

APPENDIX A-1

1985 EFFLUENT, ON-SITE AND OFF-SITE RADIOLOGICAL MONITORING PROGRAM

1985 EFFLUENT AND ON-SITE RADIOLOGICAL MONITORING PROGRAM

<u>SAMPLE LOCATION AND I. D. CODE</u>	<u>MONITORING/REPORTING REQUIREMENTS</u>	<u>SAMPLING TYPE/MEDIUM</u>	<u>COLLECTION FREQUENCY</u>	<u>TOTAL ANNUAL SAMPLES</u>	<u>ANALYSES PERFORMED/ COMPOSITE FREQUENCY</u>
Main plant ventilation exhaust stack ANSTACK	Release point for airborne radioactive exhaust Required by: DOE 5484.1, Tech Spec 5.1.2, 5.1.4, 4.1.1	Continuous off-line air particulate monitor ^a	Continuous measurement of fixed filter, replaced weekly	118	Real time alpha and beta monitoring Filters for gross alpha/beta
Cement Solidification system exhaust ANCSSTK (Added November 1985)	Reported: Internal Monthly Summary Annual Effluent Report Annual Environmental Report	Continuous off-line air particulate and iodine sampler ^a	Weekly collection of filter paper and charcoal absorber	118	Quarterly composites: filters for Sr-90, gamma isotopic; Charcoal for I-129
Lagoon 3 discharge Weir WNSP001	Primary point of liquid effluent batch release Required by: DOE 5484.1 Tech Spec 5.1.1, 4.2 SPDES Reported: NYSDEC Monthly DMR Annual Effluent Report Annual Environmental Report	Grab Liquid	Daily, during Lagoon 3 discharge	40-80	Daily: Gross beta, pH. Every sixth daily sample: gross alpha/beta, H-3, Sr-90, gamma isotopic; 24 hour composite for metals, NH ₃ (new SPDES permit in effect Sept. 1985) Weighted monthly composite of daily samples, and 24 hour composite: gross alpha/beta, H-3, Sr-90, I-129, Gamma isotopic

^aIsokinetic sampling probe placed at the 231 foot level (plant elevation) within the main stack; at the 168 foot level within the CSS vent stack.

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Erdman Brook at security fence <u>WNSP006</u>	Combined facility liquid discharge Required by: <u>DOE 5484.1</u>	Continuous proportional sample liquid	Monthly* (Composite of biweekly collections)	12	Gross alpha/beta, H-3 (Total Fe biweekly) Quarterly composite: gamma isotopic, Sr-90
	Reported: Internal Monthly Summary NYSDEC Monthly DMR Annual Environmental Report	Grab liquid	biweekly	26	NH ₃ , pH
Plant Effluent Interceptors <u>WNINTER</u>	Untreated liquid to LLWT plant input lagoon Required by: Tech Spec 4.2	Grab Liquid	Once per transfer	150-250	Quarterly composite: gross alpha/beta, H-3, Sr-90
	Reported: Internal Review				
(33) Onsite Ground water (wells) <u>WNWF-series</u> <u>WNW80-series</u> <u>WNW82-series</u>	Ground water monitoring wells around site facilities Required by: <u>DOE 5484.1</u>	Grab liquid	Semiannual*	66	Gross alpha/beta, H-3, pH
	Reported: Annual Environmental Report				

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Sanitary Waste Discharge WNSP004 (New SPDES permit changes sample point to WNSP007)	Liquid effluent point for sewage treatment plant Required by: DOE 5484.1 SPDES	Grab liquid	Weekly	52	Gross beta, pH, settleable solids Monthly composite: Gross alpha/beta, H-3, and Sr-90
	Reported: NYSDEC Monthly DMR Annual Effluent Report Annual Environmental Report		Semiannually	2	Quarterly composite: BOD, suspended solids Gross alpha/beta, H-3, gamma isotopic Sr-90, I-129
N.E. Swamp drainage WNSWAMP	Site surface drainage Required by: DOE 5484.1	Grab liquid	Weekly	52	H-3
	Reported: Annual Effluent Report		Monthly*		Gross alpha/beta, H-3

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French Drain WNRDRN (New SPDES permit changes sample point ID to WNSP008)	Drains subsurface water from LLWT lagoon area Required by: DOE 5484.1 Reported: Annual Effluent Report	Grab liquid	Weekly	52	H-3
Franks Creek E of NYSLWB WNRFC67	Drains NYS Low Level Waste Burial area Required by: DOE 5484.1 Reported: Internal review NYSERDA	Grab liquid	Monthly	12	Gross alpha/beta, H-3
Erdman Brook N of burial areas WNERB53	Drains NYS and WDDP disposal areas Required by: DOE 5484.1 Reported: Internal Review NYSERDA	Grab liquid	Weekly*	52	Gross alpha/beta, H-3

