewardship of WNYNSC. Under all of the action alternatives, DOE would either remove contamination sources, mitigate their impacts to groundwater, or both. Under the Sitewide Removal and Phased Decisionmaking Alternatives, DOE would remove the source of the North Plateau Groundwater Plume. Potential groundwater impacts associated with the EIS alternatives are discussed in Chapter 4, Sections 4.1.4 and 4.1.10, and Appendix H of this Final EIS. Please see the Issue Summary for "Concern about Potential Contamination of Water" in Section 2 of this CRD for more discussion and DOE's and NYSERDA's response.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

The potential human health impacts of the alternatives evaluated in this EIS are presented in Chapter 4, Section 4.1.9 (short-term), Section 4.1.10 (long-term), and 4.1.12 (transportation). Chapter 2, Section 2.6, presents a summary to facilitate a comparison of these potential impacts on public health and safety across the alternatives. Chapter 4, Section 4.2, of this EIS presents an evaluation of cost-benefit considerations related to the alternatives. Section 4.2.1 compares costs; Section 4.2.2 summarizes the population doses for different work elements

Commentor No. 222 (cont'd): Robert Zywno

from each alternative; and Section 4.2.3 discusses the cost-effectiveness of each decommissioning alternative.

Chapter 4, Section 4.1.6, of this EIS also presents the results of an ecological risk assessment showing the projected long-term ecological impacts of the alternatives. The results of the human health and ecological impacts analysis imply that any impacts on wildlife, tourism, fishing and other industries, and the economies of communities downstream of WNYNSC would be negligible.

Commentor No. 223: Renate Bob

571 Front St.
 Jamestown NY.
 14701
 Sept 2, 2009

Attn:

Katherine Bohan
 EIS Document Manager
 West Valley Demonstration Project
 U.S. Dept. of Energy
 P.O. Box 2368
 Germantown, MD 20874

Dear Ms Bohan:

As a concerned citizen of New York State, I would urge the clean-up of the Nuclear waste facility at West Valley. Thank you for your attention.

Sincerely yours,
 Mrs. Renate Bob

P.S. I am against any more nuclear energy projects. To meet our future energy needs, I would stress conservation, solar and geothermal, not nuclear sources.

223-1

223-1

DOE and NYSERDA acknowledge the commentor's support for the cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 224: Mary Louise Grace

53 Woodcrest Blvd.
Buffalo, New York 14223-1316
September 2, 2009

Dear Catherine,

I am writing to register my support for a full clean up at the West Valley Nuclear waste site. I am concerned about the quality of water in the Great Lakes and the availability of fresh water to present and future generations. A targeted clean up is not enough. The Great Lakes are the largest fresh water body in America and every effort should be made to protect their water quality.

Sincerely,



Mary Louise Grace

224-1

224-1

DOE and NYSERDA acknowledge the commentor's support for the full cleanup of the WYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 225: Muriel Segal

Attention Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Dept of Energy
PO Box 2368
Germantown, MD 20874

*PLEASE!
I want a complete
cleanup of West Valley
Demo. Project*
*Muriel L Segal
343 Abington Ave
Buffalo NY 14223*

225-1

225-1

DOE and NYSERDA acknowledge the commentor's support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

Commentor No. 226: Kilissa Cissoko

Kilissa Cissoko

31 Hoffman Place
Buffalo, NY 14207
www.kilissa.com
716-875-1689

September 2, 2009

Attn: Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
PO Box 2368
Germantown, MD 20874

Dear Ms. Bohan,

As a longtime resident of Western New York State, I would like to voice my opinion that the West Valley Nuclear Demonstration Project should be fully cleaned up and I urge the Government to choose the Sitewide Removal Alternative.

I agree with the concerns that were thoroughly outlined by Larry Brooks in his *BuffaloRising.com* article:

This coalition of government leaders, environmental organizations, religious organizations, civic organizations, and the Seneca Nation of Indians are opposed to this approach for two major reasons. First, a state-funded study, *The Real Costs of Cleaning up Nuclear Waste: a Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site*, concludes that leaving buried waste on site is both high risk and very expensive, costing much more in future dollars than a full cleanup now, and does not consider the extra cost if a catastrophic release occurs.

Second, and more importantly, is the geographic instability of the site. Recent heavy rain and flooding around Gowanda caused a landslide near to the site, highlighting the site's instability. For these reasons, this coalition favors the Sitewide Removal Alternative, a full and immediate cleanup of the site. 34 members of the New York State Legislature, virtually all the local Western New York delegation of the Senate and Assembly, signed and sent, in June, a letter to the Secretary of DOE and the President of NYSERDA recommending sitewide removal. U.S. Senator Charles Schumer also supports this position.

