

GPU Nuclear Corporation

Post Office Box 388 Route 9 South Forked River, New Jersey 08731-0388 609 971-4000 Writer's Direct Dial Number:

C321-92-2247 August 31, 1992

U.S. Nuclear Regulatory Commission

Att: Document Control Desk

Washington, DC 20555

Dear Sir:

Subject:

Oyster Creek Nuclear Generating Station

Docket No. 50-219

Semi-Annual Radiological Release Report

Attached is a copy of the Oyster Creek Effluent Release Report for the period covering January 1992 through June, 1992. This submittal is made in accordance with 10 CFR 50.36a(2) and our Operating License and Technical Specifications.

If you have any questions, please do not hesitate to contact Brenda DeMerchant, Oyster Creek Licensing Engineer at 609-971-4642.

Very truly yours,

John J. Barton

Vice President & Director

Oyster Creek

JJB/BDEM/jc Attachment

cc: Chief

Bureau of Nuclear Engineering

NJ Dept. of Environmental Protection & Energy

CN 411

Trenton, NJ 08623

Senior NRC Resident Inspector Oyster Creek NRC Project Manager

Administrator, Region 1

bcc: Page 2

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EXECUTIVE SUMMARY, 1992-1 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 the OCNGS. In addition, meteorological data are presented in joint frequency tables per atmospheric stability class.

For the first half of 1992, gaseous releases were 205.7 curies of fission and activation gases, 0.278 curies of non-particulate halogens, 6.51 curies of tritium, and 5.73 curies of particulate radioactivity. In addition, .088 microcuries of fission and activation products were released in 1 unplanned liquid batch release. Attached Tables show that quantities of radioactive material released were well within the limits allowed by the OCNGS Tech Specs. Further 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). The waste shipped for the 1992-1 reporting period was 454 curies of radioactivity, contained in 284 cubic meters of waste, which was shipped offsite in 31 shipments. These shipments are 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.

A summary of Oyster Creek's meteorological data for the reporting period is provided in tabular form. Also included is a description of changes made to the Offsite Dose Calculation Manual (ODCM) and the Process Control Plan (PCP) during the reporting period. Changes made were to procedure formats and some content of the PCP was removed to other procedures. 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

Tech. Spec.		3.6.J.1 id Dose	3.6.L.1 Air Dos			3.6.M.1 (Thyroid)	
	WB ⁻ mrem	Organ mrem	Beta mrem	Gamma mrem	Body mrem	Organ mrem	Skin mrem
Jan- June Total	1.53E-08	7.36E-06	1.56E-03	7.03E-03	4.34E-03	2.27E-01	4.73E-03
Tech. Spec. Limit	3	10	20	10	500	15	3000
Fraction of Limit	5.10E-09	7.36E-07	7.80E-05	7.03E-04	8.68E-06	1.51E-02	1.58E-06

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 1992

FISSION GASES QUANTITY (ci)

KR85M 6.02E+00

KR87 2.27E+01

KR88 3.36E+01

XE135 4.53E+01

Total Fission Gases Released: 1.08E+02 ci Gamma EBar: 0.8907 mev

Average Rate of Release: 1.37E+01 uCi/sec

IODINES	QUANTITY
	(ci)
I131	2.42E-02
I132	4.55E-03
I133	1.42E-02
I134	5.95E-03
T135	3.87E-03

Total Iodines Released: 5.28E-02 ci Average Rate of Release: 6.71E-03 uCi/sec

PARTICULATES	QUANTITY
	(ci)
NA24	7.78E-04
MN54	1.36E-05
RB89	4.95E-01
SR89	5.19E-04
SR90	1.73E-06
SR91	1.56E-03
SR92	9.24E-04
Y91M	1.48E-02
TC99M	5.74E-03
CS137	7.33E-06
CS138	9.49E-01
BA139	5.62E-01
BA140	3.50E-04
LA140	2.09E-04
GROSSA	3.19E-06

Total Particulates Released: 2.03E+00 ci Average Rate of Release: 2.58E-01 uCi/sec

RADIONUCLIDE	QUANTITY
	(ci)
Н3	2.86E+00

Avg. Rate of Release for H3: 3.64E-01 uCi/sec

*

Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION GASEOUS EFFLUENT GROUND LEVEL RELEASES First Quarter 1992

FISSION GASES	QUANTITY (ci)
KR85M	3.70E-04
KR87	1.39E-03
KR88	2.07E-03
XE133	2.05E-04
XE135	2.79E-03

Total Fission Gases Released: 6.82E-03 ci

Average Rate of Release: 8.67E-04 uCi/sec

IODINES	QUANTITY
	(ci)
I131	1.66E-05
I133	1.73E-04

Total Iodines Released: 1.90E-04 ci

Average Rate of Release: 2.42E-05 uCi/sec

PARTICULATES	QUANTITY
	(ci)
BA139	1.09E-03
CE141	7.09E-07

Total Particulates Released: 1.09E-03 ci Average Rate of Release: 1.39E-04 uCi/sec

RADIONUCLIDE	QUANTITY
	(ci)
Н3	0.00E+00

Avg. Rate of Release for H3: 0.00E+00 uCi/sec

Quantity of noble gases derived from gross activity.

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OYSTER CREEK NUCLEAR GENERATING STATION GASEOUS EFFLUENT ELEVATED RELEASES Second Quarter 1992

FISSION GASES	QUANTITY (ci)
KR85M	2.80E+01
KR87	1.57E+01
KR88	1.68E+01
XE133	1.82E+01
XE135	1.87E+01

Total Fission Gases Released: 9.75E+01 ci Gamma EBar: 0.5664 mev

Average Rate of Release: 1.24E+01 uCi/sec

IODINES	QUANTITY
	(ci)
I131	9.16E-03
I132	4.39E-02
I133	3.92E-02
I134	6.71E-02
T135	6.49E-02

Total Iodines Released: 2.24E-01 ci Average Rate of Release: 2.85E-02 uCi/sec

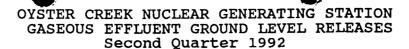
PARTICULATES	QUANTITY
	(ci)
NA24	1.36E-02
CR51	4.25E-03
MN54	2.14E-04
CO58	1.35E-04
CO60	4.08E-04
RB89	1.80E-01
SR89	1.10E-03
SR90	9.79E-06
SR91	1.54E-02
SR92	2.52E-02
Y91M	2.77E-01
Y92	1.13E-02
TC99M	2.14E-02
TE132	2.35E-05
CS138	1.86E+00
BA139	1.23E+00
BA140	6.43E-03
LA140	9.32E-04
CE141	5.49E-05
GROSSA	2.67E-06

Total Particulates Released: 3.65E+00 ci Average Rate of Release: 4.64E-01 uCi/sec

RADIONUCLIDE QUANTITY (ci)
H3 2.26E+00

Avg. Rate of Release for H3: 2.87E-01 uCi/sec

^{*} Quantity of noble gases derived from gross activity.



