

ANNUAL RADIOACTIVE EFFLUENT REPORT

01-JAN-96 THROUGH 29-DEC-96

SUPPLEMENTAL INFORMATION

Facility: Prairie Island Nuclear Generating Plant

Licensee: Northern States Power Company

License Numbers: DPR-42 & DPR-60

A. Regulatory Limits

1. Liquid Effluents:

- a. The dose or dose commitment to an individual from radioactive materials in liquid effluents released from the site shall be limited to:

for the quarter	3.0 mrem to the total body 10.0 mrem to any organ
for the year	6.0 mrem to the total body 20.0 mrem to any organ

2. Gaseous Effluents:

- a. The dose rate due to radioactive materials released in gaseous effluents from the site shall be limited to:

noble gases	≤ 500 mrem/year total body ≤ 3000 mrem/year skin
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I-131, I-133, H-3, LLP	≤ 1500 mrem/year to any organ
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- b. The dose due to radioactive gaseous effluents released from the site shall be limited to:

noble gases	≤ 10 mrad/quarter gamma ≤ 20 mrad/quarter beta ≤ 20 mrad/year gamma ≤ 40 mrad/year beta
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I-131, I-133, H-3, LLP	≤ 15 mrem/quarter to any organ ≤ 30 mrem/year to any organ
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B. Maximum Permissible Concentration

1. Fission and activation gases in gaseous releases:

OLD 10 CFR 20, Appendix B, Table 2, Column 1

2. Iodine and particulates with half lives greater than 8 days in gaseous releases:

OLD 10 CFR 20, Appendix B, Table 2, Column 1

3. Liquid effluents for radionuclides other than dissolved or entrained gases:

OLD 10 CFR 20, Appendix B, Table 2, Column 2

4. Liquid effluent dissolved and entrained gases:

2.0E-04 uCi/ml Total Activity

C. Average Energy

Not applicable to Prairie Island regulatory limits.

D. Measurements and approximations of total activity

1. Fission and activation gases in gaseous releases:	Total Nuclide	GeLi GeLi	±25%
2. Iodines in gaseous releases:	Total Nuclide	GeLi GeLi	±25%
3. Particulates in gaseous releases:	Total Nuclide	GeLi GeLi	±25%
4. Liquid effluents	Total Nuclide	GeLi GeLi	±25%

E. Manual Revisions

1. Offsite Dose Calculations Manual latest Revision number: 14

Revision date : 05/15/96

Revision #14 of the ODCM and a description of the changes are submitted with this report for review.

1.0 BATCH RELEASES (LIQUID)

1.1 NUMBER OF BATCH RELEASES

1.2 TOTAL TIME PERIOD (HRS)

1.3 MAXIMUM TIME PERIOD (HRS)

1.4 AVERAGE TIME PERIOD (HRS)

1.5 MINIMUM TIME PERIOD (HRS)

1.6 AVERAGE MISSISSIPPI RIVER FLOW (CFS)

QTR: 01	QTR: 02	QTR: 03	QTR: 04
9.10E+01	2.30E+01	3.30E+01	3.30E+01
1.75E+02	4.41E+01	6.07E+01	5.58E+01
3.50E+00	3.83E+00	3.45E+00	3.88E+00
1.92E+00	1.92E+00	1.84E+00	1.69E+00
1.27E+00	1.30E+00	1.43E+00	1.22E+00
1.82E+04	4.60E+04	1.55E+04	1.78E+04

2.0 BATCH RELEASES (GASEOUS)

2.1 NUMBER OF BATCH RELEASES

2.2 TOTAL TIME PERIOD (HRS)

2.3 MAXIMUM TIME PERIOD (HRS)

2.4 AVERAGE TIME PERIOD (HRS)

2.5 MINIMUM TIME PERIOD (HRS)

QTR: 01	QTR: 02	QTR: 03	QTR: 04
1.70E+01	1.00E+01	6.00E+00	0.00E+00
4.18E+01	7.02E+01	1.40E+01	0.00E+00
1.88E+01	2.42E+01	6.70E+00	0.00E+00
2.45E+00	7.02E+00	2.33E+00	0.00E+00
1.00E-02	8.00E-02	8.00E-02	0.00E+00

3.0 ABNORMAL RELEASES (LIQUID)

3.1 NUMBER OF RELEASES

3.2 TOTAL ACTIVITY RELEASED (CI)

3.3 TOTAL TRITIUM RELEASED (CI)

QTR: 01	QTR: 02	QTR: 03	QTR: 04
0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00

