

BYRON NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL REPORT
JANUARY through DECEMBER 1995
Supplemental Information

1. Regulatory Limits

a. Fission and activation gases:

Tech Spec Whole Body = 500 mrem/year
Skin = 3000 mrem/year

10CFR50 Gamma = 5 mrad/quarter; 10 mrad/year
Beta = 10 mrad/quarter; 20 mrad/year

b. Iodine: (summed with particulate, see below)

c. Particulates with half-lives > 8 days:

Tech Spec Organ = 1500 mrem/year

10CFR50 Organ = 7.5 mrem/quarter; 15 mrem/year

d. Liquid effluents:

10CFR50 Whole Body = 1.5 mrem/quarter; 3 mrem/year

Organ = 5 mrem/quarter; 10 mrem/year

e. Total Effective Dose Equivalent

10CFR20 TEDE = 100 mrem/year

2. Maximum Permissible Concentration

a. Fission and Activation Gases: 10CFR20 Appendix B Table 2

b. Iodine: 10CFR20 Appendix B Table 2

c. Particulates: 10CFR20 Appendix B Table 2

d. Liquid Effluents: 10CFR20 Appendix B Table 2

3. Average Energy: This item is not applicable. Release rates are calculated using an isotopic mix rather than average energy.

4. Measurements and Approximations of Total Radioactivity

a. Fission and Activation Gases: Prior to release, the isotopic content is determined. Released activity is calculated using volume of release, which is determined by the change in tank or containment pressure. Additional methods of calculation utilize historical data and assign an isotopic mix which is representative of normal vent stack isotopics.

b. Particulate, Tritium and Iodine sampling media for the plant vent stacks are collected and isotopically analyzed daily for the plant vent stacks.

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(continued)

- c. Liquids effluents: Batch releases are isotopically analyzed prior to release. Total release activity is calculated using volume of release. Total tritium activity released is calculated from the highest of a monthly circulating water blowdown composite activity or a sum of the input composite activities.
- d. Analysis results which are less than the lower limit of detection (<LLD) are reported in units of Ci/ml unless otherwise noted. All LLD values are listed in Attachment A.

5. Batch Releases:

a. Liquid:

- 1. Number of batch releases = 278
- 2. Total time period for batch releases = 26,135 minutes
- 3. Maximum time period for a batch release = 299 minutes
- 4. Average time period for a batch release = 94 minutes
- 5. Minimum time period for a batch release = 1 minute
- 6. Average stream flow during periods of release of effluent into a flowing stream = 5,845 cfs, based on information from the National Weather Service or Army Corps of Engineers for the Rock River.

b. Gaseous:

- 1. Number of batch releases = 327
- 2. Total time period for batch releases = 132,788 minutes
- 3. Maximum time period for a batch release = 35,993 minutes
- 4. Average time period for batch releases = 406 minutes
- 5. Minimum time period for a batch release = 10 minutes

6. Abnormal Releases:

- a. Liquid - One abnormal release. On March 17, 1995 while lining up to discharge Radioactive Effluent Release Tank OWX01T, the discharge valve for Radioactive Effluent Release Tank OWX26T was inadvertently opened. Tank OWX26T was in recirc at the time resulting in a 290 gallon discharge via the normal release pathway to the Rock River. Tank OWX26T was immediately isolated and sampled and verified to be in compliance with all 10CFR20 Liquid Effluent Concentration Limits. A total of $2.20\text{E-}2$ curies of activity were discharged to the Rock River ($2.18\text{E-}2$ Curies of H-3 and $1.26\text{E-}4$ curies of fission and activation products). Tank OWX26T was subsequently released under Liquid Release Package #50164. Corrective actions included developing separate liquid release package paperwork for each liquid release tank.

b. Gaseous - none

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GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

A. FISSION AND ACTIVATION GAS RELEASES

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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1. Total Release Activity

Ci	2.13E+1	2.10E+1	1.37E+1	2.10E+1
uCi/sec	2.88E+2	2.11E+2	1.19E+2	1.06E+3

2. Maximum Release Rate for Quarter

3. % of Tech Spec Limits*

a. Whole Body (500 mrem/yr)

%	0.01	0.00	0.00	0.02
%	0.00	0.00	0.00	0.01

b. Skin (3000 mrem/yr)

4. % of 10CFR50 Limits

a. Gamma Quarterly (5 mrad)

%	0.00	0.00	0.00	0.00
%	0.00	0.00	0.00	0.00
%	0.00	0.00	0.00	0.00
%	0.00	0.00	0.00	0.00

b. Beta Quarterly (10 mrad)

c. Gamma Annual (10 mrad)

d. Beta Annual (20 mrad)

B. IODINE RELEASES**

1. Total I-131/I-133 Activity

Ci	<LLD	<LLD	<LLD	4.84E-4
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C. PARTICULATE (>8 day half-life) RELEASES**

1. Gross Activity

Ci	1.69E-5	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	<LLD

2. Gross Alpha Activity for Quarter

D. TRITIUM RELEASES**

1. Total Release Activity

Ci	5.79E-1	6.21E-1	4.56E-1	7.71E-1
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* % of Tech Spec limits is based on the maximum release rate for the period considered.

