North Atlantic

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The Northeast Utilities System

October 17, 2002
Docket No. 50-443
NYN-02067

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Seabrook Station
Correction to Annual Radioactive Effluent Release Report Letters

In a letter dated April 30, 2002 (NYN-02043), North Atlantic Energy Service Corporation (North Atlantic) submitted the Annual Radioactive Effluent Release Report. A subsequent North Atlantic review of the calculation supporting the letter identified a minor error in Enclosure 3, Radiation Dose Assessment, Page 8, Table A, "Maximum Offsite Doses and Dose Commitments to Members of the Public." Enclosure 1 provides a copy of the originally submitted pages with the incorrect information annotated. Revised pages are provided in Enclosure 2.

In letters dated April 27, 2000 (NYN-00037), April 27, 2001 (NYN-01038), and April 30, 2002 (NYN-02043), North Atlantic submitted the Annual Radioactive Effluent Release Reports for the years 1999, 2000, and 2001. During a quality assurance audit, it was determined that material shipped to a waste processing vendor and subsequently disposed of at a licensed burial site was not reported in Enclosure 1, "Effluent Release Data as Required by Regulatory Guide 1.21," Table 3, "Effluent and Waste Disposal Annual Report ... Solid Waste and Irradiated Fuel Shipments." Enclosure 3 provides a copy of the originally submitted pages with the changed information annotated. Revised pages are provided in Enclosure 4.

Should you require further information regarding this matter, please contact Mr. Peter J. Harvey, Manager – Chemistry Department at (603) 773-7320.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.

Gene F. St. Pierre
Station Director

IE48

cc: H. J. Miller, NRC Region I Administrator
R. D. Starkey, NRC Project Manager, Project Directorate I-2
G. T. Dentel, NRC Senior Resident Inspector

ENCLOSURE 1 TO NYN-02067

INCORRECT Information

Table A

Seabrook Station
2001 Annual Radioactive Effluent Release Report

Maximum[a] Off-Site Doses and Dose Commitments to Members of the Public

		Dose (mrem)[b]				
Release Type		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year[c]
Liquid Effluents:						
Total Body Dose		1.51E-04 (1)	4.28E-05 (2)	4.22E-05 (1)	8.45E-05 (1)	3.21E-04
Organ Dose		6.11E-04 (3)	1.88E-04 (3)	1.62E-04 (3)	2.50E-04 (4)	1.21E-03
Airborne Effluents:						
Organ Dose from Iodines, Tritium, and Particulates		6.13E-03 (5)	6.56E-03 (5)	3.66E-03 (6)	2.66E-03 (7)	1.90E-02
Noble Gases	Beta Air (mrad)	6.90E-05 (8)	1.07E-05 (9)	1.05E-03 (10)	4.85E-04 (11)	1.61E-03
	Gamma Air (mrad)	1.15E-04 (12)	1.46E-05 (10)	4.27E-04 (10)	1.84E-04 (11)	7.41E-04
Doses (mrem) at Receptor Locations Inside Site Boundary[d]:						
Science and Nature Center (SW, 488m): Organ Dose (mrem)		5.18E-06 (d1)	5.26E-06 (d1)	2.18E-06 (d1)	1.69E-06 (d1)	1.43E-05
The "Rocks" (NE/ENE, 244m): Organ Dose (mrem)		1.32E-04 (d1)	1.30E-04 (d1)	1.77E-04 (d1)	1.73E-04 (d1)	6.12E-04
Direct Dose From Plant Operation[e]						0

Table B

Seabrook Station
2001 Annual Radioactive Effluent Release Report

Incorrect Information

Total Dose to Maximum Off-Site Individual
(40CFR190)

Release Source	Total Body (mrem)	Maximum Organ[a] (mrem)
Liquids	3.21E-04	1.21E-03
Noble Gases	4.54E-04	4.54E-04
Gas Iodines, Tritium & Particulates	1.90E-02	1.90E-02
Direct Radiation	0.00E+00	0.00E+00
Annual Total	1.98E-02	2.07E-02

(a) Maximum organ includes consideration of the thyroid.

