Nuclear

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Writer's Direct Dial Number:
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August 27, 1993

U.S. Nuclear Regulatory Commission
Att: Document Control Desk
Washington, D.C. 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Effluent Release Report

Attached is a copy of the Oyster Creek Effluent Release Report for the period covering January, 1993 through June, 1993. This submittal is made in accordance with 10 CFR 50.36a(a)(2) and our Operating License and Technical Specifications.

If you should have any questions or require further information, please contact Brenda DeMerchant, OC Licensing Engineer at (609) 971-4642.

Very truly yours,

for John J. Barton
Vice President & Director
Oyster Creek

JJB/BDEM:jc
Attachment

cc: Administrator, Region 1
Senior NRC Resident Inspector

Chief, Bureau of Nuclear Engineering
N.J. Dept. of Environmental Protection & Energy
CN 411
Trenton, New Jersey 08623

070043

IE48

EXECUTIVE SUMMARY, 1993-1 SEMI-ANNUAL RELEASE REPORT

The Semiannual Effluent Release Report is submitted to the United States Nuclear Regulatory Commission (NRC) every six months in accordance with the Oyster Creek Nuclear Generating Station (OCNGS) Technical Specifications (Tech Specs). It Summarizes the radioactive gaseous and liquid effluents released and solid radioactive wastes shipped from OCNGS.

Attached Tables show that doses based on quantities of radioactive material released were all less than 1% of the limits allowed by the OCNGS Tech Specs. Limits for the release of radioactive effluents at OCNGS are based upon offsite exposure to members of the general public. These limits were compared to dose projections calculated using the methodology in the Offsite Dose Calculation Manual (ODCM). There were no liquid releases from OCNGS during the period. Solid waste shipments were similar to those of nuclear plants of comparable type, age and size. Concrete was used for solidification material during the reporting period. The report summarizes the fact that all effluents released were within federal regulatory requirements of the OCNGS Technical Specifications.

Included is a description of changes made to the Offsite Dose Calculation Manual (ODCM) and the Process Control Plan (PCP) during the reporting period. Effluent monitoring instruments that were inoperative as per Technical Specification 3.15 for the reporting period are also discussed.

Maximum Offsite Dose Due to Radionuclides in Effluents Jan-June 1993

Tech. Spec.	3.6.J.1 Liquid Dose WB mrem	3.6.J.1 Organ mrem	3.6.L.1 Air Dose Beta mrem	3.6.L.1 (Gas) Gamma mrem	3.6.K.1 Whole Body mrem	3.6.M.1 (Thyroid) Organ mrem	3.6.K.1 Skin mrem
Jan-June Total	0.00E+00	0.00E+00	3.39E-4	9.82E-4	4.42E-4	1.45E-2	6.61E-4
Tech.Spec. Limit	3	10	20	10	500	15	3000
Fraction of Limit	0.00E+00	0.00E+00	1.7E-5	9.82E-5	8.84E-7	9.67E-4	2.2E-7

Oyster Creek Nuclear Station
1993-1 Semi Annual Effluent Report

Changes to the Offsite Dose Calculation Manual

No changes were made to the ODCM during this time period.

Changes to the Process Control Plan

No changes were made to the PCP during this time period.

Effluent Monitors Out of Service Greater than 30 Days

During the first half of 1993 three instruments were out of service for longer than 30 days:

The Overboard Discharge Monitor was declared inoperable December 7, 1992, and was returned to service March 3, 1993. No overboard discharges occurred during the period from December through March when the instrument was out of service.

The Service Water Rad. Monitor was returned to service February 16, 1993. Daily discharge samples were collected as required while the monitor was out of service

The AOG vent monitor was out of service from November, 1992 due to sample tubing leakage. It was returned to service May 21, 1993.

OYSTER CREEK NUCLEAR GENERATING STATION
LIQUID EFFLUENT RELEASES
FIRST AND SECOND QUARTERS 1993

Oyster Creek Nuclear Generating Station (OCNGS) policy is to strive for zero liquid discharge of radioactive material.

As a result, there were no liquid continuous or batch releases from OCNGS in the first half of 1993.