** Iodine, particulate, and tritium are expressed as a total limit. See step E.

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GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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E. TOTAL OF IODINE, PARTICULATE (>8 day half-life), AND TRITIUM RELEASES

1. Total Activity

Ci	5.79E-1	6.21E-1	4.56E-1	7.71E-1
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2. % of Tech Spec Limit

a. Any Organ (1500 mrem/yr)

%	0.00	0.00	0.00	0.00
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3. % of 10CFR50 Limit

a. Quarterly Any Organ (7.5 mrem)

%	0.00	0.01	0.01	0.03
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b. Annual Any Organ (15.0 mrem)

%	0.00	0.00	0.01	0.01
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GASEOUS EFFLUENTS - VENT STACK RELEASES - BATCH MODE

F. FISSION AND ACTIVATION GAS RELEASES

AR-41
KR-85
XE-131m
XE-133
XE-133m
XE-135

Ci	7.30E-3	<LLD	2.79E-3	<LLD
Ci	5.06E-1	1.09E-1	1.86E-1	1.93E-1
Ci	1.01E-1	1.43E-1	1.64E-1	2.21E-1
Ci	2.04E+1	2.03E+1	1.34E+1	1.95E+1
Ci	8.00E-2	4.82E-2	4.33E-3	7.73E-2
Ci	1.73E-2	3.14E-2	1.07E-2	6.64E-3
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				

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GASEOUS EFFLUENTS - VENT STACK RELEASES - BATCH MODE (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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G. IODINE RELEASES

I-131
I-133
I-135

Ci	*	*	*	*
Ci	*	*	*	*
Ci	*	*	*	*

H. PARTICULATE (>8 day half-life) RELEASES

SR-89
SR-90

Ci	*	*	*	*
Ci	*	*	*	*
Ci				
Ci				
Ci				

*Value reported as CONTINUOUS MODE

GASEOUS EFFLUENTS - VENT STACK RELEASES - CONTINUOUS MODE

I. FISSION AND ACTIVATION GAS RELEASES

XE-133

Ci	2.62E-1	4.01E-1	<LLD	1.04E+0
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				

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GASEOUS EFFLUENTS - VENT STACK RELEASES - CONTINUOUS MODE (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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J. IODINE RELEASES

I-131
I-133
I-135
I-132

Ci	<LLD	<LLD	<LLD	4.33E-4
Ci	<LLD	<LLD	<LLD	1.10E-5
Ci	<LLD	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	5.12E-5

K. PARTICULATE (>8 day half-life) RELEASES

SR-89
SR-90
CO-58

Ci	<LLD	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	<LLD
Ci	1.69E-5	<LLD	<LLD	<LLD
Ci				
Ci				

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

L. FISSION AND ACTIVATION PRODUCT RELEASES

1. Total Activity Released
2. Average Concentration Released for Quarter
3. % of 10CFR50 Limits

Ci	5.65E-1	8.16E-2	9.61E-2	1.59E-1
uCi/ml	2.41E-7	2.70E-8	2.98E-8	7.31E-8

- a. Quarterly Whole Body (1.5 mrem)
- b. Quarterly Any Organ (5.0 mrem)
- c. Annual Whole Body (3.0 mrem)
- d. Annual Any Organ (10.0 mrem)

%	0.04	0.02	0.19	0.06
%	0.16	0.07	0.08	0.04
%	0.02	0.01	0.09	0.03
%	0.08	0.03	0.04	0.02

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LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES (CONT)

M. TRITIUM

1. Total Activity Released

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
Ci	1.07E+2	1.64E+2	1.55E+2	2.50E+2
uCi/ml	4.54E-5	5.42E-5	4.81E-5	1.15E-4
%	4.54	5.42	4.81	11.50

2. Average Concentration Released
for Quarter

3. % of 10CFR20 Limit
(1.00E-3 uCi/ml)

N. DISSOLVED NOBLE GASES

1. Total Activity Released

Ci	3.47E-1	3.97E-2	1.72E-2	4.25E-1
uCi/ml	1.48E-7	1.31E-8	5.35E-9	1.96E-7
%	7.39E-2	6.57E-3	2.67E-3	9.80E-2

2. Average Concentration Released
for Quarter

3. % of Admin Tech Reqt. Limit
(2.00E-4 uCi/ml)

O. GROSS ALPHA

1. Total Activity Released

Ci	<LLD	<LLD	<LLD	<LLD
uCi/ml	<LLD	<LLD	<LLD	<LLD

2. Average Concentration Released
for Quarter

P. VOLUME OF WASTE RELEASED PER UNIT

liters	4.60E+6	2.22E+6	3.58E+6	2.64E+6
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Q. VOLUME OF DILUTION WATER PER UNIT

liters	2.34E+9	3.02E+9	3.22E+9	2.17E+9
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LIQUID EFFLUENTS - CONTINUOUS MODE

R. LIQUID EFFLUENTS

FE-55
SR-89
SR-90
CO-58
SB-124

Ci	*	*	*	*
Ci	*	*	*	*
Ci	*	*	*	*
Ci	5.83E-2	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	5.87E-2
Ci				

*Value reported as BATCH MODE

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UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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S. LIQUID EFFLUENTS

<u>H-3</u>	Ci	1.07E+2	1.64E+2	1.55E+2	2.50E+2
<u>AR-41</u>	Ci	2.27E-5	1.80E-5	<LLD	2.21E-5
<u>CR-51</u>	Ci	2.48E-2	1.37E-3	5.26E-5	4.63E-3
<u>MN-54</u>	Ci	4.83E-3	1.70E-3	1.52E-3	8.97E-4
<u>FE-55</u>	Ci	5.66E-2	9.53E-4	1.33E-2	9.54E-3
<u>FE-59</u>	Ci	3.75E-3	4.03E-4	6.98E-6	1.31E-3
<u>CO-57</u>	Ci	6.61E-4	1.85E-4	5.70E-4	5.72E-5
<u>CO-58</u>	Ci	8.25E-2	1.30E-2	2.48E-2	1.64E-2
<u>CO-60</u>	Ci	4.94E-2	1.93E-2	1.39E-2	1.86E-2
<u>ZN-65</u>	Ci	1.04E-3	5.43E-4	<LLD	1.34E-5
<u>KR-85</u>	Ci	2.30E-2	7.85E-4	5.57E-3	1.66E-3
<u>KR-88</u>	Ci	<LLD	1.20E-4	<LLD	1.15E-4
<u>SR-89</u>	Ci	3.12E-4	<LLD	7.33E-4	2.83E-4
<u>SR-90</u>	Ci	<LLD	<LLD	<LLD	<LLD
<u>SR-92</u>	Ci	8.27E-5	1.86E-5	<LLD	3.91E-5
<u>NB-95</u>	Ci	3.52E-3	1.52E-3	3.23E-4	7.40E-4
<u>ZR-95</u>	Ci	2.07E-3	7.80E-4	1.23E-4	2.58E-4
<u>ZR-97</u>	Ci	1.14E-5	<LLD	<LLD	<LLD
<u>TC-104</u>	Ci	2.27E-5	<LLD	<LLD	<LLD
<u>AG-110m</u>	Ci	1.21E-3	3.43E-4	4.69E-5	1.59E-4
<u>SN-113</u>	Ci	1.37E-4	1.27E-4	3.16E-5	2.32E-6
<u>TE-121m</u>	Ci	1.57E-5	<LLD	<LLD	<LLD