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Ditch N of WVDP NDA WNHULLB	Drains WVDP disposal area <u>Required by:</u> DOE 5484.1 <u>Reported:</u> Internal Review	Grab liquid	Weekly (when flowing)	30	Gross beta and H-3
Cooling water pipe WNSFILT (WNSP007 includes this point on new SPDES permit)	Discharges sand filter backwash liquid <u>Required by:</u> DOE 5484.1 <u>Reported by:</u> Internal Review	Grab liquid	Monthly	12	Gross beta
Condensate Pipe WNCONDP (WVNSP007 includes this	Discharges drainage water from utility ditch <u>Required by:</u> DOE 5484.1 <u>Reported:</u> Internal Review	Grab liquid	Monthly	12	Gross beta

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Utility ditch drains steam condensate from traps along the side of the utility room.

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Condensate and Cooling Water Ditch WNSP005	Combined drainage from pipes. and settling ponds Required by: DOE 5484.1 SPDES	Grab liquid	Monthly	12	Gross beta
	Reported: Internal Review NYSDEC Monthly DMR			12	Suspended solids, pH on 24 hr. composite
Settling Basin Outfall WNSETLB	Drains settling basins that receive discharge water from demineralizer backwash Required by: DOE 5484.1	Grab liquid	Monthly	12	Gross alpha/beta, H-3
	Reported: Internal Review.				
Cooling Tower Basin WNC00LW	Cools plant utility steam system water Required by: DOE 5484.1	Grab liquid	Weekly	52	Gross beta
	Reported: Internal Review				

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(9) Onsite Standing water (ponds not receiving effluent) WNSTAW-series	Water within vicinity of plant airborne or ground water effluents <u>Required by:</u> DOE 5484.1	Grab liquid	Annually	9	Gross alpha/beta, H-3, pH
	<u>Reported:</u> Internal Review				
Site Potable Water WDRNKW	Source of water within site perimeter <u>Required by:</u> DOE 5484.1	Grab liquid	Monthly	12	Gross alpha/beta, H-3
	<u>Reported:</u> Internal Review				

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Cattaraugus Creek at Felton Bridge location WFFELBR	Unrestricted surface waters receiving plant effluents Required by: DOE 5484.1 Tech Spec 5.1.1, 5.1.4	Flow weighted continuous liquid	Weekly*	52	Weekly for gross alpha/beta, H-3; Monthly composite for gamma isotopic and Sr-90
	Reported: Internal Monthly Summary Annual Environmental Report				

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Cattaraugus Creek upstream of Buttermilk Creek confluence at Bigelow Bridge WFBIGBR	Unrestricted surface water background Required by: DOE 5484.1 Reported: Annual Environmental Report	Grab liquid	Monthly	12	Gross alpha/beta, H-3
Buttermilk Creek, just upstream of Cattaraugus Creek confluence at Thomas Corners Road WFBCTCB	Restricted surface waters receiving plant effluents Required by: DOE 5484.1 Tech Spec 5.1.4 Reported: Annual Environmental Report	Composite continuous liquid	Biweekly	26	Monthly for gross alpha/beta, H-3; Quarterly composite for gamma isotopic and Sr-90
Buttermilk Creek control location near Fox Valley WFBCKG	Restricted surface water background Required by: DOE 5484.1 Reported: Internal Monthly Summary Annual Environmental Report	Composite continuous liquid	Biweekly	26	Monthly for gross alpha/beta, H-3; Quarterly composite for gamma isotopic and Sr-90

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Wells near WVDP outside WNYNSC Perimeter	Drinking supply ground water near facility.	Grab liquid	Biennially	10 (year of collection)	Gross alpha/beta, H-3, gamma isotopic
3.0 Km WNW WFWEL01	Required by: DOE 5484.1				
1.5 Km NW WFWEL02*	Reported: Annual Environmental Report				
4.0 Km NW WFWEL03					
3.0 Km NW WFWEL04					
2.5 Km SW WFWEL05*					
11.0 Km SSW WFWEL06*					
4.0 Km NNE WFWEL07					
2.5 Km ENE WFWEL08*					
3.0 Km SE WFWEL09*					
7.0 Km N WFWEL10*					