OYSTER CREEK NUCLEAR GENERATING STATION
LIQUID EFFLUENT RELEASES
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Effluent and Waste Disposal Supplemental Information

FACILITY: Oyster Creek Nuclear Generating Station
LICENSEE: Owner - Jersey Central Power and Light Company
Operator - GPU Nuclear Corporation

1.) **Regulatory Limits**

a.) Fission and Activation Gases

Technical Specification 3.6.E.1
The gross radioactivity in noble gases discharged from the main condenser air ejector shall not exceed a 0.21/E Ci/sec after the holdup line ,where E is the average gamma energy (Mev per atomic transformation).

Technical Specification 3.6.K.1
The dose equivalent rate outside of the EXCLUSION AREA due to radioactive noble gas in gaseous effluent shall not exceed 500 mrem/year to the total body or 3000 mrem/year to the skin.

Technical Specification 3.6.L.1
The air dose outside of the EXCLUSION AREA due to noble gas released in gaseous effluent shall not exceed:

5 mrad/calendar quarter due to gamma radiation,
10 mrad/calendar quarter due to beta radiation,
10 mrad/calendar year due to gamma radiation, or
20 mrad/calendar year due to beta radiation

Technical Specification 3.6.N.1
The annual dose to a MEMBER OF THE PUBLIC due to radiation and radioactive material in effluents from the OCNGS outside of the EXCLUSION AREA shall not exceed 75 mrem to his thyroid or 25 mrem to his total body or to any other organ.

b. Iodines and Particulates

Technical Specification 3.6.K.2

The dose equivalent rate outside of the EXCLUSION AREA due to H-3, I-131, I-133, and to radioactive material in particulates having half-lives of 8 days or more in gaseous effluents shall not exceed 1500 mrem/year to any body organ when the dose rate due to H-3, Sr-89, Sr-90, and alpha-emitting radionuclides is averaged over no more than 3 months and the dose rate due to other radionuclides is averaged over no more than 31 days.

Technical Specification 3.6.M.1

The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, and from radionuclides in particulate form having half-lives of 8 days or more in gaseous effluents, outside of the EXCLUSION AREA shall not exceed 7.5 mrem to any body organ per calendar quarter or 15 mrem to any body organ per calendar year.

c. Liquid Effluents

Technical Specification 3.6.I.1

The concentration of radioactive material, other than noble gases, in liquid effluent in the discharge canal at the Route 9 bridge shall not exceed the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2.

Technical Specification 3.6.I.2

The concentration of noble gases dissolved or entrained in liquid effluent in the discharge canal at the Route 9 bridge shall not exceed $2X10^{-4}$ microcuries/milliliter.

Technical Specification 3.6.J.2

The dose to a MEMBER OF THE PUBLIC due to radioactive material in liquid effluents beyond the outside of the EXCLUSION AREA shall not exceed:

1.5 mrem to the total body during any calendar quarter,
5 mrem to any body organ during any calendar quarter,
3 mrem to the total body during any calendar year, or
10 mrem to any body organ during any calendar year.

2.) **Maximum Permissible Concentrations (MPC)**

a. Fission and Activation Gases:

Appendix B, Table II, Column 2 of 10 CFR 20

b. Iodines and Particulates:

Appendix B, Table II, Column 2 of 10 CFR 20

c. Liquid Effluents:

Appendix B, Table II, Column 2 of 10 CFR 20, except for dissolved or entrained noble gases where the limit is 2×10^{-4} uCi/ml

3.) **Measurements and Approximation of Total Radioactivity**

a. Fission and Activation Gases:

1. Stack

The continuous recording of gross activity and the incorporation of isotopic data obtained from a weekly grab sample analyzed using gamma spectroscopy.

2. Augmented Offgas (AOG) Vent

The continuous recording of gross activity and the incorporation of isotopic data obtained from a weekly grab sample analyzed using gamma spectroscopy.

3. Turbine Building Stack and Feedpump Room Vent

The continuous recording of gross activity and the incorporation of isotopic data obtained from a monthly grab sample analyzed using gamma spectroscopy.

b. Iodines

1. Stack

Filters are changed twice weekly and analyzed using gamma spectroscopy.

2. AOG Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

3. Turbine Building Stack and Feedpump Room Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

c. Particulates

1. Stack

Filters are changed twice weekly and analyzed using a low background beta counter and gamma spectroscopy.

2. AOG Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

3. Turbine Building Stack and Feedpump Room Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

d. Liquid Effluents

Analysis per batch release using gamma spectrometry with a germanium detector, a low background beta counter, and a liquid scintillation counter.