Incorrect Information

Table C

Seabrook Station
2001 Annual Radioactive Effluent Release Report

Calculated 2001 Maximum Doses Versus Applicable Limits

Receptor	Applicable ODCM Control	ODCM Annual Limit		Calculated Annual (2001) Dose		Percent of Limit
Offsite						
Liquid Effluents						
Whole Body Dose	C.6.2.1.b	3	mrem	3.21e-04	mrem	0.01%
Organ Dose	C.6.2.1.b	10	mrem	1.21e-03	mrem	0.01%
Airborne Effluents						
Organ Dose (iodines, tritium, and part.)	C.7.3.1.b	15	mrem	1.90e-02	mrem	0.13%
Gamma Air Dose (noble gases)	C.7.2.1.b	10	mrad	7.41e-04	mrad	0.007%
Beta Air Dose (noble gases)	C.7.2.1.b	20	mrad	1.61e-03	mrad	0.008%
All Plant Sources (a)						
Whole Body Dose	C.8.1.1	25	mrem	1.98e-02	mrem	0.08%
Organ Dose	C.8.1.1	25	mrem	2.07e-02	mrem	0.08%
Onsite (Science and Nature Center, 488m SW)						
Airborne Effluents						
Organ Dose (iodines, tritium, and part.)	C.7.3.1.b(b)	15	mrem	1.43e-05	mrem	0.0001%
Onsite (The "Rocks", 244m NE/ENE)						
Airborne Effluents						
Organ Dose (iodines, tritium, and part.)	C.7.3.1.b(b)	15	mrem	6.12e-04	mrem	0.004%

(a) The "all plant sources" doses are the sum of the whole body doses and maximum organ doses from liquid, noble gas, and iodines/tritium/particulate releases as well as direct radiation from fixed station sources.

(b) ODCM Part A, Section 10.2 states that the annual effluent report shall include an assessment of the radiation doses from radioactive liquids and gaseous effluents to members of the public due to their activities inside the site boundary during the report period. The referenced limits (C.7.2.1.b & C.7.3.1.b) are the acceptable doses from liquid and gaseous effluents to areas at and beyond the site boundary and are considered to be appropriate for comparison purposes.

ENCLOSURE 2 TO NYN-02067

Table A

Seabrook Station
2001 Annual Radioactive Effluent Release Report

Maximum[a] Off-Site Doses and Dose Commitments to Members of the Public

		Dose (mrem)[b]				
Release Type		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year[c]
Liquid Effluents:						
Total Body Dose		1.51E-04 (1)	4.28E-05 (2)	4.22E-05 (1)	8.45E-05 (1)	3.21E-04
Organ Dose		6.11E-04 (3)	1.88E-04 (3)	1.98E-04 (4)	2.50E-04 (4)	1.25E-03
Airborne Effluents:						
Organ Dose from Iodines, Tritium, and Particulates		6.13E-03 (5)	6.56E-03 (5)	3.66E-03 (6)	2.66E-03 (7)	1.90E-02
Noble Gases	Beta Air (mrad)	6.90E-05 (8)	1.07E-05 (9)	1.05E-03 (10)	4.85E-04 (11)	1.61E-03
	Gamma Air (mrad)	1.15E-04 (12)	1.46E-05 (10)	4.27E-04 (10)	1.84E-04 (11)	7.41E-04
Doses (mrem) at Receptor Locations Inside Site Boundary[d]:						
Science and Nature Center (SW, 488m): Organ Dose (mrem)		5.18E-06 (d1)	5.26E-06 (d1)	2.18E-06 (d1)	1.69E-06 (d1)	1.43E-05
The "Rocks" (NE/ENE, 244m): Organ Dose (mrem)		1.32E-04 (d1)	1.30E-04 (d1)	1.77E-04 (d1)	1.73E-04 (d1)	6.12E-04
Direct Dose From Plant Operation[e]						0

Table B

Seabrook Station
2001 Annual Radioactive Effluent Release Report

Total Dose to Maximum Off-Site Individual
(40CFR190)

Release Source	Total Body (mrem)	Maximum Organ(a) (mrem)
Liquids	3.21E-04	1.25E-03
Noble Gases	4.54E-04	4.54e-04
Gas Iodines, Tritium & Particulates	1.90E-02	1.90E-02
Direct Radiation	0.00E+00	0.00E+00
Annual Total	1.98e-02	2.07e-02

(a) Maximum organ includes consideration of the thyroid.