4.0 ABNORMAL RELEASES (GASEOUS)

4.1 NUMBER OF RELEASES

4.2 TOTAL ACTIVITY RELEASED (CI)

QTR: 01	QTR: 02	QTR: 03	QTR: 04
0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	QTR: 01	QTR: 02	QTR: 03	QTR: 04
5.0 FISSION AND ACTIVATION GASES				
5.1 TOTAL RELEASE (CI)	7.14E-01	0.00E+00	3.79E-01	0.00E+00
5.2 AVERAGE RELEASE RATE (UCI/SEC)	9.08E-02	0.00E+00	4.82E-02	0.00E+00
5.3 GAMMA DOSE (MRAD)	5.14E-05	0.00E+00	2.81E-05	0.00E+00
5.4 BETA DOSE (MRAD)	5.83E-03	0.00E+00	3.09E-03	0.00E+00
5.5 PERCENT OF GAMMA TECH SPEC (%)	5.14E-04	0.00E+00	2.81E-04	0.00E+00
5.6 PERCENT OF BETA TECH SPEC (%)	2.92E-02	0.00E+00	1.55E-02	0.00E+00
6.0 IODINES				
6.1 TOTAL I-131 (CI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6.2 AVERAGE RELEASE RATE (UCI/SEC)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7.0 PARTICULATES				
7.1 TOTAL RELEASE (CI)	7.90E-05	8.53E-05	7.91E-06	0.00E+00
7.2 AVERAGE RELEASE RATE (UCI/SEC)	1.05E-05	1.09E-05	1.01E-06	0.00E+00
8.0 TRITIUM				
8.1 TOTAL RELEASE (CI)	1.04E+01	1.11E+01	1.22E+01	9.52E+00
8.2 AVERAGE RELEASE RATE (UCI/SEC)	1.32E+00	1.41E+00	1.55E+00	1.21E+00
9.0 TOTAL IODINE, PARTICULATE AND TRITIUM (UCI/SEC)	1.32E+00	1.41E+00	1.55E+00	1.21E+00
10.0 DOSE FROM IODINE, LLP AND TRITIUM (MREM)	2.65E-02	6.35E-02	2.69E-02	1.71E-02
11.0 PERCENT OF TECH SPEC (%)	1.77E-01	4.23E-01	1.79E-01	1.14E-01
12.0 GROSS ALPHA (CI)	8.60E-09	0.00E+00	0.00E+00	1.76E-08

TABLE 1C
GASEOUS EFFLUENTS - GROUND LEVEL RELEASES (CONTINUED)

15.0 PARTICULATES

		CONTINUOUS MODE				BATCH MODE			
NUCLIDE	UNITS	QTR: 01	QTR: 02	QTR: 03	QTR: 04	QTR: 01	QTR: 02	QTR: 03	QTR: 04
AG-110M	CI					2.27E-08			
BE-7	CI		4.16E-09						
BR-82	CI	4.17E-06							
CO-58	CI	2.51E-05	4.16E-07			1.08E-05	2.02E-08	9.46E-07	
CO-60	CI	3.16E-06				1.80E-05		2.13E-08	
CS-134	CI					2.41E-07	3.43E-05	2.81E-06	
CS-137	CI					7.09E-07	4.97E-05	4.16E-06	
FE-59	CI					9.39E-08			
NA-24	CI						8.73E-07		
NB-95	CI					1.95E-08			
NB-97	CI					1.43E-08			
MN-54	CI					1.35E-06			
SB-125	CI					4.04E-08			
SR-89	CI					4.23E-07			
TOTAL	CI	4.73E-05	4.20E-07	0.00E+00	0.00E+00	3.17E-05	8.49E-05	7.94E-06	0.00E+00

TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	QTR: 01	QTR: 02	QTR: 03	QTR: 04
16.0 VOLUME OF WASTE PRIOR TO DILUTION (LITERS)	8.34E+07	6.71E+07	7.21E+07	6.97E+07
17.0 VOLUME OF DILUTION WATER (LITERS)	8.98E+10	8.51E+10	2.70E+11	1.99E+11
18.0 FISSION AND ACTIVATION PRODUCTS				
18.1 TOTAL RELEASE W/O H-3, RADGAS, ALPHA (CI)	2.20E-01	4.45E-02	2.70E-01	2.27E-02
18.2 AVERAGE DILUTED CONCENTRATION (UCI/ML)	2.45E-09	5.22E-10	1.00E-09	1.14E-10
19.0 TRITIUM				
19.1 TOTAL RELEASE (CI)	1.67E+02	1.28E+02	1.99E+02	1.33E+02
19.2 AVERAGE DILUTED CONCENTRATION (UCI/ML)	1.86E-06	1.50E-06	7.37E-07	6.68E-07
20.0 DISSOLVED AND ENTRAINED GASES				
20.1 TOTAL RELEASE (CI)	6.33E-04	5.27E-04	6.57E-04	7.97E-05
20.2 AVERAGE DILUTED CONCENTRATION (UCI/ML)	7.04E-12	6.19E-12	2.43E-12	4.01E-13
21.0 GROSS ALPHA (CI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22.0 TOTAL TRITIUM, FISSION AND ACTIVATION PRODUCTS (UCI/ML)	1.86E-06	1.50E-06	7.37E-07	6.68E-07
23.0 TOTAL BODY DOSE (MREM)	4.65E-03	3.81E-03	5.06E-03	3.73E-03
24.0 CRITICAL ORGAN				
24.1 DOSE (MREM)	1.86E-06	1.50E-06	7.37E-07	6.68E-07
24.2 ORGAN	TOT BODY	TOT BODY	TOT BODY	TOT BODY
25.0 PERCENT OF TOTAL BODY TECH SPEC LIMIT (%)	1.55E-01	1.27E-01	1.69E-01	1.24E-01
26.0 PERCENT OF CRITICAL ORGAN TECH SPEC LIMIT (%)	1.55E-01	1.27E-01	1.69E-01	1.24E-01

TABLE 2B
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

27.0 INDIVIDUAL LIQUID EFFLUENT

NUCLIDE	UNITS	CONTINUOUS MODE				BATCH MODE			
		QTR: 01	QTR: 02	QTR: 03	QTR: 04	QTR: 01	QTR: 02	QTR: 03	QTR: 04
AG-108M	CI						9.34E-06		
AG-110M	CI	8.13E-05				5.71E-03	3.16E-03	7.38E-03	3.65E-04
BE-7	CI					3.01E-05	6.95E-05		4.53E-06
CO-57	CI					2.85E-04	7.54E-05	1.98E-05	1.10E-06
CO-58	CI	6.02E-04	2.84E-05	1.13E-05		1.18E-01	1.74E-02	7.03E-03	7.13E-04
CO-60	CI	4.17E-04				1.03E-02	4.58E-03	4.78E-03	1.01E-03
CR-51	CI					7.67E-03	4.57E-04	1.99E-05	2.26E-04
CS-134	CI	1.09E-04				2.36E-04	3.27E-04	3.35E-04	3.04E-04
CS-137	CI	1.84E-04				3.84E-04	4.71E-04	6.32E-04	5.03E-04
FE-59	CI	1.26E-05				2.37E-03	1.40E-04	5.05E-05	
I-131	CI							2.60E-06	
LA-140	CI					2.74E-05		4.55E-06	
MN-54	CI	3.30E-05				9.66E-04	6.78E-04	6.32E-04	4.54E-05
NA-24	CI	2.80E-07				4.00E-06			
NB-95	CI	4.28E-06				2.22E-03	5.63E-04	2.29E-04	2.02E-06
NB-97	CI	2.63E-06				2.51E-05			2.88E-06
RH-105	CI					4.15E-05		1.02E-05	
SB-122	CI					4.48E-03	2.59E-06		
SB-124	CI					1.69E-02	2.05E-04	2.61E-04	4.27E-04
SB-125	CI	1.32E-05				1.77E-02	1.06E-03	3.09E-03	1.40E-02
SB-126	CI					1.91E-04			
SC-47	CI					1.74E-04			4.08E-05
SN-113	CI					1.20E-03	1.70E-04	1.74E-04	4.01E-06
SR-92	CI					3.17E-05	1.94E-05	9.70E-05	1.68E-06