OYSTER CREEK NUCLEAR GENERATING STATION
GASEOUS EFFLUENT ELEVATED RELEASES
First Quarter 1993

FISSION GASES	QUANTITY (ci) *
KR85M	1.98E+00
KR87	8.07E+00
XE133	7.36E+00
XE135	1.16E+01
Total Fission Gases Released:	2.90E+01 ci
Gamma EBar:	0.342 Mev
Average Rate of Release:	3.77E+00 uCi/sec

IODINES	QUANTITY (ci)
I131	5.87E-03
I132	2.87E-02
I133	6.06E-02
I135	1.06E-01
Total Iodines Released:	2.01E-01 ci
Average Rate of Release:	2.61E-02 uCi/sec

PARTICULATES	QUANTITY (ci)
CR51	9.90E-05
MN54	1.24E-05
CO60	2.05E-04
SR89	1.01E-04
SR90	4.65E-06
Y91M	5.02E-02
TC99M	5.01E-04
TE132	4.61E-04
CS137	4.54E-05
CS138	7.81E+00
BA139	2.47E-01
BA140	1.32E-04
LA140	1.43E-04
CE144	2.15E-05
GROSSA	3.78E-06
Total Particulates Released:	8.11E+00 ci
Average Rate of Release:	1.05E+00 uCi/sec

RADIONUCLIDE	QUANTITY (ci)
H3	3.31E-01
Avg. Rate of Release for H3:	4.31E-02 uCi/sec

* Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION
GASEOUS EFFLUENT GROUND-LEVEL RELEASES
First Quarter 1993

FISSION GASES	QUANTITY (ci) *
XE133	1.44E-02
XE135	3.74E-03
Total Fission Gases Released:	1.81E-02 ci
Average Rate of Release:	2.35E-03 uCi/sec

IODINES	QUANTITY (ci)
I131	1.70E-07
I133	1.04E-05
Total Iodines Released:	1.05E-05 ci
Average Rate of Release:	1.37E-06 uCi/sec

PARTICULATES	QUANTITY (ci)
SR89	2.53E-06
Total Particulates Released:	2.53E-06 ci
Average Rate of Release:	3.29E-07 uCi/sec

RADIONUCLIDE	QUANTITY (ci)
H3	0.00E+00
Avg. Rate of Release for H3:	0.00E+00 uCi/sec

* Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION
GASEOUS EFFLUENT ELEVATED RELEASES
Second Quarter 1993

FISSION GASES	QUANTITY (ci) *
KR85M	2.08E+00
KR87	1.02E+01
XE135M	9.61E+00
XE135	1.46E+01

Total Fission Gases Released:	3.65E+01 ci
Gamma EBar:	0.443 Mev
Average Rate of Release:	4.69E+00 uCi/sec

IODINES	QUANTITY (ci)
I131	1.84E-03
I133	6.31E-03

Total Iodines Released:	8.15E-03 ci
Average Rate of Release:	1.05E-03 uCi/sec

PARTICULATES	QUANTITY (ci)
NA24	3.82E-05
CR51	9.80E-05
CO60	5.84E-05
RB89	3.44E-02
SR89	3.90E-04
Y91M	2.43E-02
TC99M	2.64E-03
TE132	7.21E-06
CS138	7.66E-01
BA139	2.61E-01
BA140	5.08E-05
GROSSA	5.91E-07

Total Particulates Released:	1.09E+00 ci
Average Rate of Release:	1.40E-01 uCi/sec

RADIONUCLIDE	QUANTITY (ci)
H3	1.37E+00

Avg. Rate of Release for H3:	1.76E-01 uCi/sec

* Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION
GASEOUS EFFLUENT GROUND-LEVEL RELEASES
Second Quarter 1993

FISSION GASES	QUANTITY (ci) *	
Total Fission Gases Released:	0.00E+00	ci
Average Rate of Release:	0.00E+00	uCi/sec

IODINES	QUANTITY (ci)
I131	3.00E-06
I133	1.18E-05
Total Iodines Released:	1.48E-05 ci
Average Rate of Release:	1.90E-06 uCi/sec

PARTICULATES	QUANTITY (ci)
CR51	4.17E-07
MN54	3.97E-07
SR89	1.05E-05
CS138	4.51E-03
BA139	4.74E-04
GROSSA	2.74E-06
Total Particulates Released:	4.99E-03 ci
Average Rate of Release:	6.42E-04 uCi/sec

RADIONUCLIDE	QUANTITY (ci)
H3	0.00E+00
Avg. Rate of Release for H3:	0.00E+00 uCi/sec

* Quantity of noble gases derived from gross activity.