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LIQUID EFFLUENTS - BATCH MODE (CONT.)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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S. LIQUID EFFLUENTS (CONT.)

TE-123m
TE-125m
SB-122
SB-124
SB-125
SB-126
I-131
I-132
I-133
XE-131m
XF-132
XE-133m
XE-135
CS-134
CS-137
CE-144

Ci	1.34E-1	1.50E-2	4.19E-3	1.40E-2
Ci	9.09E-2	1.85E-2	8.71E-3	2.25E-3
Ci	4.41E-5	<LLD	<LLD	4.47E-4
Ci	3.81E-2	5.50E-3	1.16E-2	1.39E-2
Ci	1.20E-2	2.32E-3	1.19E-2	1.40E-2
Ci	4.35E-5	<LLD	<LLD	<LLD
Ci	1.57E-4	<LLD	<LLD	3.18E-3
Ci	<LLD	<LLD	<LLD	1.21E-4
Ci	<LLD	<LLD	1.16E-6	<LLD
Ci	4.99E-3	1.72E-4	1.39E-4	7.72E-3
Ci	3.17E-1	3.85E-2	1.15E-2	4.13E-1
Ci	2.06E-3	6.33E-5	<LLD	2.26E-3
Ci	2.23E-4	5.58E-6	<LLD	1.80E-4
Ci	1.36E-4	<LLD	1.11E-3	1.79E-4
Ci	4.09E-4	2.22E-5	3.04E-3	7.53E-4
Ci	<LLD	<LLD	<LLD	3.26E-5
Ci				
Ci				

T. 10CFR20 PUBLIC TEDE COMPLIANCE

1. % OF 10CFR20 TEDE LIMIT
(100 mrem/yr)

%	0.00	0.00	0.00	0.00
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GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

A. FISSION AND ACTIVATION GAS RELEASES

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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1. Total Release Activity

Ci	2.34E+1	8.09E-1	1.37E+0	1.26E+1
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2. Maximum Release Rate for Quarter

uCi/sec	1.99E+2	7.53E+0	9.50E+0	1.06E+3
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3. % of Tech Spec Limits*

a. Whole Body (500 mrem/yr)

%	0.00	0.00	0.00	0.02
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b. Skin (3000 mrem/yr)

%	0.00	0.00	0.00	0.01
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4. % of 10CFR50 Limits

a. Gamma Quarterly (5 mrad)

%	0.00	0.00	0.00	0.00
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b. Beta Quarterly (10 mrad)

%	0.00	0.00	0.00	0.00
---	------	------	------	------

c. Gamma Annual (10 mrad)

%	0.00	0.00	0.00	0.00
---	------	------	------	------

d. Beta Annual (20 mrad)

%	0.00	0.00	0.00	0.00
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B. IODINE RELEASES**

1. Total I-131/I-133 Activity

Ci	5.82E-5	<LLD	<LLD	9.92E-5
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C. PARTICULATE (>8 day half-life) RELEASES**

1. Gross Activity

Ci	5.13E-6	<LLD	<LLD	1.33E-6
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2. Gross Alpha Activity for Quarter

Ci	<LLD	<LLD	<LLD	<LLD
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D. TRITIUM RELEASES**

1. Total Release Activity

Ci	2.74E-1	3.73E-1	2.49E-1	9.35E-1
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* % of Tech Spec limits is based on the maximum release rate for the period considered.

** Iodine, particulate, and tritium are expressed as a total limit. See step E.

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GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
-------	---------	---------	---------	---------

E. TOTAL OF IODINE, PARTICULATE (>8 day half-life), AND TRITIUM RELEASES

1. Total Activity

Ci	2.74E-1	3.73E-1	2.49E-1	9.35E-1
----	---------	---------	---------	---------

2. % of Tech Spec Limit

a. Any Organ (1500 mrem/yr)

%	0.00	0.00	0.00	0.00
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3. % of 10CFR50 Limit

a. Quarterly Any Organ (7.5 mrem)

%	0.00	0.01	0.01	0.01
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b. Annual Any Organ (15.0 mrem)

%	0.00	0.00	0.00	0.00
---	------	------	------	------

GASEOUS EFFLUENTS - VENT STACK RELEASES - BATCH MODE

F. FISSION AND ACTIVATION GAS RELEASES

AR-41
KR-85
XE-131m
XE-133
XE-133m
Xe-135

Ci	9.33E-3	1.50E-2	1.17E-2	9.79E-3
Ci	5.06E-1	1.09E-1	1.86E-1	1.93E-1
Ci	6.29E-2	1.15E-2	4.30E-2	2.21E-1
Ci	2.26E+1	2.65E-1	1.12E+0	1.10E+1
Ci	1.38E-2	6.99E-3	4.33E-3	7.73E-2
Ci	9.00E-4	1.18E-4	8.17E-4	2.23E-3
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				

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GASEOUS EFFLUENTS - VENT STACK RELEASES - BATCH MODE (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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G. IODINE RELEASES

I-131
I-133
I-135

Ci	*	*	*	*
Ci	*	*	*	*
Ci	*	*	*	*

H. PARTICULATE (>8 day half-life) RELEASES

SR-89
SR-90

Ci	*	*	*	*
Ci	*	*	*	*
Ci				
Ci				
Ci				

*Value reported as CONTINUOUS MODE.