					*
	FISS	SION GA	ASES	QUANTITY (ci)	
		KR85M		9.71E-03	
		KR87		3.66E-02	
		KR88		5.42E-02	
		XE133		5.39E-03	
		XE135		7.31E-02	
Total	Fission	Gases	Released:	1.79E-01	c

Total Fission Gases Released: 1.79E-01 ci Average Rate of Release: 2.28E-02 uCi/sec

IODINES	QUANTITY
	(ci)
I131	3.17E-05
I132	2.41E-04
I133	3.83E-04
I135	2.22E-04

Total Iodines Released: 8.78E-04 ci Average Rate of Release: 1.12E-04 uCi/sec

PARTICULATES	QUANTITY
	(ci)
NA24	8.60E-05
CR51	3.53E-06
MN54	6.18E-06
CO57	6.58E-07
CO60	2.27E-06
RB88	5.76E-04
SR89	2.71E-05
SR91	5.66E-05
Y91M	4.92E-02
TC99M	1.51E-04
TE132	4.16E-08
CS137	8.89E-07
CS138	1.88E-04
BA139	2.14E-03
BA140	4.34E-06

Total Particulates Released: 5.25E-02 ci Average Rate of Release: 6.67E-03 uCi/sec

RADIONUCLIDE	QUANTITY (ci)
Н3	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 LIQUID EFFLUENTS

Second Quarter 1992

NUCLIDE RELEASED QUANTITY

(Ci) 8.80E-08 AG110M

Total 8.80E-08

NOBLE GASES

0.00E+00 Total

TRITIUM 0.00E+00

GROSS ALPHA 0.00E+00

Volume of Waste Released Prior to Dilution: 4.70E+01 gal Volume of Dilution Water Released: 2.70E+07 gal

SOLID

	OLID WASTE SH URING PERIOD			
WASTE CLASS	VOLUM FT^3	:Resins, E M^3	Filters, & CURIES SHIPPED	Evap Bottoms. % ERROR (CI)
A	4674.3	132.3	2.22E+02 1.19E+01	+/- 25%
B C	341.6 120.3	9.7 3.4	1.19E+01 2.15E+02	+/- 25% +/- 25%
All	5136.2	145.4	4.49E+02	+/- 25%
WASTE CLASS	WASTE STREAM VOLUM FT^3	:Dry Act E M^3	ive Waste. CURIES SHIPPED	% ERROR (CI)
A	360.2	10.2	3.75E+00	+/- 25%
B C	.0 .0	.0	0.00E+00 0.00E+00	+/- 25% +/- 25%
	360.2			
WASTE CLASS	WASTE STREAM VOLUM FT^3	E M^3	ted Componer CURIES SHIPPED	nts. % ERROR (CI)
A	. 0	.0	0.00E+00	+/- 25%
B C	.0	.0	0.00E+00 0.00E+00	+/- 25% +/- 25%
A11	.0		0.00E+00	
WASTE STREAM :Other Waste. WASTE VOLUME CURIES % ERROR				
	FT^3	M^3	SHIPPED	(CI)
A		.0	0.00E+00	+/- 25%

WASTE	WASTE STREAT		Waste. CURIES	% ERROR
CLASS	FT^3	M^3	SHIPPED	(CI)
A	.0	.0	0.00E+00	+/- 25%
В	.0	.0	0.00E+00	+/- 25%
C	.0	.0	0.00E+00	+/- 25%
All	.0	.0	0.00E+00	+/- 25%

WASTE	WASTE STREAT		All 4 Catego	ories % ERROR
CLASS	FT^3	M^3	SHIPPED	(CI)
A	5034.5	142.5	2.25E+02	+/- 25%
В	341.6	9.7	1.19E+01	+/- 25%
C	120.3	3.4	2.15E+02	+/- 25%
All	5496.4	155.5	4.53E+02	+/- 25%

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS AND STREAM **
WASTE STREAM:Resins, Filters, & Evap Bottoms. WITH 1.0% CUTOFF.

** DURING PERIOD FROM 01/01/92 TO 06/30/92 **

WASTE CLASS	NUCLIDE NAME	PERCENT ABUNDANCE	CURIES
A	Co-60	42.100%	9.33E+01
	Fe-55	30.432%	6.75E+01
	Cs-137	14.389%	3.19E+01
	Mn-54	4.823%	1.07E+01
	Cr-51	2.553%	5.66E+00
	Cs-134 Co-58	2.169% 1.330%	4.81E+00 2.95E+00
	Ni-63	.523%	1.16E+00
	Sr-90	.103%	2.29E-01
	Pu-241	.079%	1.75E-01
	Ni-59	.031%	6.83E-02
	C-14	.012%	2.64E-02
	H-3	.004%	8.37E-03
	Cm-242	.000%	7.45E-04
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
В	Cs-137	77.610%	9.25E+00
Б	Cs-134	17.158%	2.05E+00
	Co-60	3.499%	4.17E-01
	Ni-63	1.437%	1.71E-01
	Sr-90	.028%	3.30E-03
	H-3	.021%	2.52E-03
	Cm-242	.000%	0.00E+00
	Pu-241	.000%	0.00E+00
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	C-14	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
	Ni-59	.000%	0.00E+00

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS AND STREAM **
WASTE STREAM:Resins, Filters, & Evap Bottoms. WITH 1.0% CUTOFF.

** DURING PERIOD FROM 01/01/92 TO 06/30/92 **

WASTE CLASS	NUCLIDE NAME	PERCENT ABUNDANCE	CURIES
С	Co-60	50.138%	1.08E+02
	Fe-55	48.281%	1.04E+02
	Cs-137	1.226%	2.64E+00
	Ni-63	.163%	3.52E-01
	Sr-90	.117%	2.52E-01
	C-14	.001%	1.23E-03
	H-3	.001%	1.18E-03
	Pu-241	.000%	1.19E-04
	Cm-242	.000%	1.14E-08
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
	Ni-59	.000%	0.00E+00
All	Co-60	44.931%	2.02E+02
	Fe-55	38.189%	1.71E+02
	Cs-137	9.752%	4.38E+01
	Mn-54	2.389%	1.07E+01
	Cs-134	1.540%	6.92E+00
	Cr-51	1.261%	5.66E+00
	Ni-63	.375%	1.68E+00
	Sr-90	.108%	4.85E-01
	Pu-241	.039%	1.75E-01
	Ni-59	.015%	6.83E-02
	C-14	.006%	2.76E-02
	H-3	.003%	1.21E-02
	Cm-242	.000%	7.45E-04
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS AND STREAM **
WASTE STREAM:Dry Active Waste. WITH 1.0% CUTOFF.

** DURING PERIOD FROM 01/01/92 TO 06/30/92 **

WASTE	NUCLIDE	PERCENT	CURIES
CLASS	NAME	ABUNDANCE	
A	Fe-55	50.462%	1.89E+00
	Co-60	34.398%	1.29E+00
	Cs-137	9.126%	3.42E-01
	Mn-54	2.490%	9.33E-02
	Cs-134	1.847%	6.92E-02
	Cr-51	1.316%	4.93E-02
	Ni-63	.110%	4.11E-03
	Pu-241	.028%	1.06E-03
	Sr-90	.019%	7.16E-04
	Ni-59	.009%	3.53E-04
	H-3	.004%	1.47E-04
	C-14	.002%	7.63E-05
	Cm-242	.000%	4.85E-06
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
All	Fe-55	50.462%	1.89E+00
	Co-60	34.398%	1.29E+00
	Cs-137	9.126%	3.42E-01
	Mn-54	2.490%	9.33E-02
	Cs-134	1.847%	6.92E-02
	Cr-51	1.316%	4.93E-02
	Ni-63	.110%	4.11E-03
	Pu-241	.028%	1.06E-03
	Sr-90	.019%	7.16E-04
	Ni-59	.009%	3.53E-04
	H-3	.004%	1.47E-04
	C-14	.002%	7.63E-05
	Cm-242	.000%	4.85E-06
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS AND STREAM **
WASTE STREAM:Sum of All 4 Categories WITH 1.0% CUTOFF.

** DURING PERIOD FROM 01/01/92 TO 06/30/92 **

WASTE	NUCLIDE	PERCENT	CURIES
CLASS	NAME	ABUNDANCE	
A	Co-60	41.972%	9.46E+01
	Fe-55	30.765%	6.94E+01
	Cs-137	14.301%	3.22E+01
	Mn-54	4.784%	1.08E+01
	Cr-51	2.533%	5.71E+00
	Cs-134	2.164%	4.88E+00
	Co-58	1.309%	2.95E+00
	Ni-63	.516%	1.16E+00
	Sr-90	.102%	2.30E-01
	Pu-241	.078%	1.76E-01
	Ni-59	.030%	6.86E-02
	C-14	.012%	2.65E-02
	H-3	.004%	8.52E-03
	Cm-242	.000%	7.50E-04
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
В	Cs-137	77.610%	9.25E+00
	Cs-134	17.158%	2.05E+00
	Co-60	3.499%	4.17E-01
	Ni-63	1.437%	1.71E-01
	Sr-90	.028%	3.30E-03
	H-3	.021%	2.52E-03
	Cm-242	.000%	0.00E+00
	Pu-241	.000%	0.00E+00
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	C-14	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
	Ni-59	.000%	0.00E+00

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS AND STREAM **
WASTE STREAM:Sum of All 4 Categories WITH 1.0% CUTOFF.

