U.S. Department of Energy
West Valley Demonstration Project

Phase 1 Decommissioning Plan for the West Valley Demonstration Project

Revision 1

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Prepared by

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The proposed decommissioning approach described in this plan is based on the preferred alternative in 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, which is referred to as the Decommissioning EIS. If changes to that document occur during the course of the National Environmental Policy Act process that affect this plan, such as changes to the preferred alternative, or if a different approach is selected in the Record of Decision, this plan will be revised as necessary to reflect the changes.

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Record of Revisions

No.	Date	Purpose
0	December 2008	Initial issue for U.S. Nuclear Regulatory Commission review.
1	March 2009	(1) Corrected some page numbers in the Contents. (2) Changed the preliminary, order-of-magnitude dose estimate for Waste Management Area 2 on page ES-19 from approximately 0.1 to approximately 0.05 millirem per year. (3) Added report USGS 2007 in the Section 3 reference list. (4) Incorporated radiological data on subsurface soil from the 2008 background and Process Building area north plateau groundwater plume investigations into Section 4. (5) Replaced Figure 5-3 with a modified figure to more accurately show the Lavery till depth where samples were taken. (6) Revised Table 5-1 to reflect the 2008 radiological data. (7) Corrected values in Table 5-10 and Table 5-11 to be consistent with Table C-1. (8) Revised Section 5.4.4 to show a maximum of 1.3 millirem per year for Waste Management Area 1 and 0.04 mrem per year for Waste management Area 2, clarified basis for estimates. (9) Corrected French drain location on Figure 7-10. (10) Corrected soil data reference on Figure 7-11 and modified the figure to more accurately show the Lavery till depth where samples were taken. (This figure is the same as Figure 5-3.) (11) Added WVNSCO 2004 to Section 7 references. (12) Corrected some values in Table 9-1, 9-2, and 9-3. (13) Changed cited page numbers on pages A-12 and A-13. (14) Incorporated radiological data on subsurface soil from the 2008 background and Process Building area north plateau groundwater plume investigations into Appendix B. (15) Revised Table C-4 to add the 2008 data and to clarify the content. (16) Added Appendix C, Attachment 2 to provide another electronic file (Table C-4B Excel spreadsheet for the preliminary, order-of-magnitude dose estimates). (17) Revised Appendix D to describe additional groundwater modeling using revised STOMP model. Corrected French drain location on Figure D-2.

Pages affected by Revision 1 are identified in the list of effective pages that follows. The changed portions of these pages are marked with vertical lines in the right margins. New and revised words appear in blue.

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Note that other tables appear in the Appendix C, Attachment 1 electronic files.

A single Table (C-4B) is included in the Appendix C, Attachment 2 electronic files.

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NOTATION

Acronyms and Abbreviations

AEC	U.S. Atomic Energy Commission
ALARA	as low as reasonably achievable
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
BH	bore hole
CG	cleanup goal
DCGL	derived concentration guideline level
$DCGL_W$	derived concentration guideline level, wide
$DCGL_{EMC}$	derived concentration guideline level, elevated measurement concentration
$DCGL_{scan}$	derived concentration guideline level, scan
DOE	Department of Energy
DQO	data quality objective
DSR	dose/source ratio
E	east
EIS	environmental impact statement
EMC	elevated measurement concentration
EPA	U.S Environmental Protection Agency
F	Fahrenheit
FR	Federal Register
HEPA	high-efficiency particulate air
HLW	high-level waste
ICORS	Interagency Steering Committee on Radiation Standards
K	hydraulic conductivity
K_d	distribution coefficient
KRS	Kent recessional sequence
LLW	low-level waste
LTR	License Termination Rule
LTS	Lavery till sand
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDC	minimum detectable concentration
MMI	Modified Mercalli Intensity
N	north
ND	not detected

NOTATION

NDA	NRC-Licensed Disposal Area
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NPR	New Production Reactor
NRC	Nuclear Regulatory Commission
NFS	Nuclear Fuel Services, Inc.
NYSDEC	New York State Department of Environmental Conservation
NYSERDA	New York State Energy Research and Development Authority
PUREX	plutonium uranium refining by extraction
QA	quality assurance
QC	quality control
qtr	quarter
RCRA	Resource Conservation and Recovery Act
RESRAD	Residual radioactivity [computer code]
RFI	RCRA facility investigation
S&G	sand and gravel
SAIC	Science Applications International Corporation
SB	subsurface soil
SD	stream bank sediment
SDA	State-Licensed Disposal Area
SPDES	State Pollutant Discharge Elimination System
SS	surface soil
THOREX	thorium uranium extraction process
TLD	thermoluminescent dosimeter
ULT	unweathered Lavery till
W	west
WLT	weathered Lavery till
WMA	waste management area
WSMS	Washington Safety Management Solutions
WVDP	West Valley Demonstration Project
WVES	West Valley Environmental Services
WVNSCO	West Valley Nuclear Services Company

NOTATION

Units

Ci	curie
cfm	cubic feet per minute
cm	centimeter
cm^2	centimeter squared
cm^3	centimeter cubed
cpm	counts per minute
dpm	disintegrations per minute
g	gram [mass]
g	acceleration due to gravity [in reference to accelerations]
h	hour
kg	kilogram
km	kilometer
L	liter
m	meter
mCi	millicurie
millirem	0.001 Roentgen equivalent man
mL	milliliter
mrem	millirem
mR	milli Roentgen
µCi	0.000001 curie
µR	micro Roentgen
µrem	micro rem
µL	0.000001 liter
pCi	10^{-12} curie
R	Roentgen
rem	Roentgen equivalent man
s	second
y	year

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