Solid Waste Shipped Offsite for Disposal
During Period From 01/01/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: FILTERS AND DRY ACTIVE WASTE

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
	Ft^3	M^3		
A	170.8	4.83	8.20	± 25%
B	0	0	0	± 25%
C	0	0	0	± 25%
All	170.8	4.83	8.20	± 25%

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: FILTERS AND DRY ACTIVE WASTE

(Packaged in HIC)

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Fe-55	49.02%	4.02 E0
	Co-60	34.63%	2.84 E0
	Cs-137	9.67%	7.93 E-1
	Mn-54	2.48%	2.03 E-1
	Cs-134	1.89%	1.55 E-1
	Cr-51	1.18%	9.66 E-2
	Ni-63	0.36%	2.95 E-2
	C-14	0	7.30 E-4
	Ni-59	0	2.43 E-3
	Tc-99	0	LLD(6.09E-5 uCi/CC)
	I-129	0	LLD(1.89E-4 uCi/CC)
	Pu-241	0	7.31 E-3
	Cm-242	0	3.3 E-5
	H-3	0	4.28 E-4
	Sr-90	0	6.17 E-3

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: RESINS, FILTERS SLUDGE

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Co-60	44.04%	1.11 E+2
	Fe-55	41.30%	1.04 E+2
	Cs-137	5.91%	1.49 E+1
	Mn-54	3.17%	8.00 E0
	Co-58	1.71%	4.3 E0
	Cr-51	1.46%	3.68 E0
	Cs-134	0.95%	2.4 E0
	Zn-65	0.45%	1.13 E0
	Ni-63	0.433%	1.09 E0
	Sr-90	0.10%	2.3 E-1
	C-14	0.11%	2.71 E-1
	Pu-241	0.05%	1.26 E-1
	Ni-59	0.02%	5.61 E-2
	H-3	0.001%	3.61 E-3
	Cm-242	0	5.65 E-4
	Tc-99	0	LLD(1.73 E-4 uCi/CC)
	I-129	0	LLD(2.6 E-4 uCi/CC)

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: RESINS, FILTERS SLUDGE

Waste Class	Nuclide Name	Percent Abundance	Curies
All	Co-60	48.47%	3.48 E+2
	Fe-55	30.08%	2.16 E+2
	Mn-54	7.65%	5.49 E+1
	Cs-137	4.60%	3.3 E+1
	Cr-51	3.15%	2.26 E+1
	Co-58	2.24%	1.61 E+1
	Zn-65	1.41%	1.01 E+1
	Cs-134	1.33%	9.56 E0
	Ni-63	0.39%	2.82 E0
	Sr-90	0.08%	5.65 E-1
	C-14	0.075%	5.37 E-1
	Pu-241	0.03%	2.17 E-1
	Ni-59	0.012%	8.59 E-2
	H-3	0.0007%	4.71 E-3
	Cm-242	0.0002%	1.16 E-3
	Tc-99	0	LLD(1.73E-4 uCi/CC)
	I-129	0	LLD(2.6E-4 uCi/CC)

Solid Waste Shipped Offsite for Disposal
During Period From 01/1/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: IRRADIATED COMPONENTS

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
	Ft^3	M^3		
A	118.4	3.35	8.34	± 25%
B	0	0	0.00 E+00	± 25%
C	0	0	0.00 E+00	± 25%
All	118.4	3.35	8.34	± 25%

Solid Waste Shipped Offsite for Disposal
During Period From 01/1/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: DRY ACTIVE WASTE SENT TO A REPROCESSOR

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
	Ft^3	M^3		
A	15,582	440.97	2.776	± 25%
B	0	0	0	± 25%
C	0	0	0	± 25%
All	15,582	440.97	2.776	± 25%

Note: This material was sent to a Reprocessor for further Volume Reduction prior to burial.