** DURING PERIOD FROM 01/01/92 TO 06/30/92 **

WASTE	NUCLIDE	PERCENT	CURIES
CLASS	NAME	ABUNDANCE	CONTED
	MARIE	ADUNDANCE	
С	Co-60	50.138%	1.08E+02
	Fe-55	48.281%	1.04E+02
	Cs-137	1.226%	2.64E+00
	Ni-63	.163%	3.52E-01
	Sr-90	.117%	2.52E-01
	C-14	.001%	1.23E-03
	H-3	.001%	1.18E-03
	Pu-241	.000%	1.19E-04
	Cm-242	.000%	1.14E-08
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00
	Ni-59	.000%	0.00E+00
All	Co-60	44.844%	2.03E+02
	Fe-55	38.290%	1.73E+02
	Cs-137	9.747%	4.41E+01
	Mn-54	2.390%	1.08E+01
	Cs-134	1.543%	6.99E+00
	Cr-51	1.261%	5.71E+00
	Ni-63	.373%	1.69E+00
	Sr-90	.107%	4.85E-01
	Pu-241	.039%	1.76E-01
	Ni-59	.015%	6.86E-02
	C-14	.006%	2.77E-02
	H-3	.003%	1.22E-02
	Cm-242	.000%	7.50E-04
	I-129	.000%	0.00E+00
	Tc-99	.000%	0.00E+00
	Nb-94	.000%	0.00E+00

*** SOLID WASTE DISPOSITION SUMMARY ***

NUMBER OF SHIP	MENTS MODE OF TRANSPORTAT	CION DESTINATION
28	TRUCK	Barnwell
0	TRUCK	Richland
0	TRUCK	Beatty
0	TRUCK	Other

Regulatory Guide 1.21 Report DAW Shipped To SEG, Oak Ridge, TN. during the period from 01/01/92 to 06/30/92

Report Date: 7/13/1992 Waste Stream: Dry Activated Waste

WASTE CLASS	VOL <u>Ft.³</u>	UME m ³	CURRIES SHIPPED	% ERROR (CI)
Α	4530	128.3	9.59 E-1	25%

Estimates of Major Nuclides by Waste Class Waste Stream: Dry Activated Waste

Waste Class	Nuclide	% Abundance	Curies
Α	Fe-55	50.2%	4.85E-1
	Co-60	34.0%	3.3 E-1
	Cs-137	9.0%	8.69E-2
	Mn - 54	2.47%	2.61E-2
	Cr-51	1.30%	1.21E-2
	Cs-134	1.82%	1.77E-2
	Ni-63	.35%	3.13E-8
	H-3	0.0%	3.75E-5
	C-14	0.0%	1.95E-5
	Tc-99	0.0%	· LLD
	I-129	0.0%	LLD
	Pu-241	.09%	8.06E-9
	Cm-242	0.0%	3.70E-11
•	Sr-90	.06%	5.47E-9

Number of Shipments	Mode of Transportation	<u>Destination</u>		
3	Truck	Oak Ridge, TN.		

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS A

CECTOD	WINDS			WI	ND SPEED)		
SECTOR TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	0	0	5	8	1	14
NNE	SSW	0	0	2	1	0	0	3
NE	SW	0	1	0	0	0	0	1
ENE	WSW	0	1	1 .	4	2	4	12
E	W	0	0	1	0	5	2	8
ESE SE	WNW	0	0	0	2	14	12	28
SE SSE	NW NNW	0	0	1	10	16	9	36 11
SSE S	N	0	0	1	3	6	1	
S SSW	NNE	0 0	1	0	0 0	0 0	0 0	1 1
SW	NE	0	1 1	0 0	4	2	0	7
wsw	ENE	0	0	2	17	6	1	, 26
W W	E	0	1	3	7	1	0	26 12
WNW	ESE	0	1	3 4	0	0	0	5
NW	SE	0	Ō	4	Ö	Ŏ	Ö	4
NNW	SSE	Ö	0	0	3	2	Ö	5
		J	U	•	3		J	J
TOTAL	•	0	7	19	56	62	30	174
				WI	ND SPEED)		
SECTOR								
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	1	1	9	9	2	22
NNE	SSW	0	1	1	1	3	3	9
NE	SW	0	0	1	0	0	0	1
ENE	WSW	0	0	1	1	4	4	10
E	W	0	0	1	3	5	3	12
ESE	WNW	0	0	2	7	6	3	18
SE	NW	0	0	2	7	7	12	28
SSE	NNW	0	0	1	5	3	1	10
S	N	0	0	4	1	1	0	6
SSW	NNE	0	0	0	0	0	0	0
SW	NE	0	1	4	10	2	2	19
wsw w	ENE	0	0	7	6	2	1	16
W	E	0	1	12	5	0	0	18
WNW	ESE	0	0	10	0	0	0	10
NW	SE	0	0	11	3	0	0	14
NNW	SSE	0	0	4	12	0	0	16
TOTAL		0	4	62	70	42	31	209