Table C

Seabrook Station
2001 Annual Radioactive Effluent Release Report

Calculated 2001 Maximum Doses Versus Applicable Limits

Receptor	Applicable ODCM Control	ODCM Annual Limit	Calculated Annual (2001) Dose	Percent of Limit
Offsite				
Liquid Effluents				
Whole Body Dose	C.6.2.1.b	3 mrem	3.21e-04 mrem	0.01%
Organ Dose	C.6.2.1.b	10 mrem	1.25e-03 mrem	0.01%
Airborne Effluents				
Organ Dose (iodines, tritium, and part.)	C.7.3.1.b	15 mrem	1.90e-02 mrem	0.13%
Gamma Air Dose (noble gases)	C.7.2.1.b	10 mrad	7.41e-04 mrad	0.007%
Beta Air Dose (noble gases)	C.7.2.1.b	20 mrad	1.61e-03 mrad	0.008%
All Plant Sources (a)				
Whole Body Dose	C.8.1.1	25 mrem	1.98e-02 mrem	0.08%
Organ Dose	C.8.1.1	25 mrem	2.07e-02 mrem	0.08%
Onsite (Science and Nature Center, 488m SW)				
Airborne Effluents				
Organ Dose (iodines, tritium, and part.)	C.7.3.1.b(b)	15 mrem	1.43e-05 mrem	0.0001%
Onsite (The "Rocks", 244m NE/ENE)				
Airborne Effluents				
Organ Dose (iodines, tritium, and part.)	C.7.3.1.b(b)	15 mrem	6.12e-04 mrem	0.004%

(a) The "all plant sources" doses are the sum of the whole body doses and maximum organ doses from liquid, noble gas, and iodines/tritium/particulate releases as well as direct radiation from fixed station sources.

(b) ODCM Part A, Section 10.2 states that the annual effluent report shall include an assessment of the radiation doses from radioactive liquids and gaseous effluents to members of the public due to their activities inside the site boundary during the report period. The referenced limits (C.7.2.1.b & C.7.3.1.b) are the acceptable doses from liquid and gaseous effluents to areas at and beyond the site boundary and are considered to be appropriate for comparison purposes.

ENCLOSURE 3 TO NYN-02067

TABLE 3
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 1999
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Corrected Format

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not Irradiated Fuel)

1. Type of waste (no shipment made)	Unit	Est. total error %
a. Spent resins, filter sludges, evaporator bottoms, etc.	23.3 m^3 82.1 Ci	2.00 E+01
b. Dry compressible waste, contaminated equip., etc.	0 m^3 0 Ci	NA
c. Irradiated components, control rods, etc.	0 m^3 0 Ci	NA
d. Other (describe) Dewatered Cartridge Filters	4.72 m^3 65.3 Ci	2.88 E+01

2. Estimate of major nuclide composition (by type of waste)

a.

Nuclide	%	Ci
H-3	0.84	6.93E-01
Mn-54	0.10	8.28E-02
Fe-55	6.00	4.93E+00
Co-57	0.04	3.64E-02
Co-58	4.95E-03	4.06E-03
Co-60	5.76	4.73E+00
Ni-63	86.84	7.13E+01
Sb-125	0.09	7.34E-02
Cs-134	0.12	9.89E-02
Cs-137	0.19	1.59E-01
Zr-95	6.54E-07	5.37E-07
Nb-95	1.89E-08	1.55E-08

deleted information

deleted information

Corrected Format

b.

Nuclide	%	Ci
NA	NA	NA

Corrected format

c.

NA	NA	NA

d

	Corrected Format	deleted information
H-3	0.01	4.19E-03
Cr-51	0.07	4.73E-02
Mn-54	0.62	4.04E-01
Fe-55	64.76	4.23E+01
Fe-59	2.77E-03	1.81E-03
Co-57	0.05	3.54E-02
Co-58	1.01	6.57E-01
Co-60	12.77	8.34E+00
Ni-63	18.29	1.20E+01
Zr-95	0.05	3.13E-02
Nb-95	0.03	1.68E-02
Ag-110m	1.86E-03	1.21E-03
Sn-113	0.01	9.14E-03
Sb-125	0.01	6.54E-03
Cs-134	0.02	1.43E-02
Cs-137	2.30	1.50E+00

3. Solid Waste Disposition

Number of shipments	Mode of Transportation	Destination
6	Flatbed Truck	Chem Nuclear – Barnwell, S.C.