TABLE 2B
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

27.0 INDIVIDUAL LIQUID EFFLUENT (CONTINUED)

CONTINUOUS MODE					BATCH MODE				
NUCLIDE	UNITS	QTR: 01	QTR: 02	QTR: 03	QTR: 04	QTR: 01	QTR: 02	QTR: 03	QTR: 04
TE-131	CI					3.58E-06			
TE-132	CI					6.22E-06			6.78E-06
W-187	CI						9.18E-06		
ZN-65	CI					1.97E-04	1.19E-05		
ZR-95	CI					1.28E-03	3.26E-04	1.89E-04	2.02E-06
ZR-97	CI					7.81E-07	2.92E-06		
FE-55	CI	2.74E-03	4.92E-04	2.20E-01	1.09E-04	2.60E-02	1.42E-02	2.32E-02	5.09E-03
SR-89	CI		1.81E-05			4.33E-05	2.61E-05	8.22E-06	
SR-90	CI						5.82E-07	5.64E-07	
TOTAL	CI	4.2E-03	5.39E-04	2.20E-01	1.09E-04	2.16E-01	4.40E-02	5.02E-02	2.27E-02

28.0 DISSOLVED AND ENTRAINED GASES

CONTINUOUS MODE					BATCH MODE				
NUCLIDE	UNITS	QTR: 01	QTR: 02	QTE: 03	QTR: 04	QTR: 01	QTR: 02	QTR: 03	QTR: 04
AR-41	CI	7.49E-06							
XE-133	CI					6.26E-04	5.09E-04	6.57E-04	6.86E-05
XE-135	CI						1.81E-05		1.11E-05
TOTAL	CI	7.49E-06	0.00E+00	0.00E+00	0.00E+00	6.26E-04	5.27E-04	6.57E-04	7.97E-05

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
NORTHERN STATES POWER

Period: 1/1/96-12/31/96

License No. DPR-42/60

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

**A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL
(NOT IRRADIATED FUEL)**

1. Solid Waste Total Volumes and Total Curie Quantities:

TYPE OF WASTE	UNITS	PERIOD TOTALS (0.00 E00)	EST. TOTAL ERROR, % (0.00 E00)	CONTAINER DISPOSAL VOL (ft ³) (LIST)
A. Resins	m ³	1.66E+01	± 2.50E+01	135.8
	ft ³	5.86E+02		178.9
	Ci	2.53E+02		
B. Dry-Compacted	m ³			
	ft ³			
	Ci			
C. Non-Compacted	m ³	7.02E+01	± 2.50E+01	1200.0
	ft ³	2.48E+03		1280.0
	Ci	1.24E-01		
D. Filter Media	m ³			
	ft ³			
	Ci			
S. Other (furnish description)	m ³			
	ft ³			
	Ci			

NOTE:

The solid waste information provided in this report is the volume and activity of the low-level waste leaving the Prairie Island site. No allowance is made for off-site volume reduction prior to disposal.

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
NORTHERN STATES POWER

Period: 1/1/96-12/31/96
License No. DPR-42/60

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

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL
(NOT IRRADIATED FUEL) [continued]

2. Principal Radionuclide Composition by Type of Waste:
(Bold letter designation from Page 1)

TYPE

A

		Nuclide	Percent (%) Abundance (0.00E0)
*		Co - 60	3.41E+01
		Ni - 63	2.97E+01
*		Cs - 137	1.25E+01
		Fe - 55	1.02E+01
*		Co - 58	6.98E+00
		Cs - 134	3.92E+00
*		Mn - 54	1.53E+00
		C - 14	6.40E-02
*		H - 3	2.50E-02
*			
*		Fe - 55	7.04E+01
		Co - 60	9.60E+00
*		Ni - 63	8.23E+00
		Co - 58	3.29E+00
*		Zr - 95	2.69E+00
		Nb - 95	2.61E+00
*		Mn - 54	1.01E+00
		Cs - 137	5.23E-01
*		C - 14	4.27E-01
		H - 3	2.80E-02
*			
*			
*			

* = Inferred - Not Measured on Site

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
NORTHERN STATES POWER

Period: 1/1/96-12/31/96
License No. DPR-42/60

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

**A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL
(NOT IRRADIATED FUEL) [continued]**

3. Solid Waste Disposition:

<u>Number of Shipments</u>	<u>Mode</u>	<u>Destination</u>
4	Truck	Barnwell
2	Truck	Oak Ridge

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
NORTHERN STATES POWER

Period: 1/1/96-12/31/96
License No. DPR-42/60

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

**A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL
(NOT IRRADIATED FUEL) [continued]**

4. Shipping Container and Solidification Method:

No.	Disposal Volume (Ft ³ /m ³)	Activity (Ci)	Type of Waste	Container Code	Solidif. Code
96-022	135.8/3.84	77.2	A	L	N/A
96-023	135.8/3.84	72.1	A	L	N/A
96-024	135.8/3.84	87.4	A	L	N/A
96-027	178.9/5.1	15.9	A	L	N/A
96-029	1200/33.98	0.07	C	L	N/A
96-030	1280/36.24	0.05	C	L	N/A
TOTALS	6	3066.3/86.8	252.72		