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS C

				WIN	D SPEED			
SECTOR TO	WINDS FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
10	INOM	± J	4 /	0 12	13 10			-
N	S	0	0	4	16	6	1	27
NNE	SSW	0	1	2	7	4	1	15
NE	SW	0	1	2	3	0	0	6
ENE	WSW	0	1	7	8	3	3	22
E	W	0	1	6	7	5	4	23
ESE	WNW	0	1	6	8	13	5	33
SE	NW	0	0	4	14	11	13	42
SSE	NNW	0	0	8	8	4	1	21
S	N	0	0	1	4	0	0	5
SSW	NNE	0	0	2	0	0	0	2
SW	NE	0	2	9	5	2	3	21
WSW	ENE	0	0	9	8	2	2	21
W	E	0	4	9	5	0	0	18
WNW	ESE	0	2	7	1	0	0	10
NW	SE	0	0	11	1	0	0	12
NNW	SSE	0	1	8	9	0	0	18
TOTAL		0	14	95	104	50	33	296
		•						
STABIL	ITY CL	ASS D		· · · · · · · · · · · · · · · · · · ·				
				WIN	D SPEED			
SECTOR	WINDS	<u> </u>					>24	
			4-7	WIN 8-12	D SPEED	19-24	>24	TOTAL
SECTOR TO	WINDS FROM	1-3		8-12	13-18	19-24		
SECTOR TO	WINDS FROM	1-3	11	8-12 45			>24 2 8	111
SECTOR TO N NNE	WINDS FROM S	1-3 1 1	11 8	8-12	13-18 43	19 - 24 9	2	111
SECTOR TO N NNE NNE	WINDS FROM S SSW SW	1-3 1 1 2	11	8-12 45 22	13-18 43 64	19-24 9 27	2 8	111 130
SECTOR TO N NNE NE ENE	WINDS FROM S	1-3 1 1	11 8 5 6	8-12 45 22 18 16	13-18 43 64 11	19-24 9 27 10	2 8 2	111 130 48
SECTOR TO N NNE NE ENE E	WINDS FROM S SSW SW WSW W	1-3 1 1 2 2	11 8 5	8-12 45 22 18 16 19	13-18 43 64 11 23	19-24 9 27 10 10	2 8 2 7	111 130 48 64 94
SECTOR TO N NNE NE ENE E ESE	WINDS FROM S SSW SW WSW WSW WNW	1-3 1 1 2 2 1 1	11 8 5 6 9	8-12 45 22 18 16 19 14	13-18 43 64 11 23 12 45	19-24 9 27 10 10	2 8 2 7 36	111 130 48 64 94 156
SECTOR TO N NNE NE ENE ESE SE	WINDS FROM S SSW SW WSW WSW WNW	1-3 1 1 2 2 1 1 0	11 8 5 6 9 4 10	8-12 45 22 18 16 19 14 20	13-18 43 64 11 23 12	19-24 9 27 10 10 17 48	2 8 2 7 36 44	111 130 48 64 94 156
SECTOR TO N NNE NE ENE E ESE SSE	WINDS FROM S SSW SW WSW WNW WNW	1-3 1 1 2 2 1 1 0 1	11 8 5 6 9 4 10 7	8-12 45 22 18 16 19 14 20 22	13-18 43 64 11 23 12 45 53 42	9 27 10 10 17 48 42 18	2 8 2 7 36 44 61	111 130 48 64 94 156
SECTOR TO N NNE NE ENE E SE SSE SSE	WINDS FROM S SSW SW WSW WNW NNW	1-3 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 8 5 6 9 4 10 7 16	8-12 45 22 18 16 19 14 20 22 18	13-18 43 64 11 23 12 45 53 42 28	9 27 10 10 17 48 42 18 2	2 8 2 7 36 44 61 11 0	111 130 48 64 94 156 186
SECTOR TO N NNE NE ENE E SSE SSE SSSW	WINDS FROM S SSW SW WSW WNW NNW NNW	1-3 1 1 2 2 1 1 0 1 4	11 8 5 6 9 4 10 7 16 23	8-12 45 22 18 16 19 14 20 22 18 27	13-18 43 64 11 23 12 45 53 42 28 27	9 27 10 10 17 48 42 18 2	2 8 2 7 36 44 61 11 0	111 130 48 64 94 156 186 101 65 82
SECTOR TO NNE NE ENE ESE SSE SSE SSW SW	WINDS FROM S SSW SW WSW WNW NNW NNW	1-3 1 1 2 2 1 1 0 1 4 1	11 8 5 6 9 4 10 7 16 23 20	8-12 45 22 18 16 19 14 20 22 18 27 62	13-18 43 64 11 23 12 45 53 42 28 27 48	9 27 10 10 17 48 42 18 2 1	2 8 2 7 36 44 61 11 0 0	111 130 48 64 94 156 101 65 82 211
SECTOR TO N NNE ENE E SSE SSE SSW SSW WSW	WINDS FROM S SSW SW WSW WNW NNW NNW NNW	1-3 1 1 2 2 1 1 0 1 1 4 1 3	11 8 5 6 9 4 10 7 16 23 20 14	8-12 45 22 18 16 19 14 20 22 18 27 62 54	13-18 43 64 11 23 12 45 53 42 28 27 48 60	9 27 10 10 17 48 42 18 2 1 46 47	2 8 2 7 36 44 61 11 0 0 34 31	111 130 48 64 94 156 186 101 65 82 211
SECTOR TO N NNE NE ENE E SSE SSE SSE SSW SW WSW W	WINDS FROM S SSW SW WSW WNW NNW NNW NNE NE ENE E	1-3 1 1 2 2 1 1 0 1 1 4 1 3 0	11 8 5 6 9 4 10 7 16 23 20 14 12	8-12 45 22 18 16 19 14 20 22 18 27 62 54 41	13-18 43 64 11 23 12 45 53 42 28 27 48 60 37	9 27 10 10 17 48 42 18 2 1 46 47	2 8 2 7 36 44 61 11 0 0 34 31 3	111 130 48 64 94 156 186 101 65 82 211 209
SECTOR TO N NNE NE ENE E SSE SSE SSE SSW SW WSW WNW	WINDS FROM S SSW SW WSW WNW NNW NNE NE ENE ESE	1-3 1 1 2 2 1 1 0 1 1 4 1 3 0 3	11 8 5 6 9 4 10 7 16 23 20 14 12 9	8-12 45 22 18 16 19 14 20 22 18 27 62 54 41 26	13-18 43 64 11 23 12 45 53 42 28 27 48 60 37 11	9 27 10 10 17 48 42 18 2 1 46 47 15 3	2 8 2 7 36 44 61 11 0 0 34 31 3	111 130 48 64 94 156 186 101 65 82 211
SECTOR TO N NNE NE ENE ESE SSE SSE SSW SSW WSW WNW	WINDS FROM S SSW SW WSW WNW NNW NNW NNE NE ENE E	1-3 1 1 2 2 1 1 0 1 1 4 1 3 0	11 8 5 6 9 4 10 7 16 23 20 14 12	8-12 45 22 18 16 19 14 20 22 18 27 62 54 41	13-18 43 64 11 23 12 45 53 42 28 27 48 60 37	9 27 10 10 17 48 42 18 2 1 46 47	2 8 2 7 36 44 61 11 0 0 34 31 3	64 94 156 186 101 65 82 211 209 108
SECTOR TO N NNE NE ENE ESE SSE SSW SW WSW WSW WNW NNW	WINDS FROM S SSW SW WSW WNW NNW NNE NE ENE ESE SE	1-3 1 1 2 2 1 1 0 1 1 4 1 3 0 3 3 4	11 8 5 6 9 4 10 7 16 23 20 14 12 9 9	8-12 45 22 18 16 19 14 20 22 18 27 62 54 41 26 30 42	13-18 43 64 11 23 12 45 53 42 28 27 48 60 37 11 9 19	19-24 9 27 10 10 17 48 42 18 2 1 46 47 15 3 5 8	2 8 2 7 36 44 61 11 0 0 34 31 3 7 1 6	111 130 48 64 94 156 186 101 65 82 211 209 108 59 57 92
SECTOR TO NNE NE ENE ESE SSE SSW SSW WSW WSW WNW NW	WINDS FROM S SSW SW WSW WNW NNW NNE NE ENE ESE SE	1-3 1 1 2 2 1 1 0 1 1 4 1 3 0 3 3	11 8 5 6 9 4 10 7 16 23 20 14 12 9	8-12 45 22 18 16 19 14 20 22 18 27 62 54 41 26 30	13-18 43 64 11 23 12 45 53 42 28 27 48 60 37 11 9	9 27 10 10 17 48 42 18 2 1 46 47 15 3	2 8 2 7 36 44 61 11 0 0 34 31 3	111 130 48 64 94 156 101 65 82 211 209 108