Thank you for your attention to this matter.

Sincerely,


Kilissa Cissoko
Buffalo Resident

226-1

226-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement.

The report, *The Real Costs of Cleaning Up Nuclear Waste: A Full Cost Accounting of Cleanup Options for the West Valley Nuclear Waste Site (Synapse Report)* by Synapse Energy Economics, Inc., including the three appendices, have been entered into the public comment record for this EIS. The substance of the *Synapse Report* has been addressed in this CRD consistent with Council on Environmental Quality NEPA regulations (40 CFR 1503.4). Please see the Issue Summary for "Conclusions of the *Synapse Report*" in Section 2 of this CRD for discussion of the report's issues and DOE's and NYSERDA's response.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. Please note that the erosion predictions used for the unmitigated erosion analysis are based on the assumption that storms occur more frequently than is currently estimated and include the effects of storms of greater severity than the one that occurred in the region on August 8-10, 2009. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies are discussed in Appendix F.

The letter referred to by the commentor is Commentor no. 128 in this CRD.

Commentor No. 227: Dorothy B. Cibula

September 1, 2009

To: Catherine Bohan, EIS Document Manager WVDP, US DOE
P.O. Box 2368, Germantown, MD 20874

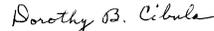
Re: Draft EIS for West Valley Demonstration Project

I am writing to express my concern with the proposed Draft EIS at the West Valley, New York, Nuclear Waste Site. For more than 25 years, the environmental impact process has been manipulated and delayed, and now could be further delayed for perhaps another thirty years.

A considerable amount of radioactive material from an earlier leak has been found in Lake Ontario, near the mouth of the Niagara River. Millions of people rely on drinking water from Lake Ontario and the St. Lawrence River, and should not have to live with long-term concerns of radioactive leakage from a facility with a large volume of radioactive and chemical material buried in unlined trenches. The fact that the Draft EIS would clean up less than 2% of the waste on site is completely unacceptable and dangerous to the people in a wide area.

The problem of nuclear waste must be dealt with sooner, rather than later, and a solution to the problem of waste must be found before another nuclear facility is built. The entire West Valley site needs to be cleaned up for other uses for the safety of the people in the surrounding area.

Very truly yours,



Dorothy B. Cibula
22500 Lake Road, #105
Rocky River, Ohio 44116
League of Women Voters, Cleveland Area

227-1

227-2

227-1
cont'd

227-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action and preference for a full site cleanup. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

The Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

227-2 The contamination at the juncture of the Niagara River and Lake Ontario was the result of releases from the site when reprocessing operations were in progress. The environmental contamination from current operations is minimal (below established standards), as demonstrated by the results from the ongoing environmental monitoring program. Please see the Issue Summary for "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 228: Angela Knisley

September 3, 2009

Dear Ms. Bohan,

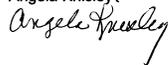
If there was ever a time to act ...for the protection of the people and the environment...it is now. You have the power to protect the Great Lakes (and as a result drinking water for western New York). I urge you to please support the immediate and complete clean-up of the West Valley nuclear waste site.

You play a vital role in the stewardship of one of the greatest fresh water supplies in the world and the danger to these waters is imminent. Waiting thirty years for some type of alternate solution to this clean-up is courting an environmental disaster. There has already been some leakage of radioactive material into Buttermilk Creek – which goes into Lake Erie.

Are you aware that an area close to West Valley, Attica NY, (only 45 miles distance) experienced an earthquake on June 5, 2009? Thankfully, it was minor - but this area has a potential for more quakes. I found additional information regarding earthquakes and Western New York at this site http://mceer.buffalo.edu/infoservice/reference_services/westernNewYorkEQs.asp However, I am certain that you have much better research information available to you.

Please use your position of authority to help the people under your protection as well as one of the most sensitive and important eco-systems in the world. Thank you for your time.

Sincerely,
Angela Knisley.



228-1

228-2

228-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action to provide immediate and full cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's response.

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed the Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making the Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that the Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement if the Phased Decisionmaking Alternative is selected.

228-2 DOE and NYSERDA are aware of the earthquake. This EIS characterizes the seismicity of the Western New York region in Chapter 3, Section 3.5.

