

Attachment A

Effluent and Waste Disposal Semi-Annual Report,
Period January-June 1995

NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
License No. DPR-22

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Supplemental Information

1. Regulatory Limits - Quarterly levels requiring reporting to
Nuclear Regulatory Commission

A. Noble Gases :

5 mrad/quarter gamma radiation
10 mrad/quarter beta radiation

B. Long Lived Iodines, Particulates, and Tritium :

7.5 mrem/quarter dose to any organ

C. Liquid Effluents :

1.5 mrem/quarter dose to the total body
5.0 mrem/quarter dose to any organ

2. Maximum Permissible Concentrations

A. Noble Gases :

10 CFR Part 20, Appendix B, Table II, Column 1

B. Long Lived Iodines, Particulates, and Tritium :

10 CFR Part 20, Appendix B, Table II, Column 1

C. Liquid Effluents :

10 CFR Part 20, Appendix B, Table II, Column 2
2.0 E-4 uci/ml for dissolved and entrained gases

3. Average Energy

(Not Applicable)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Supplemental Information (continued)

4. Measurements and Approximations of Total Radioactivity

A. Noble Gases :

Continuous gross activity monitors in Reactor Building Vent and Plant Stack exhaust streams. Weekly isotopic analysis of exhaust streams.

B. Iodines in Gaseous Effluent :

Continuous monitoring with charcoal cartridges in Reactor Building Vent and Plant Stack exhaust streams with weekly analysis.

C. Particulates in Gaseous Effluent :

Continuous monitoring with particulate filters in Reactor Building Vent and Plant Stack exhaust streams with weekly analysis.

D. Tritium in Gaseous Effluent :

Continuous monitoring with silica gel cartridges in Reactor Building Vent and Plant Stack exhaust streams with weekly analysis.

E. Liquid Effluents :

Tank sample analyzed prior to each planned release and continuous monitoring of gross activity during planned release.

5. Batch Releases

A. Liquid :

1. Number of Batch Releases	0	
2. Total Time Period for Batch Releases	0.0	min
3. Maximum Time Period for a Batch Release	0.0	min
4. Average Time Period for a Batch Release	0.0	min
5. Minimum Time Period for a Batch Release	0.0	min
6. Average River Flow During Release	0.0	cf/sec

B. Gaseous :

1. Number of Batch Releases	0	
2. Total Time Period for Batch Releases	0.0	min
3. Maximum Time Period for a Batch Release	0.0	min
4. Average Time Period for a Batch Release	0.0	min
5. Minimum Time Period for a Batch Release	0.0	min

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Supplemental Information (continued)

6. Abnormal Releases

A. Liquid :

1. Number of Releases	0	
2. Total Activity Released	0.0	Ci

B. Gaseous :

1. Number of Releases	0	
2. Total Activity Released	0.0	Ci

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Table 1A Gaseous Effluents - Summation of all Releases

	Units	1st Qtr	2nd Qtr	Est. Total Error, %
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A. Fission & Activation gases

1. Total Release	Ci	1.04E+02	1.11E+02	2.00E+01
2. Average Release Rate	uci/sec	1.33E+01	1.41E+01	
3. Percent Tech Spec Qtrly Reporting Level				
Gamma Radiation	%	1.02E-01	9.52E-02	
Beta Radiation	%	2.58E-02	3.70E-02	

B. Iodines

1. Total I-131 Release	Ci	8.13E-04	9.52E-04	1.00E+01
2. Average I-131 Release Rate	uci/sec	1.04E-04	1.21E-04	

C. Particulates

1. Total Particulates	Ci	5.21E-04	4.26E-04	3.00E+01
2. Average Release Rate	uci/sec	6.70E-05	5.42E-05	
3. Gross Alpha Radioactivity	Ci	2.75E-06	5.41E-06	

D. Tritium

1. Total Release	Ci	1.12E+01	1.26E+01	1.00E+01
2. Average Release Rate	uci/sec	1.44E+00	1.60E+00	

E. Percent Qtrly Tech Spec Reporting Levels

1. Iodines, Particulates, and Tritium	%	1.48E-01	1.63E-01	
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EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Table 1B Gaseous Effluents - Elevated Releases

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		1st Qtr	2nd Qtr	1st Qtr	2nd Qtr

1. Fission Gases

KR-85M	Ci	0.00E+00	6.47E-02	0.00E+00	0.00E+00
KR-87	Ci	8.79E-01	8.08E-01	0.00E+00	0.00E+00
KR-88	Ci	5.95E-01	4.00E-01	0.00E+00	0.00E+00
KR-89	Ci	3.92E+00	2.97E+00	0.00E+00	0.00E+00
XE-133	Ci	2.60E+01	4.01E+01	0.00E+00	0.00E+00
XE-133M	Ci	2.65E-01	5.99E-01	0.00E+00	0.00E+00
XE-135	Ci	4.57E+00	4.89E+00	0.00E+00	0.00E+00
XE-135M	Ci	6.75E+00	6.07E+00	0.00E+00	0.00E+00
XE-137	Ci	3.21E+01	2.74E+01	0.00E+00	0.00E+00
XE-138	Ci	1.88E+01	1.62E+01	0.00E+00	0.00E+00
Total for Period	Ci	9.38E+01	9.94E+01	0.00E+00	0.00E+00