GASEOUS EFFLUENTS - VENT STACK RELEASES - CONTINUOUS MODE

I. FISSION AND ACTIVATION GAS RELEASES

XE-133

Ci	2.62E-1	4.01E-1	<LLD	1.04E+0
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				

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GASEOUS EFFLUENTS - VENT STACK RELEASES - CONTINUOUS MODE (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
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J. IODINE RELEASES

I-131
I-133
I-135
I-132

Ci	5.82E-5	<LLD	<LLD	9.92E-5
Ci	<LLD	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	<LLD
Ci	1.55E-5	<LLD	<LLD	<LLD

K. PARTICULATE (>8 day half-life) RELEASES

SR-89
SR-90
CO-58

Ci	<LLD	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	<LLD
Ci	5.13E-6	<LLD	<LLD	1.33E-6
Ci				
Ci				

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

L. FISSION AND ACTIVATION PRODUCT RELEASES

1. Total Activity Released
2. Average Concentration Released for Quarter
3. % of 10CFR50 Limits

Ci	5.65E-1	8.16E-2	9.61E-2	1.59E-1
uCi/ml	2.41E-7	2.70E-8	2.98E-8	7.31E-8

- a. Quarterly Whole Body (1.5 mrem)
- b. Quarterly Any Organ (5.0 mrem)
- c. Annual Whole Body (3.0 mrem)
- d. Annual Any Organ (10.0 mrem)

%	0.04	0.02	0.19	0.06
%	0.16	0.07	0.08	0.04
%	0.02	0.01	0.09	0.03
%	0.08	0.03	0.04	0.02

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LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES (CONT)

M. TRITIUM

1. Total Activity Released

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
Ci	1.07E+2	1.64E+2	1.55E+2	2.50E+2
uCi/ml	4.54E-5	5.42E-5	4.81E-5	1.15E-4
%	4.54	5.42	4.81	11.50

2. Average Concentration Released
for Quarter

3. % of 10CFR20 Limit
(1.00E-3 uCi/ml)

N. DISSOLVED NOBLE GASES

1. Total Activity Released

Ci	3.47E-1	3.97E-2	1.72E-2	4.25E-1
uCi/ml	1.48E-7	1.31E-8	5.35E-9	1.96E-7
%	7.39E-2	6.57E-3	2.67E-3	9.80E-2

2. Average Concentration Released
for Quarter

3. % of Admin Tech Regt. Limit
(2.00E-4 uCi/ml)

O. GROSS ALPHA

1. Total Activity Released

Ci	<LLD	<LLD	<LLD	<LLD
uCi/ml	<LLD	<LLD	<LLD	<LLD

2. Average Concentration Released
for Quarter

P. VOLUME OF WASTE RELEASED PER UNIT

liters	4.60E+6	2.22E+6	3.58E+6	2.64E+6
--------	---------	---------	---------	---------

Q. VOLUME OF DILUTION WATER PER UNIT

liters	2.34E+9	3.02E+9	3.22E+9	2.17E+9
--------	---------	---------	---------	---------

LIQUID EFFLUENTS - CONTINUOUS MODE

R. LIQUID EFFLUENTS

FE-55
SR-89
SR-90
CO-58
SB-124

Ci	*	*	*	*
Ci	*	*	*	*
Ci	*	*	*	*
Ci	5.83E-2	<LLD	<LLD	<LLD
Ci	<LLD	<LLD	<LLD	5.87E-2
Ci				

* Value reported as BATCH MODE.

BYRON NUCLEAR POWER STATION
UNIT 2 DOCKET NUMBER STN-50-455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 1995 THROUGH DECEMBER, 1995

LIQUID EFFLUENTS - BATCH MODE

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
-------	---------	---------	---------	---------

S. LIQUID EFFLUENTS

H-3
AR-41
CR-51
MN-54
FE-55
FE-59
CO-57
CO-58
CO-60
ZN-65
KR-85
KR-88
SR-89
SR-90
SR-92
NB-95
ZR-95
ZR-97
TC-104
AG-110m
SN-113
TE-121m

Ci	1.07E+2	1.64E+2	1.55E+2	2.50E+2
Ci	2.27E-5	1.80E-5	<LLD	2.21E-5
Ci	2.48E-2	1.37E-3	5.26E-5	4.63E-3
Ci	4.83E-3	1.70E-3	1.52E-3	8.97E-4
Ci	5.66E-2	9.53E-4	1.33E-2	9.54E-3
Ci	3.75E-3	4.03E-4	6.98E-6	1.31E-3
Ci	6.61E-4	1.85E-4	5.70E-4	5.72E-5
Ci	8.25E-2	1.30E-2	2.48E-2	1.64E-2
Ci	4.94E-2	1.93E-2	1.39E-2	1.86E-2
Ci	1.04E-3	5.43E-4	<LLD	1.34E-5
Ci	2.30E-2	7.85E-4	5.57E-3	1.66E-3
Ci	<LLD	1.20E-4	<LLD	1.15E-4
Ci	3.12E-4	<LLD	7.33E-4	2.83E-4
Ci	<LLD	<LLD	<LLD	<LLD
Ci	8.27E-5	1.86E-5	<LLD	3.91E-5
Ci	3.52E-3	1.52E-3	3.23E-4	7.40E-4
Ci	2.07E-3	7.80E-4	1.23E-4	2.58E-4
Ci	1.14E-5	<LLD	<LLD	<LLD
Ci	2.27E-5	<LLD	<LLD	<LLD
Ci	1.21E-3	3.43E-4	4.69E-5	1.59E-4
Ci	1.37E-4	1.27E-4	3.16E-5	2.32E-6
Ci	1.57E-5	<LLD	<LLD	<LLD