Missing Information Provided

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
0	NA	NA

Corrected Data

TABLE 3
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 2000
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste		Unit	Est. Total Error, %
a.	Spent resins, filter sludges, evaporator Bottoms, etc.	21.9 m^3 403.2 Ci	2.00E+01
b.	Dry compressible waste, contaminated Equip, etc.	0 m^3 0 Ci	NA
c.	Irradiated components, control Rods, etc.	0 m^3 0 Ci	NA
d.	Other (describe)	0 m^3 0 Ci	NA

Corrected Format and Inaccurate Information provided for Type a and b waste.

2. Estimate of major nuclide composition (by waste type)

	Nuclide	%	Ci
a.	H-3	0.08	3.27E-01
	C-14	0.04	1.55E-01
	Mn-54	1.31	5.28E+00
	Fe-55	11.92	4.81E+01
	Co-57	0.08	3.19E-01
	Co-58	0.11	4.31E-01
	Co-60	11.53	4.65E+01
	Ni-59	0.12	5.01E-01
	Ni-63	68.33	2.76E+02
	Sr-89	1.16E-04	4.68E-04
	Sr-90	0.02	6.37E-02
	Sb-125	0.18	7.13E-01
	Cs-134	1.88	7.58E+00
	Cs-137	3.94	1.59E+01
	Ce-144	0.46	1.87E+00
	Pu-238	6.09E-05	2.46E-04
	Pu-239	4.40E-05	1.78E-04
	Pu-241	4.02E-03	1.62E-02
	Am-241	1.84E-05	7.41E-05
	Cm-242	6.72E-06	2.71E-05
	Cm-243	2.94E-03	1.19E-02
b.	NA	NA	NA
c.	NA	NA	NA
d.	NA	NA	NA

Corrected Format and updated Values

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
5	Flatbed Truck	Chem-Nuclear Barnwell, SC

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Missing Information Provided

Number of Shipments	Mode of Transportation	Destination
NA	NA	NA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste		Unit	Est. Total Error, %
a.	Spent resins, filter sludges, evaporator Bottoms, etc.	6.81 m^3 77.6 Ci	2.00E+01
b.	Dry compressible waste, contaminated Equip, etc.	25.28 m^3 5.0 Ci	2.50E+01
c.	Irradiated components, control Rods, etc.	0 m^3 0 Ci	NA
d.	Other (describe): Dewatered Cartridge Filters	7.09 m^3 122.8 Ci	2.88E+01

Corrected Format and Inaccurate Information provided for Type a and b waste.

2. Estimate of major nuclide composition (by waste type)

	Nuclide	%	Ci
a.	H-3	6.77E-02	5.25E-02
	C-14	1.25E-02	9.70E-03
	Mn-54	1.96E+00	1.52E+00
	Fe-55	1.76E+00	1.37E+00
	Co-57	8.62E-02	6.69E-02
	Co-58	6.19E-02	4.80E-02
	Co-60	9.56E+00	7.42E+00
	Ni-59	4.15E-01	3.22E-01
	Ni-63	6.94E+01	5.38E+01
	Sr-89	3.43E-05	2.66E-05
	Sr-90	2.36E-02	1.83E-02
	Sb-125	3.18E-01	2.47E-01
	Cs-134	4.58E+00	3.55E+00
	Cs-137	1.12E+01	8.69E+00
	Ce-144	5.88E-01	4.56E-01
	Pu-238	4.59E-05	3.56E-05
	Pu-239	2.37E-05	1.84E-05
	Pu-241	2.86E-03	2.22E-03
	Am-241	1.23E-05	9.56E-06
	Cm-242	4.13E-06	3.20E-06
	Cm-243	1.54E-05	1.19E-05

	Nuclide	%	Ci
b.	Cr-51	7.75E-34	3.87E-35
	Mn-54	3.64E-01	1.82E-02
	Fe-55	2.12E+01	1.06E+00
	Fe-59	1.83E-21	9.13E-23
	Co-57	2.35E-02	1.17E-03
	Co-58	4.26E-01	2.13E-02
	Co-60	4.27E+00	2.13E-01
	Ni-63	7.09E+01	3.54E+00
	Zr-95	3.10E-02	1.55E-03
	Nb-95	2.68E-02	1.34E-03
	Sn-113	1.06E-02	5.29E-04
	Sb-125	2.67E-01	1.34E-02
	Cs-137	1.83E+00	9.15E-02
	Cs-134	6.82E-01	3.41E-02
	Ag-110m	1.47E-03	7.35E-05
c.	NA	NA	NA

Corrected format and updated values.