CONTAINER CODES:
(Shipment type)

L = LSA
A = Type A
B = Type B
Q = Highway Route Controlled Quantity

SOLIDIFICATION CODES:

C = Cement

TYPES OF WASTES:

A = Resins
B = Dry Compacted
C = Non-Compacted
D = Filter Media
S = Other

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
NORTHERN STATES POWER

Period: 1/1/96-12/31/96
License No. DPR-42/60

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

B. IRRADIATED FUEL SHIPMENTS (DISPOSITION)

<u>Number of Shipments</u>	<u>Mode</u>	<u>Destination</u>
-0-		

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
NORTHERN STATES POWER

Period: 1/1/96-12/31/96
License No. DPR-42/60

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

C. PROCESS CONTROL PROGRAM CHANGES

TITLE: Process Control Program for Solidification/Dewatering of Radioactive Waste
from Liquid Systems

Current Revision Number: 6 Effective Date: 5/10/95

NOTE:

If the effective date of the PCP is within the period covered by this report, then a description and justification of the changes to the PCP is required (T.S.6.5.D). Attach the sidelined pages to this report.

Changes/Justification:

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
OFF-SITE RADIATION DOSE ASSESSMENT FOR

January through December 1996

An Assessment of the radiation dose due to the release from Prairie Island Nuclear Generating Plant during 1996 was performed in accordance with the Technical Specifications. Computed doses were well below the 40 CFR Part 190 Standards and 10 CFR Part 50 Appendix I Guidelines.

Off-site dose calculation formulas and meteorological data from the Off-site Dose Calculation Manual were used in making this assessment. Source terms were obtained from the Annual Radioactive Effluent and Waste Disposal Report prepared for NRC review for the year of 1996.

Off-site Doses from Gaseous Release

Computed doses due to gaseous releases are reported in Table 1. Critical Receptor location and pathways for organ doses are reported in Table 2. Doses are a small percentage of Appendix I Guidelines.

Off-site Doses from Liquid Release

Computed doses due to Liquid releases are reported in Table 1. Receptor information is reported in Table 2. Doses, both whole body and organ, are a small percentage of Appendix I Guidelines.

Doses to Individuals Due to Activities Inside the Site Boundary

Occasionally sportsmen enter the Prairie Island site for recreational activities. These individuals are not expected to spend more than a few hours per year within the site boundary. Commercial and recreational river traffic exists through this area.

For purposes of estimating the dose due to recreational and river water transportation activities within the site boundary, it is assumed that the limiting dose within the site boundary would be received by an individual who spends a total of seven days per year on the river just off shore from the plant buildings (ESE at 0.2 miles). The gamma dose from noble gas releases and the whole body and organ doses from the inhalation pathway due to Iodine 131, Iodine-133, tritium and long lived particulates were calculated for this location and occupancy time. These doses were reported in Table 1.

Doses to Individuals Due to Effluent Releases from the ISFSI

Two loaded fuel casks were placed in the storage facility during the 1996 calendar year bringing the total number of casks to 5. There has been no release of radioactive effluents from the ISFSI.

Doses to Most Exposed Member of the General Public from Reactor Release and Other Uranium Fuel Cycle Sources

There are no other uranium fuel facilities in the vicinity of the Prairie Island site. The only other artificial source of exposure to the general public in addition to the plant effluent releases is from direct radiation of the reactors. This direct radiation from pressurized water reactors has been shown to be negligible. An array of TLD monitoring stations around the perimeter of the site boundary has consistently indicated that plant operation in the past years has no effect on ambient gamma radiation.

Therefore, the most exposed member of the general public will not receive an annual radiation dose from reactor effluent releases and all other fuel cycle activities in excess of the sum of the liquid and gaseous whole body and organ doses reported in Table 1 for the site boundary and critical receptor, respectively. These doses are well below 40 CFR Part 190 standards of 25 mrem to the whole body, 75 mrem to the thyroid, and 25 mrem to any other organ.

Radiation Environmental Monitoring Program Sampling Deviations

There were no milk or vegetable sampling deviations during this reporting period.