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS E

	MITNO			WIN	D SPEED			
SECTOR TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
10	r ROM	1-2	4-/	0-12	12-10	19-24	/47	IOIAL
N	s	2	7	18	24	18	11	80
NNE	SSW	4	5	26	50	30	12	127
NE	SW	Ö	2	12	28	28	12	82
ENE	WSW	Ŏ	9	8	17	26	3	63
E	W	ŏ	í	6	37	23	1	68
ESE	WNW	ì	2	8	44	52	4	111
SE	NW	Ō	ō	13	51	52	9	125
SSE	NNW	ı	1	9	24	33	4	72
S	N	3	8	9	19	10	Ö	49
SSW	NNE	2	4	8	6	0	Ō	20
SW	NE	3	2	8	14	7	5	39
WSW	ENE	4	1	15	18	11	5	54
W	E	2	5	10	11	13	6	47
WNW	ESE	4	7	2	7	8	4	32
NW	SE	4	4	8	10	9	5	40
NNW	SSE	0	5	13	14	21	17	70
1414	555	· ·	<i>-</i>	13		~-		
TOTAL		30	63	173	374	341	98	1079
STABIL:	ITY CI	ASS F	·	· · · · · · · · · · · · · · · · · · ·				
		<u>.</u> -	·	WIN	ID SPEED		, , , , , , , , , , , , , , , , , , ,	·····
SECTOR	WINDS	<u> </u>	4.7				>24	TOTAL
		<u>.</u> -	4-7	WIN 8-12	ID SPEED	19-24	>24	TOTAL
SECTOR TO	WINDS FROM	; 1-3		8-12		19-24	>24	TOTAL 18
SECTOR TO	WINDS FROM S	3 1-3 1	2	8 - 12	13-18			
SECTOR TO N NNE	WINDS FROM S SSW	1-3 1 0	2 3	8-12 6 6	13-18 8 11	19 - 24	0	18
SECTOR TO N NNE NNE	WINDS FROM S SSW SW	3 1-3 1	2	8-12 6 6 14	13-18	19-24 1 4	0	18 24
SECTOR TO N NNE NE ENE	WINDS FROM S SSW SW WSW	1-3 1 0 2	2 3 6 4	8-12 6 6	13-18 8 11 22	19-24 1 4 20	0 0 9	18 24 73
SECTOR TO N NNE NE ENE E	WINDS FROM S SSW SW WSW W	1 - 3 1 0 2 0 0	2 3 6 4 9	8-12 6 6 14 9 6	13-18 8 11 22 15 16	19-24 1 4 20 21	0 0 9 7	18 24 73 56
SECTOR TO N NNE NE ENE E ESE	WINDS FROM S SSW SW WSW	1-3 1 0 2 0 0	2 3 6 4 9	8-12 6 6 14 9	13-18 8 11 22 15	19-24 1 4 20 21 20	0 0 9 7 7	18 24 73 56 58 66 72
SECTOR TO N NNE NE ENE E	WINDS FROM S SSW SW WSW WSW	1-3 1 0 2 0 0	2 3 6 4 9	8-12 6 6 14 9 6 10	13-18 8 11 22 15 16 19	19-24 1 4 20 21 20 26	0 9 7 7 9 6 3	18 24 73 56 58 66 72 45
SECTOR TO N NNE NE ENE E ESE SSE	WINDS FROM S SSW SW WSW WNW	1-3 1 0 2 0 0 0	2 3 6 4 9 2 2	8-12 6 6 14 9 6 10 7	13-18 8 11 22 15 16 19 23	19-24 1 4 20 21 20 26 32 14 7	0 0 9 7 7 9 6 3	18 24 73 56 58 66 72 45 36
SECTOR TO N NNE NE ENE E SE SSE SSE	WINDS FROM S SSW SW WSW WNW NNW	1 -3 1 0 2 0 0 0 0 2 1	2 3 6 4 9 2 2	8-12 6 6 14 9 6 10 7 6	13-18 8 11 22 15 16 19 23 17	19-24 1 4 20 21 20 26 32 14	0 9 7 7 9 6 3	18 24 73 56 58 66 72 45 36
SECTOR TO N NNE NE ENE ESE SE	WINDS FROM S SSW SW WSW WNW NNW NNW	1 -3 1 0 2 0 0 0 0 2 1 0 0	2 3 6 4 9 2 2 4 5	8-12 6 6 14 9 6 10 7 6 6	13-18 8 11 22 15 16 19 23 17 17	19-24 1 4 20 21 20 26 32 14 7	0 0 9 7 7 9 6 3	18 24 73 56 58 66 72 45 36
SECTOR TO NNE NE ENE ESE SSE SSE SSW SW	WINDS FROM S SSW SW WSW WNW NNW NNW NNW	1 -3 1 0 2 0 0 0 2 1 0 0 0	2 3 6 4 9 2 2 4 5	8-12 6 6 14 9 6 10 7 6 6	13-18 8 11 22 15 16 19 23 17 17 9	19-24 1 4 20 21 20 26 32 14 7	0 9 7 7 9 6 3 1	18 24 73 56 58 66 72 45 36 13 13
SECTOR TO NNE NE ENE E SSE SSE SSSW	WINDS FROM S SSW SW WSW WNW NNW NNW NNW NNE NNE ENE	1-3 1 0 2 0 0 0 2 1 0 0	2 3 6 4 9 2 2 4 5 1	8-12 6 6 14 9 6 10 7 6 6 0	13-18 8 11 22 15 16 19 23 17 17 9 6	19-24 1 4 20 21 20 26 32 14 7 3	0 0 9 7 7 9 6 3 1 0	18 24 73 56 58 66 72 45 36 13 13 4
SECTOR TO N NNE NE ENE ESE SSE SSE SSW SSW WSW WSW	WINDS FROM S SSW SSW WSW WNW NNW NNW NNE NNE ENE ENE	1 -3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 3 6 4 9 2 2 4 5 1 4 0 0	8-12 6 6 14 9 6 10 7 6 6 0 3	13-18 8 11 22 15 16 19 23 17 17 9 6 3 1	19-24 1 4 20 21 20 26 32 14 7 3 0	0 0 9 7 7 9 6 3 1 0	18 24 73 56 58 66 72 45 36 13 13 4
SECTOR TO N NNE NE ENE ESE SSE SSE SSW SSW SW WSW WNW	WINDS FROM S SSW SW WSW WNW NNW NNE NE ENE ESE	1-3 1 0 2 0 0 0 0 2 1 0 0 0	2 3 6 4 9 2 2 4 5 1 4 0 0 3	8-12 6 6 14 9 6 10 7 6 6 0 3 0 0	13-18 8 11 22 15 16 19 23 17 17 9 6	19-24 1 4 20 21 20 26 32 14 7 3 0 1	0 9 7 7 9 6 3 1 0 0	18 24 73 56 58 66 72 45 36 13 13 4
SECTOR TO N NNE NE ENE ESE SSE SSE SSW SSW WSW WSW	WINDS FROM S SSW SSW WSW WNW NNW NNW NNE NNE ENE ENE	1 -3 1 0 2 0 0 0 2 1 0 0 0 2 1	2 3 6 4 9 2 2 4 5 1 4 0 0	8-12 6 6 14 9 6 10 7 6 6 0 3	13-18 8 11 22 15 16 19 23 17 17 9 6 3 1	19-24 1 4 20 21 20 26 32 14 7 3 0 1 1	0 9 7 7 9 6 3 1 0 0 0	18 24 73 56 58 66 72 45 36 13 13 4

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS G

				WIN	ID SPEED	•		
SECTOR		1 0	4 7	0 10	12 10	10-24	>24	moma t
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	s	0	0	4	1	1	0	6
NNE	SSW	0	4	6	15	1	0	26
NE	SW	3	4	7	8	6	3	31
ENE	WSW	2	0	8	10	6	2	28
E	W	3	3	6	10	1	5	28
ESE	WNW	0	3	8	9	6	1	27
SE	NW	0	8	7	27	7	1	50
SSE	NNW	2	1	4	13	5	2	27
5	N	1	2	4	5	4	0	16
SSW	NNE	0	4	4	3	0	0	11
SW	NE	1	4	8	11	1	0	25
WSW	ENE	0	3	7	2	0	0	12
W	E	Ō	4	3	ī	0	0	8
WNW	ESE	Ö	3	7	ī	0	0	11
W	SE	Ö	1	5	ō	Ö	0	6
WMW	SSE	Ö	ī	1	ì	Ö	Ō	3
		_	_	_	_			
TOTAL		12	45	89	117	38	14	315
STABIL:	ITY CL	ASS AI	L	WII	ND SPEED			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	s	4	21	78	106	52	17	278
NNE	SSW	5	22	65	149	69	24	334
NE	SW	7	19	54	72	64	26	242
ENE	WSW	4	21	50	78	72	30	255
3	W	4	23	45	85	76	58	291
ESE	WNW	2	12	48	134	165	78	439
SE	NW	2	20	54	185	167	111	539
SSE	NNW	5	13	51	112	83	23	287
S	N	5	32	42	74	24	1	178
SSW	NNE	6	33	41	45	4	ō	129
J 11	4444	9	J J	7.1	7.0	-	•	225