	Nuclide	%	Ci
d.	H-3	5.43E-01	6.66E-01
	Cr-51	3.63E-04	4.46E-04
	Mn-54	1.13E+00	1.39E+00
	Fe-55	6.07E+01	7.46E+01
	Fe-59	1.40E-04	1.72E-04
	Co-57	9.60E-02	1.18E-01
	Co-58	4.17E-01	5.12E-01
	Co-60	1.11E+01	1.36E+01
	Ni-63	2.51E+01	3.08E+01
	Zr-95	1.20E-02	1.47E-02
	Nb-95	9.13E-05	1.12E-04
	Sn-113	1.41E-03	1.74E-03
	Sb-125	1.43E-01	1.75E-01
	Cs-137	7.85E-01	9.63E-01

Corrected Format and updated values.

3. **Solid Waste Disposition**

Number of Shipments	Mode of Transportation	Destination
7	Truck	Chem-Nuclear Barnwell, SC
1	Truck	Duratek, Oak Ridge, TN

Inaccurate Information

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
NA	NA	NA

ENCLOSURE 4 TO NYN-02067

TABLE 3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 1999
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (Rev.01)

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste	Unit	1 year Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator Bottoms, etc.	m^3 Ci	2.33E+01 8.21E+01	2.00E+01
b. Dry compressible waste, contaminated Equip, etc.	m^3 Ci	NA	NA
c. Irradiated components, control Rods, etc.	m^3 Ci	NA	NA
d. Other (describe) Dewatered Cartridge Filters	m^3 Ci	4.72E+00 6.53E+01	2.88E+01

2. Estimate of major nuclide composition (by type of waste)

a.	H-3	%	8.40E-01
	Mn-54	%	1.00E-01
	Fe-55	%	6.00E+00
	Co-57	%	4.00E-02
	Co-58	%	4.95E-03
	Co-60	%	5.76E+00
	Ni-63	%	8.68E+01
	Sb-125	%	9.00E-02
	Cs-134	%	1.20E-01
	Cs-137	%	1.90E-01
	Zr-95	%	6.54E-07
	Nb-95	%	1.89E-08
b.		%	
		%	
c.		%	
d.	H-3	%	1.00E-02
	Cr-51	%	7.00E-02
	Mn-54	%	6.20E-01
	Fe-55	%	6.48E+01
	Fe-59	%	2.77E-03
	Co-57	%	5.00E-02
	Co-58	%	1.01E+00
	Co-60	%	1.28E+01
	Ni-63	%	1.83E+01
	Zr-95	%	5.00E-02
	Nb-95	%	3.00E-02
	Ag-110m	%	1.86E-03
	Sn-113	%	1.00E-02
	Sb-125	%	1.00E-02
	Cs-134	%	2.00E-02
	Cs-137	%	2.30E+00

3. **Solid Waste Disposition**

Number of Shipments	Mode of Transportation	Destination
6	Flatbed Truck	Chem-Nuclear Barnwell, SC
15	Flatbed Truck	GTS Duratek Oak Ridge, TN
1	Flatbed Truck	GTS Duratek Kingston, TN

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
NA	NA	NA

TABLE 3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 2000
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (Rev.01)

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste	Unit	1 year Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator Bottoms, etc.	m^3 Ci	4.00E+01 4.04E+02	2.88E+01
b. Dry compressible waste, contaminated Equip, etc.	m^3 Ci	1.78E+01 5.77E+00	2.88E+01
c. Irradiated components, control Rods, etc.	m^3 Ci	NA	NA
d. Other (describe):	m^3 Ci	NA	NA

2. Estimate of major nuclide composition (by type of waste)

a.