Table 1

OFF-SITE RADIATION DOSE ASSESSMENT - PRAIRIE ISLAND

PERIOD: JANUARY through DECEMBER 199610 CFR Part 50 Appendix I
Guidelines per 2-units site per yearGaseous Releases

Maximum Site Boundary Gamma Air Dose (mrad)	7.95E-05	20
Maximum Site Boundary Beta Air Dose (mrad)	8.91E-03	40
Maximum Off-site Dose to any organ (mrem)*	1.34E-01	30
Offshore Location		
Gamma Dose (mrad)	2.12E-04	
Total Body (mrem)*	2.36E-01	
Organ (mrem)*	2.39E-01	30

Liquid Releases

Maximum Off-site Dose Total Body (mrem)	1.72E-02	6
Maximum Off-site Dose Organ - GI-LLI (mrem)	7.38E-03	20
Limiting Organ Dose Organ - Total Body	1.72E-02	6

* Long-Lived Particulate, I-131, I-133 and H-3

Table 2

OFF-SITE RADIATION DOSE ASSESSMENT - PRAIRIE ISLAND
SUPPLEMENTAL INFORMATION

PERIOD: JANUARY through DECEMBER 1996

Gaseous Releases

Maximum Site Boundary
Dose Location
(from Building Vents)

Sector	WNW
Distance (miles)	0.4

Offshore Location
Within Site Boundary

Sector	ESE
Distance (miles)	0.2
Pathway	Inhalation

Maximum Off-site

Sector	SSE
Distance (miles)	0.6
Pathways	Plume, Ground, Inhalation, Vegetables
Age Group	Child

Liquid Releases

Maximum Off-site Dose
Location Downstream

Pathway	Fish
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SUMMARY OF CHANGES TO OFFSITE DOSE CALCULATION MANUAL
REV 14

The Offsite Dose Calculations Manual ,ODCM, was revised to correct typographical errors detected after the major revision 13 and to include items identified in an internal QA audit of revision 13. Those items are as follows:

- 1) Tech Spec references made in sections 2 and 3 of the ODCM were upgraded to reference the specific TS section of TS.6.5.H.
- 2) Table 2.3, Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements, was revised to remove the requirement to calibrate the Turbine Building Sump Composite Sampler every 18 months. The samplers are not actually calibrated. They are monitored daily via plant procedure and there is actually nothing on the sampler to calibrate.
- 3) Bases section 2.0 was revised to change the units in the reference to primary to secondary leakage from gallons per minute to gallons per day, to be consistent with other plant procedures.
- 4) Correct a Tech Spec reference in section 7 from TS.6.5.I to TS.6.5.E. The final draft of the proposed tech spec change was not final when the ODCM rev 13 was completed and this reference was incorrect.
- 5) Liquid Dose factors were added to Table 4.2 and corrections were made to the dose factors for AG-110M and Nb-95. These dose factors were calculated and used in the past and had not been added to Table 4.2.
- 6) Add R values for airborne dose factors to Table 5.5 for Ground, Child Inhalation, and Child Vegetable pathways. These factors were previously calculated and not added to the ODCM.
- 7) Table 2.2, Action 6 revised to require grabs samples collected when the discharge monitor is out of service to be analyzed for individual gamma emitters rather than saved for weekly composite and analysis.
- 8) Table 2.3 and 3.3 references to the National Bureau of Standards, NBS, was corrected to National Institute of Standards and Technology, NIST. The NBS no longer exists.
- 9) Table 3.2, Action 5 was revised to clarify that the action is applicable when "containment integrity is required or the primary system is initially opened to the atmosphere."

10) The definition of the "SITE BOUNDARY" was revised to reference the Figures 3.1 and 3.2.

11) Typographical errors were corrected in the following sections:

Section 3.13.a.2	- the word "daily" was left out
Section 4.1	- changed "will" to "SHALL"
Section 4.3.4	- incorrect section reference
Section 5.1	- changed "will" to "SHALL" and correct a misspelled word.
Section 5.1.3	- changed "that" to "than"
Bases 3.9/3.10	- corrected poor sentence structure
Table 2.3	- Note reference were incorrect
Table 3.1	- Sentence typed twice in Note C
Table 2.1	- Wrong LLD value listed for SGBD
Table 3.1	- I-133 was added to I-131 for the LLD reference
Table 3.3	- Incorrect note referenced

An evaluation of the above listed changes results in the determination that the changes maintain the levels of radioactive effluent control required by 10 CFR 20.106, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and do not adversely impact the accuracy or reliability of effluent dose or setpoint calculations.