TOTAL 80 357 996 1429 991 501 4354 HOURS OF MISSING/INVALID DATA: 14

SW

WSW

WNW

NW

NNW

W

NE

ENE

E

ESE

SE

SSE

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS A

SECTION								
CECHOD				WIN	D SPEED			
	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	s	1	8	22	53	1	0	85
NNE	SSW	0	3	10	11	0	0	24
NE	SW	1	10	8	6	0	0	25
ENE	wsw	0	13	23	11	0	0	47
E	W	0	10	27	13	0	0	50
ESE	WNW	0	15	55	17	0	0	87
SE	NW	1	8	74	38	1	0	122
SSE	NNW	0	14	36	6	0	0	56
3	N	0	10	10	0 -	0	0	20
SSW	NNE	2	9	6	Ō	Ō	0	17
SW	NE	0	18	25	4	Ō	0	47
WSW	ENE	1	22	53	5	Ö	Ö	81
W	E	ō	20	51	1	Ö	Ō	72
WNW	ESE	Ŏ	25	27	ō	Ö	Ö	52
WW	SE	1	16	53	ī	Ö	Ö	71
NNW	SSE	ō	7	40	14	Ö	Ö	61
		•	•			·	•	
TOTAL		7	208	520	180	2	0	917
				7.777.1				
e erminab		1		MIN	D SPEED)		
	WINDS						- 0.4	
TO	WINDS FROM	1-3	4-7	WIN 8-12	D SPEED	19-24	>24	TOTAL
TO N	FROM S	1-3 0	6	8 - 12	13 - 18	19-24 0	0	19
TO N NNE	FROM S SSW	1-3 0 0	6 3	8-12 10 4	13-18 3 3	19-24 0 0	0	19 10
TO N NNE NE	FROM S SSW SW	1-3 0 0 0	6 3 4	8-12 10 4 5	13-18 3 3 1	19-24 0 0 0	0 0 0	19 10 10
TO N NNE NE ENE	FROM S SSW SW WSW	1-3 0 0 0 0	6 3 4 4	8-12 10 4 5 6	13-18 3 3 1	19-24 0 0	0 0 0	19 10 10 11
TO N NNE NE ENE E	FROM S SSW SW WSW W	1-3 0 0 0 0 0	6 3 4 4 5	8-12 10 4 5 6	13-18 3 3 1 1 3	19-24 0 0 0 0 0	0 0 0 0	19 10 10 11
TO N NNE NE ENE E	FROM S SSW SW WSW W	1-3 0 0 0 0	6 3 4 4 5	8-12 10 4 5 6 9 16	13-18 3 3 1	19-24 0 0 0 0	0 0 0	19 10 10 11 17 30
TO N NNE NE ENE E ESE SE	FROM S SSW SW WSW WNW NW	1-3 0 0 0 0 0	6 3 4 4 5 8 11	8-12 10 4 5 6 9 16 13	13-18 3 3 1 1 3 4 5	19-24 0 0 0 0 0	0 0 0 0 0	19 10 10 11 17 30 29
TO N NNE NE ENE ESE SSE	FROM S SSW SW WSW W	1-3 0 0 0 0 0 0	6 3 4 4 5	8-12 10 4 5 6 9 16 13 2	13-18 3 3 1 1 3 4	19-24 0 0 0 0 0 0	0 0 0 0 0	19 10 10 11 17 30 29 13
TO N NNE NE ENE ESE SSE	FROM S SSW SW WSW WNW NW	1-3 0 0 0 0 0 0 2	6 3 4 4 5 8 11	8-12 10 4 5 6 9 16 13	13-18 3 3 1 1 3 4 5	19-24 0 0 0 0 0 0 0	0 0 0 0 0	19 10 10 11 17 30 29 13 8
TO N NNE NE ENE E SE SSE SSE	FROM S SSW SW WSW WNW NNW	1-3 0 0 0 0 0 0 2 0	6 3 4 4 5 8 11 9	8-12 10 4 5 6 9 16 13 2	13-18 3 3 1 1 3 4 5	19-24 0 0 0 0 0 0 0	0 0 0 0 0 0	19 10 10 11 17 30 29 13
TO NNE NE ENE ESE SSE SSE	FROM S SSW SW WSW WNW NNW NNW N	1-3 0 0 0 0 0 0 2 0 1 1	6 3 4 4 5 8 11 9	8-12 10 4 5 6 9 16 13 2 3	13-18 3 3 1 1 2 4 5 1	19-24 0 0 0 0 0 0 0 0	0 0 0 0 0 0	19 10 10 11 17 30 29 13 8
TO NNE NE ENE ESE SSE SSE SSW SW	FROM S SSW SW WSW WNW NNW NNW NNW NNW	1-3 0 0 0 0 0 0 2 0 1 1	6 3 4 4 5 8 11 9 4 2	8-12 10 4 5 6 9 16 13 2 3 1	13-18 3 3 1 1 3 4 5 1 0 0	19-24 0 0 0 0 0 0 0 0	0 0 0 0 0 0	19 10 10 11 17 30 29 13 8
TO N NNE NE ENE ESE SSE SSE SSW SW WSW	FROM S SSW SW WSW WNW NNW NNW NNW NNW NNE NE	1-3 0 0 0 0 0 2 0 1 1 0	6 3 4 4 5 8 11 9 4	8-12 10 4 5 6 9 16 13 2 3 1 9 12	13-18 3 3 1 1 3 4 5 1 0 0	19-24 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	19 10 10 11 17 30 29 13 8 3
TO N NNE NE ENE ESE SSE SSE SSW SSW WSW W	FROM S SSW SW WSW WNW NNW NNW NNE ENE E	1-3 0 0 0 0 0 0 2 0 1 1 0 0 0	6 3 4 4 5 8 11 9 4 2 14 9	8-12 10 4 5 6 9 16 13 2 3 1 9 12 4	13-18 3 3 1 1 3 4 5 1 0 0 1 2 0	19-24 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	19 10 10 11 17 30 29 13 8 3 24 23 14
	FROM S SSW SW WSW WNW NNW NNW NNE ENE ESE	1-3 0 0 0 0 0 0 2 0 1 1 0 0 0	6 3 4 4 5 8 11 9 4 2 14 9 10 4	8-12 10 4 5 6 9 16 13 2 3 1 9 12 4	13-18 3 1 1 3 4 5 1 0 0 1 2 0 0	19-24 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	19 10 10 11 17 30 29 13 8 3 24 23
TO N NNE NE ENE ESE SSE SSW SW WSW W	FROM S SSW SW WSW WNW NNW NNW NNE ENE E	1-3 0 0 0 0 0 0 2 0 1 1 0 0 0	6 3 4 4 5 8 11 9 4 2 14 9	8-12 10 4 5 6 9 16 13 2 3 1 9 12 4	13-18 3 3 1 1 3 4 5 1 0 0 1 2 0	19-24 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	10 10 11 17 30 29 13 8 3 24 23 14 8