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: DRY ACTIVE WASTE SENT TO BURIAL GROUND

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Fe-55	52.257%	1.60 E+0
	Co-60	32.229%	9.88 E-1
	Cs-137	7.209%	2.21 E-1
	Mn-54	3.582%	1.10 E-1
	Cr-51	2.205%	6.76 E-2
	Zn-65	1.484%	4.55 E-2
	Cs-134	1.034%	3.17 E-2
	Cm-242	0	0
	Pu-241	0	0
	I-129	0	0
	Tc-99	0	0
	Sr-90	0	0
	C-14	0	0
	H-3	0	0
	Nb-94	0	0
	Ni-63	0	0
	Ni-59	0	0

Solid Waste Shipped Offsite for Disposal
During Period 01/01/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: DRY ACTIVE WASTE SENT TO BURIAL GROUND

Waste Class	Volume		Curies Shipped	% Error (Ci)
	Ft^3	M^3		
A	360.2	10.2	3.07	± 25%
B	0	0	0	± 25%
C	0	0	0	± 25%
All	360.2	10.2	3.07	± 25%

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: DRY ACTIVE WASTE SENT TO A REPROCESSOR

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Fe-55	51.30%	1.42 E0
	Co-60	31.70%	8.80 E-1
	Cs-137	7.07%	1.963E-1
	Mn-54	3.53%	9.8 E-2
	Cr-51	2.17%	6.024E-2
	Zn-65	1.46%	4.053E-2
	Cs-134	1.02%	2.832E-2
	Ni-63	0.36%	9.99 E-3
	Sr-90	0.06%	1.67 E-3
	Pu-241	0.06%	1.67 E-3
	Ni-59	0.02%	5.55 E-4
	H-3	0	LLD(1.40E-3 uCi/CC)
	C-14	0	LLD(1.40E-4 uCi/CC)
	Tc-99	0	LLD(1.73E-4 uCi/CC)
	I-129	0	LLD(2.60E-4 uCi/CC)

Solid Waste Shipped Offsite for Disposal
During Period From 01/1/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: CONTAMINATED METAL SENT TO REPROCESSOR

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
	Ft^3	M^3		
A	1,917	54.25	3.45 E-1	± 25%
B	0	0	0	± 25%
C	0	0	0	± 25%
All	1,917	54.25	3.45 E-1	± 25%

Note: This material was sent to a Reprocessor for further Volume Reduction prior to burial.

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: CONTAMINATED METAL SENT TO REPROCESSOR

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Fe-55	51.30%	1.77 E-1
	Co-60	31.70%	1.09 E-1
	Cs-137	7.07%	2.44 E-2
	Mn-54	3.53%	1.22 E-2
	Cr-51	2.17%	7.49 E-3
	Zn-65	1.46%	5.04 E-3
	Cs-134	1.02%	3.52 E-3
	Ni-63	0.36%	1.24 E-3
	Sr-90	0.06%	2.07 E-4
	C-14	0	LLD(1.40E-4 uCi/CC)
	Pu-241	0.06%	2.07 E-4
	Ni-59	0.02%	6.9 E-5
	H-3	0	LLD(1.40E-3 uCi/CC)
	Cm-242	0	0
	Tc-99	0	LLD(1.73E-4 uCi/CC)
	I-129	0	LLD(2.60E-4 uCi/CC)

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: SUM OF ALL CATEGORIES

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Co-60	43.32%	119 E0
	Fe-55	41.5 %	114 E0
	Cs-137	5.86%	16.1 E0
	Mn-54	3.06%	8.42 E0
	Cr-51	2.17%	5.95 E0
	Co-58	1.57%	4.3 E0
	Cs-134	0.95%	2.62 E0
	Ni-63	0.54%	1.49 E0
	Sr-90	0.087%	2.38 E-1
	C-14	0.1%	2.72 E-1
	Pu-241	0.05%	1.37 E-1
	Ni-59	0.02%	6.18 E-2
	H-3	0	4.04 E-3
	Cm-242	0	5.98 E-4
	Tc-99	0	LLD(1.73E-4)
	I-129	0	LLD(2.6 E-4 uCi/CC)
	Nb-94	0	7.85 E-7