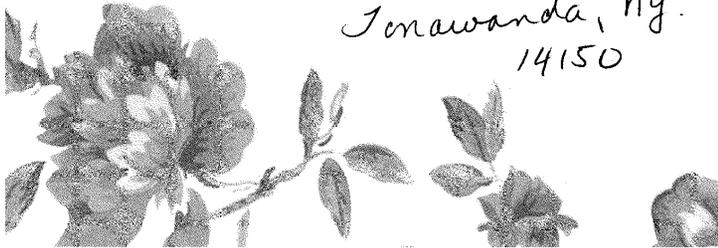
Commentor No. 229: Elaine Kellick



To Mrs Catherine Bonan

I am interested in a complete clean up of the West Valley Nuclear site. This is important to me.

Thank you
Elaine Kellick
11 Rochelle Pk.
Tonawanda, NY.
14150



229-1

229-1

DOE and NYSERDA acknowledge the commentor's support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 230: Jennifer Savage

Catherine Bohan
EIS Document Manager
West Valley Demonstration Project
US Department of Energy
P.O. Box 2368
Germantown, Maryland
20874

Dear Ms. Bohan,

I am writing you about the West Valley Nuclear Waste Site to ask you for the sitewide removal alternative, total waste excavation.

I strongly oppose leaving buried waste on site. And I also oppose Phased Decision-Making, which will delay cleanup of 99% of the site's radioactivity for up to 30 years.

1% cleanup is not enough.

This waste site is near the great lakes and could leak into them if we do not do something about it.

Thank you for your time,

Sincerely,


Jennifer Savage 9/2/09

230-1

230-1 DOE and NYSERDA acknowledge the commentor's preference for the Sitewide Removal Alternative and opposition to the Phased Decisionmaking Alternative. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected (see below).

Regarding the 30-year timeframe cited by the commentor, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.

Commentor No. 231: Susan Bergman

9/2/09

EIS Document Manager
West Valley Dome Proj
US Dept of Energy
PO Box 2368
Germantown MD 20874

Attn: C. Boken

Gentlemen:

I want a complete clean-up
of the West Valley Nuclear Waste Site
now. This area needs attention by
you to save the environment in the
near future.

Susan Bergman
36 Rolling Meadow
E. Amherst NY 14051

231-1

231-1

DOE and NYSERDA acknowledge the commentor's support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 232: Muriel Narotsky



Catherine Bohan
PO Box 2368
Germanator MD 20874

I want to see the W. Valley
Nuclear Waste Site fully
cleaned up - completely.

Sincerely
Muriel Narotsky
2660 N Forest Rd
Getzville NY
14068



232-1

232-1

DOE and NYSERDA acknowledge the commentor's support for the full cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 233: Linda Weiss

10 Heritage Rd. E.
Amsterdam, NY 14221

Dear Mr. Bohan,

I would like a complete
clean up of the West
Valley Nuclear facility.

Sincerely
Linda Weiss

233-1

233-1

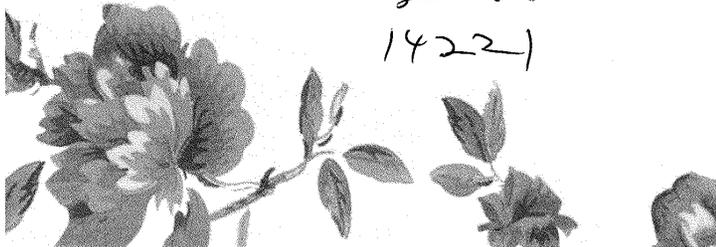
DOE and NYSERDA acknowledge the commentor's support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 234: Frima Ackerhalt



Dear Mr. Bohan,
I want a complete
clean-up of the
West Valley Nuclear
Facility.

Sincerely,
Frima Ackerhalt
91 Heritage Rd E.
14221



234-1

234-1

DOE and NYSERDA acknowledge the commentor's support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 235: Muriel Sourt

Attention Catherine Bohan

EIS Document Manager

West Valley Demonstration Project

US Dept of Energy

PO Box 2388

Germantown, MD 20874

*I want a complete cleanup of
the West Valley site.
Muriel Sourt*

235-1

235-1

DOE and NYSERDA acknowledge the commentor's support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summary for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" in Section 2 of this CRD for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 236: Mary Jane Hayes

09/08/2009 09:21 7168748658 KENMORE MIDDLE PAGE 01

August 7, 2009

President
Energy Research and Development Authority

Dear Mr. Murray,

I write to you as a life long resident of Buffalo, New York asking you to do a complete cleanup of the state's largest nuclear waste site, the one at West Valley. I simply wish to convey to you how profound the influence of the Niagara River and Lake Erie are to my life and to all of us in this wonderful region of the world. The leaking of nuclear wastes into the water ways here would be devastating and far, far reaching. The waste can only drain into our water ways. It seems only prudent to do a full, clean-up, not a temporary patch job. The erosion in the area of West Valley is a serious concern: recently the severe rains and extreme flooding have brought this into clear focus.