BYRON NUCLEAR POWER STATION
UNIT 2 DOCKET NUMBER STN-50- 455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY , 1995 THROUGH DECEMBER , 1995

LIQUID EFFLUENTS - BATCH MODE (CONT.)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
-------	---------	---------	---------	---------

S. LIQUID EFFLUENTS (CONT.)

TE-123m
TE-125m
SB-122
SB-124
SB-125
SB-126
I-131
I-132
I-133
XE-131m
XE-133
XE-133m
XE-135
CS-134
CS-137
CE-144

Ci	1.34E-1	1.50E-2	4.19E-3	1.40E-2
Ci	9.09E-2	1.85E-2	8.71E-3	2.25E-3
Ci	4.41E-5	<LLD	<LLD	4.47E-4
Ci	3.81E-2	5.50E-3	1.16E-2	1.39E-2
Ci	1.20E-2	2.32E-3	1.19E-2	1.40E-2
Ci	4.35E-5	<LLD	<LLD	<LLD
Ci	1.57E-4	<LLD	<LLD	3.18E-3
Ci	<LLD	<LLD	<LLD	1.21E-4
Ci	<LLD	<LLD	1.16E-6	<LLD
Ci	4.99E-3	1.72E-4	1.39E-4	7.72E-3
Ci	3.17E-1	3.85E-2	1.15E-2	4.13E-1
Ci	2.06E-3	6.33E-5	<LLD	2.26E-3
Ci	2.23E-4	5.58E-6	<LLD	1.80E-4
Ci	1.36E-4	<LLD	1.11E-3	1.79E-4
Ci	4.09E-4	2.22E-5	3.04E-3	7.53E-4
Ci	<LLD	<LLD	<LLD	3.26E-5
Ci				
Ci				

T. 10CFR20 PUBLIC TEDE COMPLIANCE

1. % OF 10CFR20 TEDE LIMIT
(100 mrem/yr)

%	0.00	0.00	0.00	0.00
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BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY, 1995 THROUGH DECEMBER, 1995

SOLID RADIOACTIVE WASTE 1ST QUARTER 1995 YEAR

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE, AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT CUBIC FT	CURIES PER SHIPMENT
	NONE				
				0	0
QUARTERLY TOTALS - NUMBER OF SHIPMENTS: <u>0</u>				CUBIC FT	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY, 1995 THROUGH DECEMBER, 1995

SOLID RADIOACTIVE WASTE 2ND QUARTER 1995 YEAR

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE, AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT CUBIC FT	CURIES PER SHIPMENT
	NONE				
				0	0
QUARTERLY TOTALS - NUMBER OF SHIPMENTS: <u>0</u>				CUBIC FT	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORTJANUARY, 1995 THROUGH DECEMBER, 1995SOLID RADIOACTIVE WASTE 3RD QUARTER 1995 YEAR

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE, AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT CUBIC FT	CURIES PER SHIPMENT
8-17-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	18.2
8-23-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	2.76
8-30-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	0.85
9-20-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	1.41
9-27-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	3.13
				1010.5	26.4
QUARTERLY TOTALS - NUMBER OF SHIPMENTS: <u>5</u>				CUBIC FT	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORTJANUARY, 1995 THROUGH DECEMBER, 1995SOLID RADIOACTIVE WASTE 4TH QUARTER 1995 YEAR

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE, AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT CUBIC FT	CURIES PER SHIPMENT
10-4-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	0.37
10-11-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	0.68
10-18-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	0.08
10-24-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	0.33
10-31-95	Dry Active Waste, low specific activity NOS 7 UN2912 strong- tight container, none	Exclusive Use	Oak Ridge TN	1119	1.73
11-1-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	1.99
11-7-95	Dry Active Waste, Low Specific Activity NOS 7 UN2912 strong- tight container, none	Exclusive Use	Oak Ridge TN	933	1.61
11-8-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	1.29
11-13-95	Steam Generator Secondary Sludge, Low Specific Activity NOS 7 UN2912 strong-tight container, none	Exclusive Use	Oak Ridge TN	788	0.01
				N/A	N/A
QUARTERLY TOTALS - NUMBER OF SHIPMENTS: <u>21 for 4th Qtr.</u>				CUBIC FT	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY, 1995 THROUGH DECEMBER, 1995

SOLID RADIOACTIVE WASTE 4TH QUARTER 1995 YEAR

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE, AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT CUBIC FT	CURIES PER SHIPMENT
11-16-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	8.63
11-30-95	Steam Generator Secondary Sludge, Low Specific Activity NOS 7 UN2912 strong tight container, none	Exclusive Use	Oak Ridge TN	788	0.01
12-01-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	1.13
12-01-95	Steam Generator Secondary Sludge, Low Specific Activity NOS 7 UN2912 strong tight container, none	Exclusive Use	Oak Ridge TN	788	0.01
12-05-95	Steam Generator Secondary Sludge, Low Specific Activity NOS 7 UN2912 strong tight container, none	Exclusive Use	Oak Ridge TN	788	0.01
12-07-95	Dewatered bead resin and Dry Active Waste, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	14.4
12-11-95	Dewatered bead resin, Class C stable, HIC, none	Exclusive Use	Barnwell S.C.	132.4	200
12-12-95	Steam Generator Secondary Sludge, Low Specific Activity NOS 7 UN2912 strong tight container, none	Exclusive Use	Oak Ridge TN	788	0.01
12-13-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	1.28
				N/A	N/A
QUARTERLY TOTALS - NUMBER OF SHIPMENTS: 21 for 4th Qtr.				CUBIC FT	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORTJANUARY, 1995 THROUGH DECEMBER, 1995SOLID RADIOACTIVE WASTE 4TH QUARTER 1995 YEAR

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE, AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT CUBIC FT	CURIES PER SHIPMENT
12-15-95	Steam Generator Secondary Sludge, Low Specific Activity NOS 7 UN2912 strong-tight container, none	Exclusive Use	Oak Ridge TN	788	0.01
12-19-95	Dewatered bead resin, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	0.23
12-27-95	Dewatered bead resin and Dry Active Waste, Class A stable, HIC, none	Exclusive Use	Barnwell S.C.	202.1	29.0
				9337.6	262.8
QUARTERLY TOTALS - NUMBER OF SHIPMENTS: <u>21 for 4th Qtr.</u>				CUBIC FT	CURIES

BYRON NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL REPORT
JANUARY TO DECEMBER, 1995

ADDENDUM

A. There were no major changes or modifications to the PCP or to any liquid gaseous or solid radwaste treatment systems for this period. Byron Station continues to utilize the services of Pacific Nuclear for dewatering and solidification services.