H-3	%	1.01E-01
C-14	%	3.83E-02
Mn-54	%	1.31E+00
Fe-55	%	1.19E+01
Co-57	%	7.89E-02
Co-58	%	1.07E-01
Co-60	%	1.15E+01
Ni-59	%	1.24E-01
Ni-63	%	6.83E+01
Sr-89	%	1.16E-04
Sr-90	%	1.58E-02
Zr-95	%	2.09E-08
Nb-95	%	3.88E-10
Sb-125	%	1.77E-01
Cs-134	%	1.88E+00
Cs-137	%	3.94E+00
Ce-144	%	4.64E-01
Pu-238	%	6.08E-05
Pu-239	%	4.40E-05
Pu-241	%	4.01E-03
Am-241	%	1.83E-05
Cm-242	%	6.71E-06
Cm-243	%	1.58E-05

b.

H-3	%	1.38E-02
Cr-51	%	7.02E-05
Mn-54	%	4.59E-02
Fe-55	%	3.76E+00
Fe-59	%	2.52E-04
Co-57	%	3.71E-03
Co-58	%	1.96E-01
Co-60	%	9.40E-01
Ni-63	%	9.18E+01

b.	Zn-65	%	5.38E-04
	Zr-95	%	1.28E-02
	Nb-95	%	5.21E-03
	Ag-110m	%	1.04E-03
	Sn-113	%	5.65E-03
	Sb-124	%	1.58E-04
	Sb-125	%	1.73E-02
	Cs-134	%	1.10E+00
	Cs-137	%	2.08E+00

c.		%	
		%	
		%	

d.		%	
		%	
		%	

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
5	Flatbed Truck	Chem-Nuclear Barnwell, SC
4	Truck	Duratek Oak Ridge, TN

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
NA	NA	NA

TABLE 3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (Rev.01)

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste	Unit	1 year Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator Bottoms, etc.	m^3 Ci	1.85E+01 7.83E+01	2.88E+01
b. Dry compressible waste, contaminated Equip, etc.	m^3 Ci	3.01E+01 1.16E+01	2.88E+01
c. Irradiated components, control Rods, etc.	m^3 Ci	NA	NA
d. Other (describe): Spent cartridge filters	m^3 Ci	7.09E+00 1.23E+02	2.88E+01

2. Estimate of major nuclide composition (by type of waste)

a.

H-3	%	2.71E-01
C-14	%	1.24E-02
Mn-54	%	1.95E+00
Fe-55	%	1.90E+00
Co-57	%	8.55E-02
Co-58	%	6.15E-02
Co-60	%	9.51E+00
Ni-59	%	4.11E-01
Ni-63	%	6.92E+01
Zr-95	%	6.09E-07
Nb-95	%	1.13E-08
Sr-89	%	3.40E-05
Sr-90	%	2.34E-02
Sb-125	%	3.18E-01
Cs-134	%	4.54E+00
Cs-137	%	1.11E+01
Ce-144	%	5.83E-01
Pu-238	%	4.55E-05
Pu-239	%	2.35E-05
Pu-241	%	2.84E-03
Am-241	%	1.22E-05
Cm-242	%	4.09E-06
Cm-243	%	1.52E-05

b.

H-3	%	4.52E-02
Cr-51	%	3.67E-24
Mn-54	%	2.37E-01
Fe-55	%	1.26E+01
Fe-59	%	7.85E-22
Co-57	%	2 12E-02
Co-58	%	7.82E-01
Co-60	%	2.43E+00
Ni-63	%	8.10E+01

b.

Zr-95	%	5.20E-02
Nb-95	%	2.48E-02
Sn-113	%	2.26E-02
Sb-125	%	1.15E-01
Cs-137	%	1.91E+00
Cs-134	%	8.16E-01
Ag-10m	%	3.96E-03

c.

	%	
	%	

d.

H-3	%	5.43E-01
Cr-51	%	3.63E-04
Mn-54	%	1.13E+00
Fe-55	%	6.07E+01
Fe-59	%	1.40E-04
Co-57	%	9.60E-02
Co-58	%	4.17E-01
Co-60	%	1.11E+01
Ni-63	%	2.51E+01
Zr-95	%	1.20E-02
Nb-95	%	9.13E-05
Sn-113	%	1.41E-03
Sb-125	%	1.43E-01
Cs-137	%	7.85E-01

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
7	Truck	Chem-Nuclear Barnwell, SC
2	Truck	Duratek Oak Ridge, TN

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
NA	NA	NA