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: SUM OF ALL CATEGORIES

Waste Class	Nuclide Name	Percent Abundance	Curies
B	Co-60	50.86%	2.37 E+2
	Fe-55	24.03%	1.12 E+2
	Mn-54	10.06%	4.69 E+1
	Cr-51	4.06%	1.89 E+1
	Cs-137	3.88%	1.81 E+1
	Co-58	2.53%	1.18 E+1
	Zn-65	1.92%	8.97 E0
	Cs-134	1.54%	7.16 E0
	Ni-63	0.37%	1.73 E-7
	Sr-90	0.07%	3.35 E-7
	C-14	0.06%	2.66 E-1
	Pu-241	0.02%	9.08 E-2
	Ni-59	0.006%	2.98 E-2
	H-3	0	1.1 E-3
	Cm-242	0	5.95 E-4
	Tc-99	0	LLD(1.73E-4 uCi/CC)
	I-129	0	LLD(2.6 E-4 uCi/CC)
	Nb-94	0	0

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: SUM OF ALL CATEGORIES

Waste Class	Nuclide Name	Percent Abundance	Curies
All	Co-60	48.37%	356
	Fe-55	30.70%	226
	Cs-137	4.65%	34.2
	Mn-54	7.52%	55.32
	Cr-51	3.38%	24.85
	Co-58	2.19%	16.1
	Zn-65	1.22%	8.97
	Cs-134	1.33%	9.78
	Ni-63	0.44%	3.22
	Sr-90	0.08%	.0573
	C-14	0.07%	.0538
	Pu-241	0.03%	.228
	Ni-59	0.01%	0.0916
	H-3	0.01%	0.0967
	Cm-242	0	0.0012
	Tc-99	0	LLD(1.75E-4 uCi/CC)
	I-129	0	LLD(2.6 E-4 uCi/CC)
	Nb-94	0	7.85 E-7

SOLID WASTE DISPOSITION SUMMARY

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
24	Truck	Barnwell, SC
9	Truck	Oak Ridge, TN
3	Truck	Wampum, PA
0	Truck	Richland, WA
0	Truck	Beatty, NV

Solid Waste Shipped Offsite for Disposal
During Period 01/01/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: RESINS, FILTERS SLUDGE

Waste Class	Volume		Curies Shipped	% Error (Ci)
	Ft^3	M^3		
A	2737.0	77.46	2.52 E+2	± 25%
B	873.5	24.72	4.60 E+2	± 25%
C	0	0	0	± 25%
All	3610.5	102.18	7.12 E+2	± 25%

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: RESINS, FILTERS SLUDGE

Waste Class	Nuclide Name	Percent Abundance	Curies
B	Co-60	50.86%	2.37 E+2
	Fe-55	24.03%	1.12 E+2
	Mn-54	10.06%	4.69 E+1
	Cr-51	4.06%	1.89 E+1
	Cs-137	3.88%	1.81 E+1
	Co-58	2.53%	1.18 E+1
	Zn-65	1.92%	8.97 E0
	Cs-134	1.54%	7.16 E0
	Ni-63	0.37%	1.73 E0
	Sr-90	0.07%	3.35 E-1
	C-14	0.06%	2.66 E-1
	Pu-241	0.02%	9.08 E-2
	Ni-59	0.006%	2.98 E-2
	H-3	0	1.1 E-3
	Cm-242	0	5.95 E-4
	Tc-99	0	LLD(1.73E-4 uCi/CC)
	I-129	0	LLD(2.6E-4 uCi/CC)

Estimates of Major Nuclides by Waste Class and Stream
with 1% Cutoff

8/19/93

WASTE STREAM: IRRADIATED COMPONENTS

Waste Class	Nuclide Name	Percent Abundance	Curies
A	Fe-55	38.9	3.24
	Co-60	32.3	2.69
	Cr-51	24.5	2.04
	Ni-63	4.3	.358
	C-14	0	2.92 E-4
	Ni-59	0	2.64 E-3
	Tc-99	0	1.19 E-8
	I-129	N.P.	N.P.
	Pu-241	0	1.85 E-3
	Cm-242	0	2.94 E-7
	H-3	N.P.	N.P.
	Sr-90	0	3.07 E-5
	Cs-137	0	2.37 E-3
	Nb-94	0	7.85 E-7

Solid Waste Shipped Offsite for Disposal
During Period From 01/1/93 to 06/30/93

Report Date 8/19/93

WASTE STREAM: SUM OF ALL CATEGORIES

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
	Ft^3	M^3		
A	20885.4	591.06	275	± 25%
B	873.5	24.72	460	± 25%
C	0	0	0	± 25%
All	21758.9	615.78	735	± 25%