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS C

				WIN	D SPEED			
SECTOR								
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	s	0 .	3	6	2	0	0	11
NNE	SSW	1	1	3	3	0	0	8
NE	SW	1	4	0	1	0	0	6
ENE	WSW	0	2	0	0	0	0	2
E	W	0	1	4	4	0	0	9
ESE	WNW	0	1	2	0	0	0	3
SE	NW	0	5	5	2	0	0	12
SSE	NNW	0	5	5	1	0	0	11
S	N	0	4	0	0	0	0	4
SSW	NNE	1	3	Ō	Ō	Ō	0	4
SW	NE	0	10	4	Ö	Ō	Ō	14
WSW	ENE	1	10	6	Ö	Ö	Ō	17
W	E	Ō	6	3	Ō	Ō	Ö	9
WNW	ESE	0	3	2	Ö	Ö	Ö	5
NW	SE	Ō	3	5	Ö	Ö	Ö	8
NNW	SSE	ì	4	5	Ö	Ö	Ö	10
		_	-		_	-	_	
DOD 3 T			<u> </u>	ΕΛ	13	0	0	133
TOTAL STABIL	ITY CL	5 ASS D	65	50				
	ITY CL				ID SPEED			
STABIL:		ASS D						
STABIL:		ASS D	4-7				>24	TOTAL
SECTOR TO	WINDS FROM S	1-3	4-7 34	WIN 8-12 48	ID SPEED 13-18 8	19-24	>24	TOTAL 98
SECTOR TO N	WINDS FROM S	1-3 7 3	4-7 34 33	WIN 8-12 48 39	ID SPEED 13-18 8 2	19-24 1 1	>24 0 1	TOTAL 98 79
SECTOR TO N NNE NE	WINDS FROM S	1-3 7 3	4-7 34	WIN 8-12 48 39 13	ID SPEED 13-18 8 2 1	19-24	>24	TOTAL 98 79 34
SECTOR TO N NNE NE ENE	WINDS FROM S	1-3 7 3 3 8	4-7 34 33	WIN 8-12 48 39	ID SPEED 13-18 8 2	19-24 1 1	>24 0 1	TOTAL 98 79 34 41
SECTOR TO NNE NE ENE E	WINDS FROM S SSW SW WSW W	1-3 7 3 3 8 3	4-7 34 33 17 14 11	WIN 8-12 48 39 13 16 16	13-18 8 2 1 3 18	19-24 1 1 0 0	>24 0 1 0	TOTAL 98 79 34 41 49
SECTOR TO NNE NE ENE E	WINDS FROM S SSW SW WSW W	1-3 7 3 3 8	4-7 34 33 17 14 11 23	WIN 8-12 48 39 13 16	13-18 8 2 1 3 18 16	19-24 1 1 0	>24 0 1 0	TOTAL 98 79 34 41 49 80
SECTOR TO N NNE NE ENE E	WINDS FROM S SSW SW WSW W	1-3 7 3 3 8 3 6 4	4-7 34 33 17 14 11	WIN 8-12 48 39 13 16 16	13-18 8 2 1 3 18 16 11	19-24 1 1 0 0	>24 0 1 0 0	TOTAL 98 79 34 41 49 80 82
SECTOR TO N NNE NE ENE ESE SSE	WINDS FROM S SSW SW WSW W	1-3 7 3 3 8 3 6	4-7 34 33 17 14 11 23 32 29	WIN 8-12 48 39 13 16 16 35	13-18 8 2 1 3 18 16	19-24 1 1 0 0 1	>24 0 1 0 0 0	TOTAL 98 79 34 41 49 80 82 53
SECTOR TO N NNE NE ENE E ESE SSE SSE	WINDS FROM S SSW SW WSW WSW WNW	1-3 7 3 3 8 3 6 4 5	4-7 34 33 17 14 11 23 32 29 35	WIN 8-12 48 39 13 16 16 35 34	13-18 8 2 1 3 18 16 11	19-24 1 1 0 0 1	>24 0 1 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46
SECTOR TO N NNE NE ENE E ESE SSE SSE	WINDS FROM S SSW SW WSW WNW NNW	1-3 7 3 8 3 6 4 5	4-7 34 33 17 14 11 23 32 29	WIN 8-12 48 39 13 16 16 35 34 17	ID SPEED 13-18 8 2 1 3 18 16 11 2	19-24 1 1 0 0 1 0	>24 0 1 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46 67
STABIL: SECTOR TO N NNE NE ENE ESE SSE SSSE SSSW	WINDS FROM S SSW SW WSW WNW NNW	1-3 7 3 3 8 3 6 4 5	4-7 34 33 17 14 11 23 32 29 35	WIN 8-12 48 39 13 16 16 35 34 17	13-18 8 2 1 3 18 16 11 2 0	19-24 1 1 0 0 1 0 1	>24 0 1 0 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46
STABIL: SECTOR TO NNE NE ENE ESE SSE SSE SSW SW	WINDS FROM S SSW SW WSW WNW NNW NNW	1-3 7 3 3 8 3 6 4 5 7	4-7 34 33 17 14 11 23 32 29 35 40	WIN 8-12 48 39 13 16 16 35 34 17 4	13-18 8 2 1 3 18 16 11 2	19-24 1 1 0 0 1 0 1 0 0	>24 0 1 0 0 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46 67
STABIL: SECTOR TO NNE NE ENE ESE SSE SSE SSW SW WSW	WINDS FROM S SSW SW WSW WNW NNW NNW NNW	1-3 7 3 3 8 3 6 4 5 7 13 20	4-7 34 33 17 14 11 23 32 29 35 40 89	WIN 8-12 48 39 13 16 16 35 34 17 4 14 66	13-18 8 2 1 3 18 16 11 2 0	19-24 1 1 0 0 1 0 1 0 0	>24 0 1 0 0 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46 67 184
STABIL: SECTOR TO N NNE NE ENE ESE SSE SSE SSW SSW WSW W	WINDS FROM SSW SSW WSW WNW NNW NNW NNW NNE NE ENE	1-3 7 3 8 3 6 4 5 7 13 20 6	4-7 34 33 17 14 11 23 32 29 35 40 89 61	WIN 8-12 48 39 13 16 16 35 34 17 4 14 66 54	13-18 8 2 1 3 18 16 11 2 0 9	19-24 1 1 0 0 1 0 1 0 0 0 0 0 0	>24 0 1 0 0 0 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46 67 184 123
STABIL:	WINDS FROM S SSW SW WSW WNW NNW NNW NNE NE ENE E	1-3 7 3 8 3 6 4 5 7 13 20 6	4-7 34 33 17 14 11 23 32 29 35 40 89 61 31	WIN 8-12 48 39 13 16 16 35 34 17 4 14 66 54 22	ID SPEED 13-18 8 2 1 3 18 16 11 2 0 9 2 4	19-24 1 1 0 0 1 0 1 0 0 0 0 0 0 0 0	>24 0 1 0 0 0 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46 67 184 123 58
STABIL: SECTOR TO N NNE NE ENE ESE SSE SSE SSW SSW WSW W	WINDS FROM S SSW SW WSW WNW NNW NNE NE ENE ESE	1-3 7 3 8 3 6 4 5 7 13 20 6 1	4-7 34 33 17 14 11 23 32 29 35 40 89 61 31 18	WIN 8-12 48 39 13 16 16 35 34 17 4 14 66 54 22 14	ID SPEED 13-18 8 2 1 3 18 16 11 2 0 9 2 4 4	19-24 1 1 0 0 1 0 0 0 0 0	>24 0 1 0 0 0 0 0 0 0 0	TOTAL 98 79 34 41 49 80 82 53 46 67 184 123 58