2. Iodines

I-131	Ci	2.18E-04	2.76E-04	0.00E+00	0.00E+00
I-133	Ci	1.06E-03	1.65E-03	0.00E+00	0.00E+00
I-135	Ci	1.26E-03	2.36E-03	0.00E+00	0.00E+00
Total for Period	Ci	2.55E-03	4.29E-03	0.00E+00	0.00E+00

3. Particulates

MN-54	Ci	8.06E-08	0.00E+00	0.00E+00	0.00E+00
CO-60	Ci	3.30E-06	3.56E-06	0.00E+00	0.00E+00
ZN-65	Ci	5.77E-07	6.04E-07	0.00E+00	0.00E+00
CS-137	Ci	5.57E-07	1.04E-06	0.00E+00	0.00E+00
BA-140	Ci	1.67E-04	1.23E-04	0.00E+00	0.00E+00
SR-89	Ci	4.97E-05	7.64E-06	0.00E+00	0.00E+00
SR-90	Ci	2.34E-07	3.59E-08	0.00E+00	0.00E+00
Total for Period	Ci	2.22E-04	1.36E-04	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Table 1C Gaseous Effluents - Building Vent Releases

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		1st Qtr	2nd Qtr	1st Qtr	2nd Qtr

1. Fission Gases

XE-133	Ci	0.00E+00	1.05E-01	0.00E+00	0.00E+00
XE-135	Ci	4.41E+00	8.61E+00	0.00E+00	0.00E+00
XE-135M	Ci	5.31E+00	3.01E+00	0.00E+00	0.00E+00
Total for Period	Ci	9.73E+00	1.17E+01	0.00E+00	0.00E+00

2. Iodines

I-131	Ci	5.95E-04	6.76E-04	0.00E+00	0.00E+00
I-133	Ci	4.25E-03	4.77E-03	0.00E+00	0.00E+00
I-135	Ci	4.80E-03	6.69E-03	0.00E+00	0.00E+00
Total for Period	Ci	9.64E-03	1.21E-02	0.00E+00	0.00E+00

3. Particulates

MN-54	Ci	1.25E-05	7.19E-06	0.00E+00	0.00E+00
CO-58	Ci	1.76E-06	0.00E+00	0.00E+00	0.00E+00
CO-60	Ci	1.04E-04	1.44E-04	0.00E+00	0.00E+00
ZN-65	Ci	1.50E-04	8.67E-05	0.00E+00	0.00E+00
CS-137	Ci	4.80E-06	3.61E-05	0.00E+00	0.00E+00
BA-140	Ci	1.85E-05	0.00E+00	0.00E+00	0.00E+00
SR-89	Ci	5.23E-06	8.02E-07	0.00E+00	0.00E+00
SR-90	Ci	2.36E-06	1.51E-05	0.00E+00	0.00E+00
Total for Period	Ci	2.99E-04	2.90E-04	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Table 2A Liquid Effluents - Summation of all Releases

	Units	1st Qtr	2nd Qtr	Est. Total Error, %
A. Fission & Activation products				
1. Total Release (not including tritium, gases, alpha)	Ci	0.00E+00	0.00E+00	0.00E+00
2. Avg Diluted Concentration	uci/ml	0.00E+00	0.00E+00	
B. Tritium				
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00
2. Avg Diluted Concentration	uci/ml	0.00E+00	0.00E+00	
C. Dissolved and Entrained Gases				
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00
2. Avg Diluted Concentration	uci/ml	0.00E+00	0.00E+00	
D. Percent Qtrly Tech Spec Reporting Level				
1. Whole Body Dose	%	0.00E+00	0.00E+00	
2. Organ Dose	%	0.00E+00	0.00E+00	
E. Gross Alpha Radioactivity				
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00
F. Volume of Waste Released				
	Liters	0.00E+00	0.00E+00	0.00E+00
F. Volume of Dilution Water Used				
	Liters	0.00E+00	0.00E+00	0.00E+00

Table 2B Liquid Effluents

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		1st Qtr	2nd Qtr	1st Qtr	2nd Qtr

None Released This Period

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
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Table 3 Solid Waste and Irradiated Fuel Shipments

A. Solid Waste Shipped Offsite for Burial or Disposal (not irradiated fuel)

1. Type of Waste	Units	6-month Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator bottoms, etc.	Cu. Meter Ci	0.00E+00 0.00E+00	0.00E+00
b. Dry compressible waste, contaminated equipment, etc.	Cu. Meter Ci	0.00E+00 0.00E+00	0.00E+00
c. Irradiated components, control rods, etc.	Cu. Meter Ci	0.00E+00 0.00E+00	0.00E+00
d. Other (describe)	Cu. Meter Ci	0.00E+00 0.00E+00	0.00E+00

2. Estimate of major nuclide composition (by type of waste)				
Nuclide	Type A percent	Type B percent	Type C percent	Type D percent

No Shipments this period.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Period : Jan - Jun 1995

Table 3 Solid Waste and Irradiated Fuel Shipments

3. Solid waste disposal

Number of Shipments	Mode of Transportation	Destination

None This Period

B. Irradiated Fuel Shipments

1. Disposition

Number of Shipments	Mode of Transportation	Destination

None This Period

C. Shipping Container and Solidification Method

No.	Volume M3	Activity Ci	Type of Waste	Container Code	Solidification Code

No Shipments this period.

Container Codes :

L - LSA
A - Type A
B - Type B
Q - Large Quantity

Solidification Codes :

C - Cement
U - Urea Formaldehyde
D - Dewatering
N - Not Applicable