B. Error Analysis

The following is an estimate of the errors associated with effluent monitoring and analysis. The estimate is calculated using the square root of the sum of the squares methodology.

1. Gaseous Effluents

Sampling error	= 1 to 3.5%
Calibration error	= 10%
Counting Statistics error	= 5%
Vent Stack Flowrates error	= 1.5%
<hr/>	
Total error	= 11 - 12%

2. Liquid Effluents

Sampling error	= 1%
Calibration error	= 10%
Sample volume error	= 1%
Discharged volume error	= 2%
<hr/>	
Total error	= 10%

3. Waste Resin

Sampling error	= 5%
Counting Statistics error	= 7%
Weight error	= 1%
Volume error	= 5%
<hr/>	
Total error	= 10%

4. DAW

Counting Statistics error	= 7%
Calibration error	= 10%
Weight error	= 2%
<hr/>	
Total error	= 12.4%

C. Meteorological and environmental impact information is reported in the Station Annual Radiological Environmental Operating Report as required by Technical Specifications 6.9.1.6.

- D. No limits were exceeded in liquid hold up tanks as stated in Technical Specifications 3.11.1.4 or in waste gas decay tanks as stated in Technical Specifications 3.11.2.6.
- E. There were no irradiated fuel shipments during this period.
- F. There were no elevated releases. All releases are considered vent or ground level releases.
- G. There were no revisions to the Offsite Dose Calculation Manual in 1995.
- H. Attached are the Offsite Dose Calculations for January through December of 1995.
- I. The following data is the estimated composition of Byron's solid waste.

1. Dry Active Waste (DAW)

H-3	3.12%
C-14	0.13%
Mn-54	4.29%
Fe-55	28.56%
Co-58	9.28%
Co-60	14.87%
Ni-63	10.21%
Tc-99	<0.01%
Te-123m	12.84%
Sb-124	4.86%
Sb-125	1.60%
Te-125m	8.24%
I-129	<0.01%
Cs-134	0.08%
Cs-137	1.82%
Nb-95	0.08%
Sr-90	<0.01%
Pu-238	<0.01%
Pu-239	<0.01%
Pu-241	0.02%
Am-241	<0.01%
Cm-242	<0.01%
Cm-244	<0.01%

2. Primary Resin

H-3	0.03%
C-14	0.22%
Mn-54	6.26%
Fe-55	43.18%
Co-58	23.25%
Co-60	8.89%
Ni-63	16.14%
Tc-99	0.04%
Te-123m	<0.01%
Sb-124	<0.01%
Sb-125	0.36%
Te-125m	0.04%
I-129	0.76%
Cs-134	<0.01%
Cs-137	0.75%
Nb-95	<0.01%
Sr-90	0.05%
Pu-238	<0.01%
Pu-239	<0.01%
Pu-241	<0.01%
Am-241	<0.01%
Cm-242	<0.01%
Cm-244	0.03%

I. (Continued)

3. Radwaste Resin

H-3	0.04%
C-14	0.90%
Mn-54	5.09%
Fe-55	34.50%
Co-58	13.25%
Co-60	21.02%
Ni-63	13.81%
Zr-65	<0.01%
Tc-99	<0.01%
Ag-110m	0.01%
Te-123m	0.78%
Sb-124	0.53%
Sb-125	2.60%
Te-125m	0.03%
I-129	<0.01%
Cs-134	2.26%
Cs-137	5.15%
Sr-90	0.01%
Pu-238	<0.01%
Pu-239	<0.01%
Pu-241	0.02%
Am-241	<0.01%
Cm-242	<0.01%
Cm-244	<0.01%

4. Secondary Sludge

H-3	3.10%
C-14	0.90%
Fe-55	9.70%
Co-60	14.80%
Ni-59	0.70%
Ni-63	58.60%
Tc-99	<0.01%
I-129	<0.01%
Sr-90	12.90%
Pu-238	<0.01%
Pu-239	<0.01%
Pu-241	<0.01%
Am-241	<0.01%
Cm-242	<0.01%
Cm-244	<0.01%

J. The following process radiation monitors were out of service longer than allowed by the Administrative Technical Requirements:

1. The Liquid Radwaste Effluent Monitor, ORE-PR001 was inoperable for 28 days in March, 1995 due to radiation monitor spiking. This exceeded the Administrative Technical Requirements allowed outage time of 14 days. The cause of the spiking was residual water from a previous release causing radiation spikes at the start of a release. The problem was resolved by a modification to relocate the sample probe to a better location.
2. The Gas Decay Tank Effluent Monitor, ORE-PR002 was inoperable for 15 days in November, 1995 due to radiation monitor alarming. This exceeded the Administrative Technical Requirements allowed outage time of 14 days. The cause of the alarming was from a sample valve leakby. This valve was isolated and repaired.

K. Attached is errata data for the Airborne 10CFR50 Offsite Dose Calculations for January through December of 1994. This errata information is required due to a calculational error found in the Offsite Dose Calculation Manual program software.

