

ENVIRONMENTAL MONITORING

As a result of changes in Technical Specifications, sampling milk for ^{131}I was discontinued on September 21, 1973.

Thirty-nine (39) samples were obtained during the first quarter from the perimeter monitoring stations and were analyzed for alpha and beta activity. The alpha activity ranged from $1.38 (10^{-15})$ to $9.29 (10^{-16})$ $\mu\text{Ci/ml}$ for an average of $3.63 (10^{-15})$ $\mu\text{Ci/ml}$. The beta activity ranged from $3.40 (10^{-15})$ to $3.56 (10^{-14})$ $\mu\text{Ci/ml}$ with an average of $1.93 (10^{-14})$ $\mu\text{Ci/ml}$.

LOW LEVEL LIQUID EFFLUENTS

The amounts of radioactivity in liquid discharged from the plant during this period and their relationship to the maximum permissible concentration (MPC) in the Cattaraugus Creek are shown in Table 1.

GASEOUS EFFLUENTS

The amount of particulate radioactivity discharged via the plant stack and the relationship to the release limit in the Technical Specifications is shown in Table 2. Change 20 to the Technical Specifications discontinued the requirements of Krypton-85 and Iodine-131 monitoring while plant operations are suspended.

SURVEILLANCE TESTS

During this period, tests were performed in accordance with Section 6 of the Technical Specifications. The completion dates are shown in Tables 3 and 4.

LOW LEVEL LIQUID WASTE TREATMENT PLANT PERFORMANCE

During this period, the LLWT was in operation a total of 49 days and treated 3,212,000 gallons of water. One hundred sixty (160) drums of concentrated sludge were removed, each having a radiation level of <10 mr/hr. Decontamination of waste water continues to be good. All water discharged has been below 2.0×10^{-5} $\mu\text{Ci Cs}^{137}/\text{ml}$. Average removal factors for this period are shown below.

AVERAGE REMOVAL FACTOR

<u>Isotope</u>	<u>Previous Quarter</u>	<u>This Quarter</u>
Cs-137	94.7	93.7
*Sr-90	99.7	Not Yet Available
Ru-Rh-106	Below Detection Limits	Below Detection Limits
Gross Beta	94.9	97.4

No significant developments or modifications to the facility have occurred during the past quarter and operation has been routine.

* Sr-90 removal factor for the third quarter of 1978 was 99.7%

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Table 1

LIQUID EFFLUENTS--19 3
(Curies)

<u>Month</u>	<u>Gross α</u>	<u>Gross β</u>	<u>Tritium</u>	<u>Sr⁹⁰</u>	<u>I¹²⁹</u>	<u>% MPC^a Measured In Cattaraugus Creek</u>
Jan	0.00092	0.087	433	0.0023	0.00005	1.74
Feb	0.00007	0.040	166	0.0009	0.00002	1.61
Mar	0.00014	0.024	110	0.0016	0.00007	0.49
Apr	0.000001	0.00007	0.0006	0.00001	NR ^c	1.20
May	0.00037	0.016	57.7	0.0045	0.00013	1.05
Jun	0.000001	0.00002	0.0001	0.00001	NR ^c	3.76
Jul	0.000001	0.00007	0.0003	0.00001	NR ^c	0.48
Aug	0.000002	0.00008	0.0005	0.00001	NR ^c	0.33
Sep	0.000001	0.00005	0.0004	0.00001	NR ^c	0.51
Oct	0.000001	0.00003	0.0009	0.00001	NR ^c	0.68
Nov	0.00016	0.026	7.4	0.0025	0.00011	0.68
Dec	0.000001	0.00004	0.0005	0.00001	NR ^c	0.41
1978	0.00167	0.193	774.1	0.0119	0.00038	1.08

^aMPC (β) = $3.0 (10^{-7})$ $\mu\text{Ci/ml}$ when Sr⁹⁰ analyses are not available.
MPC (β) = $1.0 (10^{-5})$ $\mu\text{Ci/ml}$ when Sr⁹⁰ analyses are included separately.
MPC (α) = $5.0 (10^{-6})$ $\mu\text{Ci/ml}$

^cNot required; there were no Lagoon 3 effluent releases for the month.