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS E

				WIN	D SPEED	•		
SECTOR			4 – 7	0-12	12_10	10-24	>24	TOTAL
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	17	29	18	2	1	1	68
NNE	SSW	11	46	20	5	2	0	84
NE	SW	17	54	17	2	0	0	90
ENE	WSW	28	57	6	ī	Ö	Ō	92
E	W	14	54	4	3	Ö	Ō	75
ESE	WNW	22	71	- 59	4	Ö	Ŏ	156
SE	NW	23	64	25	2	Ö	Ö	114
SSE	NNW	15	33	12	ō	Ŏ	ŏ	60
S	N	13	14	3	Ŏ	Ö	Ö	30
SSW	NNE	17	9	2	Ö	0	ŏ	28
SW SW	NE	11	9 26	2 5	4	0	0	46
SW WSW	ENE						0	35
		9	19 22	6	1	0		
W	E	12	32	6	0	0	0	50 10
WNW	ESE	7	7	4	1	0	0	19
NW	SE	6	13	4	0	1	0	24
NNW	SSE	12	18	14	7	1	0	52
TOTAL -		234	546	205	32	5	<u> </u>	1023
STABIL	ITY CL	ASS F						
				WIN	ID SPEED	<u>.</u>		
SECTOR	WINDS							moma r
			4-7	WIN 8-12	ID SPEED	19-24	>24	TOTAL
SECTOR TO	WINDS		4-7				>24	TOTAL
STABILI SECTOR TO N NNE	WINDS FROM	1-3		8-12	13-18	19-24		
SECTOR TO N NNE	WINDS FROM S	1-3	1	8 - 12 2	13-18 0	19-24 0	0	10
SECTOR TO N NNE NNE	WINDS FROM S	1-3 7 14	1 5	8-12 2 0	13-18 0 0	19-24 0 0	0	10 19
SECTOR TO N NNE NE ENE	WINDS FROM S SSW SW	1-3 7 14 9	1 5 21	8-12 2 0 4	13-18 0 0 0	19-24 0 0 0	0 0 0	10 19 34
SECTOR TO N NNE NE ENE E	WINDS FROM S SSW SSW WSW WSW	1-3 7 14 9 29 33	1 5 21 41 29	8-12 2 0 4 0	13-18 0 0 0 0	19-24 0 0 0 0	0 0 0	10 19 34 70 62
SECTOR TO N NNE NE ENE E ESE	WINDS FROM S SSW SW WSW W	1-3 7 14 9 29 33 15	1 5 21 41 29 24	8-12 2 0 4 0 0	13-18 0 0 0 0 0 0	19-24 0 0 0 0 0 0	0 0 0 0	10 19 34 70 62 39
SECTOR TO N NNE NE ENE ENE ESE SE	WINDS FROM S SSW SW WSW WNW	1-3 7 14 9 29 33 15 13	1 5 21 41 29 24	8-12 2 0 4 0 0 0	13-18 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0	0 0 0 0 0	10 19 34 70 62 39 27
SECTOR TO N NNE NE ENE ESE SSE	WINDS FROM S SSW SW WSW WNW WNW	1-3 7 14 9 29 33 15 13 18	1 5 21 41 29 24 13	8-12 2 0 4 0 0 0	13-18 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0	0 0 0 0 0	10 19 34 70 62 39 27 26
SECTOR TO N NNE NE ENE E SSE SSE	WINDS FROM S SSW SW WSW WNW NNW NNW	1-3 7 14 9 29 33 15 13 18 4	1 5 21 41 29 24 13 8	8-12 2 0 4 0 0 0 1	13-18 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0	0 0 0 0 0 0	10 19 34 70 62 39 27 26 7
SECTOR TO NNE NE ENE E SSE SSE SSSW	WINDS FROM S SSW SW WSW WNW NNW NNW	1-3 7 14 9 29 33 15 13 18 4	1 5 21 41 29 24 13 8 3	8-12 2 0 4 0 0 0 1 0 0	13-18 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0	0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6
SECTOR TO NNE NE ENE E SSE SSE SSW SW	WINDS FROM SSW SSW WSW WNW NNW NNW NNW	1-3 7 14 9 29 33 15 13 18 4 6 4	1 5 21 41 29 24 13 8 3 0	8-12 2 0 4 0 0 0 1 0 0	13-18 0 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6
SECTOR TO N NNE ENE ESE SSE SSE SSW SW WSW	WINDS FROM SSW SSW WSW WNW NNW NNW NNW NNE NE ENE	1-3 7 14 9 29 33 15 13 18 4 6 4	1 5 21 41 29 24 13 8 3 0	8-12 2 0 4 0 0 0 1 0 0 0	13-18 0 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6 8
SECTOR TO N NNE ENE E SSE SSE SSW SSW WSW W	WINDS FROM SSW SSW WSW WNW NNW NNW NNE NE ENE E	1-3 7 14 9 29 33 15 13 18 4 6 4	1 5 21 41 29 24 13 8 3 0	8-12 2 0 4 0 0 0 1 0 0 0 0	13-18 0 0 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6 8 4
SECTOR TO N NNE NE ENE ESE SSE SSE SSW SW WSW W	WINDS FROM SSW SSW WSW WNW NNW NNE ENE ESE	1-3 7 14 9 29 33 15 13 18 4 6 4 2 2	1 5 21 41 29 24 13 8 3 0 4 2 2	8-12 2 0 4 0 0 0 1 0 0 0 0 0	13-18 0 0 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6 8 4 4
SECTOR TO NNE NE ENE ESE SSE SSW SW WSW WSW WNW NW	WINDS FROM S SSW SW WSW WNW NNW NNE NE ENE ESE SE	1-3 7 14 9 29 33 15 13 18 4 6 4 2 2 2	1 5 21 41 29 24 13 8 3 0 4 2 2 3	8-12 2 0 4 0 0 0 1 0 0 0 0 0 0	13-18 0 0 0 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6 8 4 4 5
SECTOR TO NNE NE ENE ESE SSE SSW SW WSW WNW	WINDS FROM SSW SSW WSW WNW NNW NNE ENE ESE	1-3 7 14 9 29 33 15 13 18 4 6 4 2 2	1 5 21 41 29 24 13 8 3 0 4 2 2	8-12 2 0 4 0 0 0 1 0 0 0 0 0	13-18 0 0 0 0 0 0 0 0 0 0	19-24 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	10 19 34 70 62 39 27 26 7 6 8 4 4

HOURS AT EACH WIND SPEED AND DIRECTION PERIOD OF RECORD 92010100 TO 92063023 STABILITY CLASS G

				WIN	D SPEED)		
SECTOR TO	WINDS FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	7	1	0	0	0	0	8
NNE	SSW	13	6	0	0	0	0	19
NE	SW	25	14	0	0	0	0	39
ENE	WSW	94	51	0	0	0	0	145
E	W	102	46	0	1	0	0	149
ESE	WNW	50	9	0	0	0	0	59
SE	NW	46	14	0	0	0	0	60
SSE	NNW	30	18	0	0	0	0	48
S	N	11	3	0	0	0	0	14
SSW	NNE	5	1	0	0	0	0	6
SW	NE	4	1	0	0	0	0	5
WSW	ENE	3	0	0	0	0	0	3
W	E	4	1	0	0	0	0	5
WNW	ESE	2	1	0	0	0	0	3
NW	SE	1	2	0	0	0	0	3
NNW	SSE	3	1	0	0	0	0	4
TOTAL		400	169	0	1	0	0	570
STABIL	ITY CL	ASS AL	L					
				WIN	ID SPEED)		
SECTOR								mama 1
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAI
N	s	39	82	106	68	3	1	299
NNE	SSW	42	97	76	24	3	1	243
NE	SW	56	124	47	11	0	0	238
		1 = 0				_	_	400

				WIN	D SPEED	•		
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	39	82	106	68	3	1	299
NNE	SSW	42	97	76	24	3	1	243
NE	SW	56	124	47	11	0	0	238
ENE	WSW	159	182	51	16	0	0	408
E	W	152	156	60	42	1	0	411
ESE	WNW	95	151	167	41	0	0	454
SE	NW	87	147	152	58	2	0	446
SSE	NNW	69 .	116	72	10	0	0	267
S	N	36	73	20	0	0	0	129
SSW	NNE	44	64	23	0	0	0	131
SW	NE	39	162	109	18	0	0	328
WSW	ENE	22	123	131	10	0	0	286
W	E	19	102	86	5	0	0	212
WNW	ESE	12	61	51	5	0	0	129
NW	SE	14	64	82	2	1	0	163
NNW	SSE	26	55	102	29	2	0	214
TOTAL		911	1759	1335	339	12	2	4358
HOURS	OF MIS	SING/IN	VALID 1	DATA:	10			

Changes to the PCP and ODCM

During the First Half 1992 the Process Control Plan (PCP) was modified to remove the CNSI solidification and dewatering procedures from the PCP and place them into separate procedures. Changes to the new CNSI procedures will be reviewed in accordance with normal procedure review and approval methods. Administrative controls and valve lineups to deliver the waste to the CNSI solidification / dewatering remain in the PCP.

The Offsite Dose Calculation Manual (ODCM) was modified to place its document structure into corporate required procedural format. No changes to the technical content were made.

Instruments Out Of Service

During the First Half of 1992 two instruments required by Tech. Specs. were out of service for longer than 30 days, the Service Water Rad. Monitor and the Overboard Discharge Monitor.

The Overboard Discharge Monitor has been long out of service and is in the process of being refurbished for return to service. No overboard discharges through that path occurred during the period from January through June of 1992.

The Service Water Rad. Monitor was out of service repeatedly as a result of mechanical failures and biological fouling of the equipment. The monitor is being refurbished for return to service. Daily station dicharge samples are collected as required while the monitor is out of service.