Please do not postpone the most thorough clean up. It will only be much more costly later. I live here and I care immensely. I have sent you this letter-fax because it is all I know to do as a citizen to advocate for the good of all. I am grateful for government and government agencies because I know there is so much more we can accomplish if we work as communities rather than individuals alone. The primary purpose of good government is to protect its people. Therefore, the solution to this problem lies in the hands of our government agencies. Thank you for your service. I further thank you for your anticipated actions to fully ensure the cleanup is complete in every possible way.

There is nothing more basic than safe water for all of us. I happily pay taxes for such protection.

Sincerely,

Mary Jane Hayes
53 Chatham Avenue
Buffalo, New York

236-1

236-1 DOE and NYSERDA acknowledge the commentor's desire for prompt action for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE's Record of Decision and NYSERDA's Findings Statement. DOE and NYSERDA are prepared to begin implementation of the decommissioning decision immediately after it is determined and documented in DOE's Record of Decision and NYSERDA's Findings Statement. Please see the Issue Summaries for "Support for Sitewide Removal of All Radioactive and Hazardous Wastes" and "Concerns about Potential Contamination of Water" in Section 2 of this CRD for further discussion of these issues and DOE's and NYSERDA's responses.

DOE and NYSERDA recognize that erosion is a concern at WNYNSC. This EIS analyzes erosion and the long-term (multi-century) consequences on local as well as Lake Erie and Niagara River water users. This EIS also evaluates the potential human health impacts of a scenario whereby institutional controls are assumed to be lost and unmitigated erosion is assumed to occur over hundreds of years. These projected impacts are presented in Chapter 4, Section 4.1.10.3.3, and Appendix H of this EIS. Erosion studies and long-term erosion modeling are discussed in Appendix F.

Regarding the request not to postpone cleanup, the Phased Decisionmaking Alternative included in the November 2008 Revised Draft EIS allowed for a Phase 2 decision to be made anytime after the Phase 1 decision, but no later than 30 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative were to be selected. In response to public comments expressing concern about the length of time that could elapse between the Phase 1 and Phase 2 decisions, DOE and NYSERDA have reconsidered this timeframe for making a Phase 2 decision. As a result, the Phased Decisionmaking Alternative presented in this Final EIS specifies that a Phase 2 decision would be made no later than 10 years after issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected. Please see the Issue Summary for "Modified Phased Decisionmaking Alternative" in Section 2 of this EIS for further discussion of this issue and DOE's and NYSERDA's response.

Commentor No. 237: Edward Butler**September 4, 2009****Edward Butler****36 E. 69th St.****#1B****New York, NY 10021**

I urge NYSERDA and the Department of Energy to completely clean up the West Valley nuclear waste site. A complete cleanup is essential to avoid future radioactive contamination of Lake Erie drinking water. The proposed “targeted” cleanup that would contain only 1 percent of the waste is unacceptable.

237-1**237-1**

DOE and NYSERDA acknowledge the commentor’s support for the complete cleanup of the WNYNSC site. The decision on the selected course of action and supporting rationale will be documented in DOE’s Record of Decision and NYSERDA’s Findings Statement. Please see the Issue Summaries for “Support for Sitewide Removal of All Radioactive and Hazardous Wastes” and “Concerns about Potential Contamination of Water” in Section 2 of this CRD for further discussion of these issues and DOE’s and NYSERDA’s responses.

It is estimated that DOE vitrified almost 70 percent of the long-lived radionuclides at WNYNSC during previous WVDP operations. These radionuclides are now contained in the vitrified high-level radioactive waste canisters currently in storage at WNYNSC and will be removed consistent with recommendations from the blue ribbon commission convened to address management and ultimate disposition of high-level radioactive waste and spent nuclear fuel. About another 1 percent of the remaining long-lived radionuclides would be removed during Phase 1 of the Phased Decisionmaking Alternative. A decision on the remaining approximately 30 percent of these radionuclides would be decided as soon as practicable, but no later than 10 years from issuance of the initial DOE Record of Decision and NYSERDA Findings Statement, if the Phased Decisionmaking Alternative is selected.