Table 1A

LIQUID EFFLUENTS--1979
(Curies)

<u>Month</u>	<u>Gross α</u>	<u>Gross β</u>	<u>Tritium</u>	<u>Sr⁹⁰</u>	<u>I¹²⁹</u>	<u>% MPC^a Measured In Cattaraugus Creek</u>
Jan	0.000001	0.00004	0.0007	0.00001	NR ^c	0.41
Feb	0.000001	0.00001	0.0004	0.00001	NR ^c	0.38
Mar	0.00013	0.016	3.3	NA ^b	NA ^b	NA ^b
1979	0.00013	0.016	3.3	0.00002 ^e	NA ^b	0.39 ^d

^a MPC (β) = $3.0 (10^{-7})$ μ Ci/ml when Sr⁹⁰ analyses are not available
 MPC (β) = $1.0 (10^{-5})$ μ Ci/ml when Sr⁹⁰ analyses are included separately
 MPC (α) = $5.0 (10^{-6})$ μ Ci/ml

^b Not yet available

^c Not required; there were no Lagoon 3 effluent releases for the month

^d MPC through February 1979

^e Release through February 1979

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Table 2

PARTICULATE GASEOUS EFFLUENTS

<u>Month</u>	<u>Curies</u>	<u>% Monthly Limit</u>
January	.00003	0.03
February	.00008	0.03
March	.00004	0.01
1979	.00020	0.025

Table 3
SURVEILLANCE TESTS

Spec. #	Subject	Completed This Quarter	Comments
6.1	Raschig Ring Tanks		Tanks are to be scheduled prior to next processing use
6.2	Sump Alarms and Eductors		
	XC-2	1-9, 1-30, 2-20, 3-13	Satisfactory
	XC-3	1-9, 1-30, 2-20, 3-13	Satisfactory
	PPC	1-9, 1-31, 2-20, 3-13	Satisfactory
6.3	Waste Storage Tank Pan Instrumentation		
	8D-1, 8D-2	1-10, 1-31, 2-20, 3-15	Satisfactory
	8D-3, 8D-4	1-10, 1-31, 2-20, 3-15	Satisfactory
6.4	Emergency Utility Equipment		
	30T-1	1-9	Satisfactory
	31K-1	1-9	Satisfactory
	32G-4B	1-9	Satisfactory
	31G-2, 2A	2-12	Satisfactory
	31K-2, 2A	2-12	Satisfactory
	32G-2A, 2B	2-12	Satisfactory
	Diesel Fuel	1-8, 1-15, 1-22, 1-30, 2-5, 2-12, 2-19, 2-26, 3-5, 3-12, 3-19, 3-26	Satisfactory
	Propane Fuel	1-2, 1-11, 1-16, 1-23, 1-31, 2-5, 2-13, 2-19, 2-27, 3-5, 3-13, 3-20, 3-27	Satisfactory
	15K-10A	1-19	Satisfactory
	15F-21	1-19	Satisfactory
6.5	Filters	1-5, 1-12, 1-17, 1-24, 2-2, 2-9, 2-14, 2-21, 3-2, 3-6, 3-13, 3-19, 3-26	Satisfactory
6.6	Dilution Air	Not required this period	
6.7	Boric Acid	Not required this period	
6.8	Locking Out	Not required this period	
6.9	Water Activity Alarms	3-22	Satisfactory
6.10	Poisoned Dissolver Baskets	Not required this period	
6.11	Solvent Analysis	Not required this period	

Table 4

FILTER REPLACEMENT

There were no filter changes during this reporting period.

PROCESSING SUMMARY

During this period there was no processing of fuel.