ATTACHMENT A

BYRON NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL REPORT FOR JANUARY THROUGH DECEMBER, 1995

UNIT 1 AND 2 (DOCKET NUMBERS 50-454 AND 50-455)

LLD VALUES FOR GASEOUS RELEASES

<u>Isotopes</u>	<u>LLD(Ci/ml)</u>
H-3	3.37E-17
Ar-41	2.07E-13
Co-58	4.48E-19
Kr-85	4.43E-11
Sr-89	2.31E-20
Sr-90	7.28E-21
I-131	1.99E-18
I-132	1.58E-19
I-133	1.59E-19
I-135	6.27E-19
Xe-131m	1.81E-12
Xe-133	7.09E-13
Xe-133m	1.29E-12
Xe-135	1.48E-13

ATTACHMENT A (cont.)

BYRON NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL REPORT FOR JANUARY THROUGH DECEMBER, 1995

UNIT 1 AND 2 (DOCKET NUMBERS 50-454 AND 50-455)

LLD VALUES FOR LIQUID RELEASES

<u>Isotopes</u>	<u>LLD(Ci/ml)</u>
H-3	2.69E-12
Ar-41	2.43E-13
Cr-51	2.08E-13
Mn-54	3.45E-14
Fe-55	6.46E-14
Fe-59	5.77E-14
Co-57	1.93E-14
Co-58	3.09E-14
Co-60	4.63E-14
Zn-65	6.07E-14
Kr-85	4.07E-11
Kr-88	7.08E-14
Sr-89	4.16E-14
Sr-90	2.06E-14
Sr-92	3.58E-14
Nb-95	2.94E-14
Zr-95	6.25E-14
Zr-97	4.00E-13
Tc-104	3.55E-13
Ag-110m	1.13E-13
Sn-113	2.19E-13
Sb-122	3.17E-13
Sb-124	2.81E-14
Sb-125	7.32E-14
Sb-126	1.72E-13
Te-121m	2.47E-13
Te-123m	2.07E-14
Te-125m	5.63E-12
Xe-131m	9.00E-13
Xe-133	5.73E-14
Xe-133m	1.94E-13
Xe-135	2.13E-14
Cs-134	2.67E-14
Cs-137	3.23E-14
I-131	3.26E-13
I-132	2.71E-14
I-133	2.74E-14
Ce-144	1.56E-13

1994 ERRATA DATA
BYRON NUCLEAR POWER STATION
UNIT 1 DOCKET NUMBER STN-50- 454
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 1994 THROUGH DECEMBER, 1994

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
-------	---------	---------	---------	---------

E. TOTAL OF IODINE, PARTICULATE (>8 day half-life), AND TRITIUM RELEASES

1. Total Activity

Ci				
----	--	--	--	--

2. % of Tech Spec Limit

a. Any Organ (1500 mrem/yr)

%				
---	--	--	--	--

3. % of 10CFR50 Limit

a. Quarterly Any Organ (7.5 mrem)

%	0.00	0.02	0.01	0.00
---	------	------	------	------

b. Annual Any Organ (15.0 mrem)

%	0.00	0.01	0.00	0.00
---	------	------	------	------

GASEOUS EFFLUENTS - VENT STACK RELEASES - BATCH MODE

F. FISSION AND ACTIVATION GAS RELEASES

Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				

1994 ERRATA DATA
BYRON NUCLEAR POWER STATION
UNIT 2 DOCKET NUMBER STN-50- 455
RADIOACTIVE EFFLUENT RELEASE REPORTJANUARY, 1994 THROUGH DECEMBER, 1994GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES (CONT)

UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR
-------	---------	---------	---------	---------

E. TOTAL OF IODINE, PARTICULATE (>8 day half-life), AND TRITIUM RELEASES

1. Total Activity

Ci				
----	--	--	--	--

2. % of Tech Spec Limit

a. Any Organ (1500 mrem/yr)

%				
---	--	--	--	--

3. % of 10CFR50 Limit

a. Quarterly Any Organ (7.5 mrem)

%	0.00	0.01	0.01	0.00
---	------	------	------	------

b. Annual Any Organ (15.0 mrem)

%	0.00	0.00	0.01	0.00
---	------	------	------	------

GASEOUS EFFLUENTS - VENT STACK RELEASES - BATCH MODE

F. FISSION AND ACTIVATION GAS RELEASES

Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				
Ci				

BYRON STATION UNIT ONE

ACTUAL 1995

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/95 TO 12/31/95 CALCULATED 02/17/96
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	7.81E-05	7.80E-05	5.04E-05	7.70E-05	2.83E-04
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	3.27E-04	3.17E-04	2.08E-04	3.17E-04	1.17E-03
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	5.49E-05	5.48E-05	3.54E-05	5.41E-05	1.99E-04
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	1.63E-04	1.55E-04	1.03E-04	1.56E-04	5.76E-04
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	1.79E-04	6.28E-04	7.89E-04	1.94E-03	3.33E-03
(MREM)	(NE)	(SE)	(SSE)	(NE)	(SSE)
	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	THYROID	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 1995

COMPLIANCE STATUS - 10CFR 50 APP. I
CHILD RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.01
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.01	0.01	0.03	15.0	0.02
		LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	THYROID		THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 1.2 AUGUST 1994
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

BYRON STATION UNIT TWO

ACTUAL 1995

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/95 TO 12/31/95 CALCULATED 02/17/96
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	8.57E-05	3.63E-06	5.15E-06	4.62E-05	1.41E-04
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	3.57E-04	1.40E-05	2.33E-05	1.91E-04	5.86E-04
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	6.03E-05	2.60E-06	3.65E-06	3.25E-05	9.90E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	1.77E-04	8.55E-06	1.32E-05	9.52E-05	2.94E-04
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	8.97E-05	4.12E-04	4.32E-04	3.86E-04	1.20E-03
(MREM)	(NE)	(SSE)	(SSE)	(NE)	(SE)
	THYROID	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	THYROID	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 1995

COMPLIANCE STATUS - 10CFR 50 APP. I CHILD RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.01	0.01	0.01	15.0	0.01
		THYROID	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	THYROID		THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 1.2 AUGUST 1994
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