* These wells sampled 1985

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3.0 Km SSE at Fox Valley AFFXVRD	Particulate air samples around WNYNSC perimeter Required by: DOE 5484.1 Tech, Spec 5.4.1	Continuous air particulate	Weekly	364	Weekly (each filter) gross alpha/beta Quarterly: (Each station) composite filters for Sr-90, gamma isotopic.
3.7 Km NNW at Thomas Corners Road AFTCORD	Reported: Annual Environmental Report				
2.0 Km NE of Route 240 AFRT240					
1.5 Km NW on Rock Springs Road (added in 1984) AFRSPRD					
29 Km S at Great Valley (background added in 1984) AFGRVAL					
7 Km at Springville (added in 1984) AFSPRVL					
6 Km SSE at West Valley (added in 1984) AFWEVAL					

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2.5 Km Sw AFDHFOP	Fallout particulate and fluid collection around WNYNSC perimeter	Integrating liquid	Monthly	48	Gross alpha/beta, H-3
3.0 Km SSE AFFXFOP	Required by: DOE 5484.1				
3.7 Km NNW AFTCFOP	Reported: Annual Environmental Report				
2.0 Km NE AF24FOP					
(7) Surface soil (at each air particulate sampler)	Long-term fallout accumulation	Surface plug composite soil	Triennially*	9 (year of collection)	Gamma isotopic, Sr-90, and Pu
47 Km W at Dunkirk	Required by: DOE 5484.1				
26 Km SSW at Little Valley SF-series	Reported: Annual Environmental Report				

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Buttermilk Creek at Thomas Corners Road SFTCSSED	Deposition in sediment downstream of facility effluents	Grab steam sediment	Semiannually * (split two only)	10	Gross alpha/beta, isotopic gamma and Sr-90
Buttermilk Creek at Fox Valley Road (background)* SFBCESED	Required by: DOE 5484.1 Tech Spec 5.1.4 Reported: Annual Environmental Report				
Cattaraugus Creek at Felton Bridge SFCCESED					
Cattaraugus Creek at Springville Dam* SFSDSESED					
Cattaraugus Creek at Bigelow Bridge (background) SFBISESED					

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Cattaraugus Creek downstream of the Buttermilk Creek confluence BFFCATC	Fish in waters downstream of facility effluents Required by: DOE 5484.1 Tech Spec 5.1.4	Individual collection, biological	Semiannually*	36 (each sample point is 9 fish)	Isotopic gamma and Sr-90 in edible portions; Sr-90 in skeleton (down stream only)
Control sample from nearby stream not affected by WVDP (7 Km or more upstream of site effluent point) BFFCTRL	Reported: Annual Environmental Report				

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Dairy farm, 3.8* Km NNW BFMREED	Milk from animals foraging around facility perimeter	Grab biological	Monthly* (BFMREED)	12	Gamma isotopic, Sr-90, and I-129 on annual samples and quarterly composites of monthly samples
Dairy farm, 2.5* Km ENE BFMZIMM	Required by: DOE 5484.1 Tech Spec 5.1.4		Annual (others)* (split 2 only)	3	
Dairy farm, 1.9 Km NNW BFMCOBO	Reported: Annual Environmental Report				
Control location* (central NY State sample to be provided by NYSDOH) BFMCTRL					

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(3) Nearby downwind location BFVNEAR	Fruit and vegetables grown near facility perimeter Required by: DOE 5484.1	Grab Biological	Annually,* at harvest	6	Gamma isotopic and Sr-90 analyses of edible portions
(3) Remote locations (16 Km or more from facility) BFBCTRL	Reported: Annual Environmental Report				
Beef animal from nearby farm in downwind direction BFBNEAR	Meet-Beef foraging near facility perimeter Required by: DOE 5484.1	Grab biological	Semiannually*	4	Gamma isotopic analysis of meat.
Beef animal from control location (16 Km or more from facility) BFBCTRL	Reported: Annual Environmental Report				

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In vicinity of the site BFDNEAR	Meat-Deer foraging near facility perimeter Required by: DOE 5484.1 Tech Spec 5.1.4	Individual collection biological	Annually, during hunting season* During year as available*	2	Gamma isotopic analyses of meat, Sr-90 in meat. Sr-89/90 in bone (BFDNEAR only).
Control animal (16 Km or more from facility) BFDCTRL	Reported: Annual Environmental Report				

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Thermoluminescent Dosimetry (TLD) (16) at each of 16 compass sectors, at nearest accessible perimeter point	Direct Radiation around facility Required by: DOE 5484.1 Tech Spec 5.1.1.4	Integrating LIF TLD	Quarterly* (data shared from overlap locations)	100	Quarterly gamma dose
(2) at corners of NYS LLW burial area	Reported: Annual Environmental Report				
1500 m NW (nearest downwind receptor)					
"5 Points" landfill, 19 Km SW (background)					
Great Valley, 29 Km S (background)					
Springville 7 Km N West Valley 6 Km SSE					
North Security Fence (added in 1985)					
Rock Springs Road, 0.5 km N (added in 1985)					
DFTLD-series					

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