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NUCLEAR FUEL SUMMARY

The following information is based upon nuclear material accountability records and indicates the disposition of nuclear material in fuel at the reprocessing plant.

A. INVENTORY

The total on-site inventory on March 31, 1979 was 166,759 kilograms of uranium and 1,043,739 grams of plutonium. An inventory description by source and material type is presented in Table 5.

B. RECEIPTS AND SHIPMENTS

During the quarter, there were no shipments or receipts of spent fuel assemblies at the West Valley site. A shipper's correction resulted in an increase of 139 grams of plutonium and a decrease of less than one kilogram of uranium.

C. MEASURED WASTE AND ADJUSTMENTS

There was no loss of uranium or plutonium during the reporting period as measured waste.

No adjustments for uranium and plutonium to NFS Lot 27A were required.

The decay of plutonium-241 isotope for the six-month period (9/30/78-3/31/79) resulted in a decrease of 2,029 grams of plutonium.

Table 5

NUCLEAR FUEL STATUS AS OF MARCH 31, 1979

		<u>Kilograms</u>			<u>Grams</u>
		<u>Total U</u>	<u>U-235</u>	<u>U-233</u>	<u>Total Pu</u>
I.	<u>INVENTORY</u> <u>(1/1/79)</u>				
	NFS	3,271	8.01	--	306
	Dresden-1	20,429	144.03	0.30	117,608
	RG&E	46,156	722.48	--	287,410
	Consumers	11,130	238.68	--	64,367
	WEPCO	43,017	462.61	--	340,730
	Jersey Central	42,756	463.43	--	235,208
	TOTAL	166,759	2,039.24	0.30	1,045,629
II.	<u>RECEIPTS</u> <u>(1/1/79-3/31/79)</u>	No receipts during this period; shipper's corrections only.			
	Jersey Central	(<1)	(0.01)	--	139
III.	<u>REMOVALS</u> <u>(1/1/79-3/31/79)</u>				
	A. Measured Waste				
	Lot 27A	0	0	0	0
	B. Adjustments				
	Lot 27A	0	0	0	0
	C. Decay	-	-	-	2,029
	TOTAL	0	0	0	2,029
IV.	<u>INVENTORY</u> <u>(3/31/79)</u>				
	NFS	3,271	8.01	--	306
	Dresden-1	20,429	144.03	0.30	117,362
	RG&E	46,156	722.48	--	286,856
	Consumers	11,130	238.68	--	64,282
	WEPCO	43,017	462.61	--	339,932
	Jersey Central	42,756	463.42	--	235,001
	TOTAL	166,759	2,039.23	0.30	1,043,739

RADIOACTIVE WASTE

A. Solid Waste

The radioactive plant waste buried during this quarter consisted of 1318.31 cu ft containing 127.186 curies. This material was buried in the NRC-licensed burial area.

B. High Level Liquid Waste

As of March 31, 1979, the high level storage tank 8D-2 contained 572,700 gallons of neutralized waste with an activity of 4,398 μ Ci Cs-137/ml and 94 μ Ci Cs-134/ml.

FACILITY PERFORMANCE AND MODIFICATIONS

This section describes:

1. Major modifications that were either initiated or completed at the processing plant during the reporting period.

There were no modifications initiated or completed during this reporting period.

2. A description of malfunctions of any equipment listed in Appendices 5.2, 9.51, 9.53 and 9.56 of the Final Safety Analysis Report which are important to safety.

There were no malfunctions during the reporting period.

3. As a continuation of the evaluation of the 8D-2 pan, three entries were made into the 8D-1 vault in order to evaluate the condition of the tank, pan and vault, and to examine construction features. Videotapes and color slides were obtained, and NRC representatives accompanied plant personnel on the second entry.

The installation of 8G-2 pump in the 8D-1 tank was completed and the pump was functionally tested. The tests were witnessed by NRC representatives.

Permanent level recorders were installed for the 8D-2 pan and vault instrument probes.