BYRON STATION UNIT ONE

ACTUAL 1995
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/95 TO 12/31/95 CALCULATED 02/17/96
 ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	6.09E-04	2.28E-04	2.78E-03	8.37E-04	4.45E-03
INTERNAL ORGAN	7.92E-03	3.36E-03	3.85E-03	1.92E-03	1.43E-02
	GI_LLI	GI_LLI	LIVER	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 1995

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.04	0.02	0.19	0.06	3.0	0.15
CRIT. ORGAN(MREM)	5.0	0.16	0.07	0.08	0.04	10.0	0.14
		GI_LLI	GI_LLI	LIVER	GI_LLI		GI_LLI

RESULTS BASED UPON:

ODCM ANNEX REVISION	1.2	AUGUST	1994
ODCM SOFTWARE VERSION	1.1	January	1995
ODCM DATABASE VERSION	1.1	January	1995

BYRON STATION UNIT TWO

ACTUAL 1995
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/95 TO 12/31/95 CALCULATED 02/17/96
 ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY INTERNAL ORGAN	6.09E-04	2.28E-04	2.78E-03	8.37E-04	4.45E-03
	7.92E-03	3.36E-03	3.85E-03	1.92E-03	1.43E-02
	GI_LLI	GI_LLI	LIVER	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 1995

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.04	0.02	0.19	0.06	3.0	0.15
CRIT. ORGAN (MREM)	5.0	0.16	0.07	0.08	0.04	10.0	0.14
		GI_LLI	GI_LLI	LIVER	GI_LLI		GI_LLI

RESULTS BASED UPON:

ODCM ANNEX REVISION	1.2	AUGUST 1994
ODCM SOFTWARE VERSION	1.1	January 1995
ODCM DATABASE VERSION	1.1	January 1995

BYRON STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/95 TO 12/31/95

CALCULATED 02/17/96

1. 10 CFR 20.1301 (a)(1) Compliance

Total Effective Dose Equivalent, mrem/yr	7.89E-03
10 CFR 20.1301 (a)(1) limit	mrem/yr 100.0
% of limit	0.01

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	2.94E-03	1.16E-03	2.43E-03	1.36E-03	0.01

RESULTS BASED UPON: ODCM ANNEX REVISION 1.2 AUGUST 1994
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

BYRON STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/95 TO 12/31/95

CALCULATED 02/17/96

1. 10 CFR 20.1301 (a)(1) Compliance

Total Effective Dose Equivalent, mrem/yr	7.36E-03
10 CFR 20.1301 (a)(1) limit mrem/yr	100.0
% of limit	0.01

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	2.88E-03	9.88E-04	2.23E-03	1.26E-03	0.01

RESULTS BASED UPON: ODCM ANNEX REVISION 1.2 AUGUST 1994
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

1994 ERRATA DATA
BYRON STATION UNIT ONE

ACTUAL 1994
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/94 TO 12/31/94 CALCULATED 02/17/96
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	2.65E-06	3.94E-06	1.82E-06	2.25E-05	3.09E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	4.85E-06	6.53E-06	6.32E-06	9.14E-05	1.09E-04
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	1.95E-06	2.90E-06	1.31E-06	1.58E-05	2.20E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	4.10E-06	5.96E-06	3.97E-06	4.53E-05	5.94E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	4.22E-05	1.13E-03	4.22E-04	5.86E-05	1.61E-03
(MREM)	(NE)	(SSE)	(SSE)	(NE)	(SSE)
	LIVER	LIVER	LUNG	LIVER	LUNG
	THYROID	THYROID		THYROID	
	KIDNEY	KIDNEY		KIDNEY	
	LUNG	LUNG		LUNG	
	GI_LLI	GI_LLI		GI_LLI	

THIS IS A REPORT FOR THE CALENDAR YEAR 1994

COMPLIANCE STATUS - 10CFR 50 APP. I
CHILD RECEPTOR

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.02	0.01	0.00	15.0	0.01
		LIVER	LIVER	LUNG	LIVER		LUNG
		THYROID	THYROID		THYROID		
		KIDNEY	KIDNEY		KIDNEY		
		LUNG	LUNG		LUNG		
		GI_LLI	GI_LLI		GI_LLI		

RESULTS BASED UPON: ODCM ANNEX REVISION 1.2 AUGUST 1994
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

1994 ERRATA DATA

1994 ERRATA DATA

BYRON STATION UNIT TWO

ACTUAL 1994

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/94 TO 12/31/94 CALCULATED 02/17/96
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.10E-06	1.76E-06	2.77E-06	3.61E-06	9.25E-06
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	2.74E-06	5.45E-06	8.75E-06	7.74E-06	2.47E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	8.03E-07	1.27E-06	2.00E-06	2.67E-06	6.74E-06
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	1.95E-06	3.20E-06	5.67E-06	6.97E-06	1.78E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	8.48E-05	5.84E-04	8.01E-04	1.81E-04	1.59E-03
(MREM)	(NE)	(SSE)	(SSE)	(SE)	(SSE)
	LIVER	LIVER	LIVER	LUNG	LUNG
	THYROID	THYROID	THYROID		
	KIDNEY	KIDNEY	KIDNEY		
	LUNG	LUNG	LUNG		
	GI_LLI	GI_LLI	GI_LLI		

THIS IS A REPORT FOR THE CALENDAR YEAR 1994

COMPLIANCE STATUS - 10CFR 50 APP. I CHILD RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.01	0.01	0.00	15.0	0.01
		LIVER	LIVER	LIVER	LUNG		LUNG
		THYROID	THYROID	THYROID			
		KIDNEY	KIDNEY	KIDNEY			
		LUNG	LUNG	LUNG			
		GI_LLI	GI_LLI	GI_LLI			

RESULTS BASED UPON: ODCM ANNEX REVISION 1.2 AUGUST 1994
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

1994 ERRATA DATA