

SEMI-ANNUAL EFFLUENT REPORT

January - June

1981

Public Service Company

Fort St. Vrain  
Nuclear Generating Station

August, 1981

## SUMMARY

This report summarizes the radiological effluent released from the Fort St. Vrain Nuclear Generating Station for the period January through June, 1981. In addition, Table 4.1 furnishes a general summary of the primary plant systems under radiological surveillance, and Table 5.1 summarizes the solid waste removed from the site during the aforementioned time period. These data are reported pursuant to the requirements of 10CFR50.36(a)(2).

Tritium was the radionuclide of principal interest released via the liquid pathway during the first half of 1981. A total of 133.5 curies of tritium were released to the cooling tower blowdown via batch releases and continuous releases from the Turbine Building and Reactor Building sumps.

Tritium, xenon, and krypton in small amounts were released via the Reactor Building stack during the first half of 1981. No particulates have been detected in the gaseous waste or on the filters from the Reactor Building exhaust sampling system.

The only halogen identified was  $^{131}\text{I}$ , with a total release of approximately 1.5 microcuries.

No solid waste was removed from the station in the first half of 1981.

TABLE 1.1 RADIOACTIVE LIQUID EFFLUENT RELEASES FOR 1st QUARTER, 1981

[illegible]
$$\begin{aligned} 4.7\text{E}-05 &= 4.7 \times 10^{-5} \\ 5.2\text{E}+03 &= 5.2 \times 10^{+3} \end{aligned}$$

NSA means no significant activity.

\* "weighted" average

TABLE 1.2 (PAGE 1 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 425

RELEASE MADE FROM T6204

RELEASE START DATE 10481. TIME 2050.

RELEASE COMPLETION DATE 10581. TIME 210.

RELEASE DURATION : 320. MINUTES

TANK LEVELS : INITIAL 126. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 8144300. FINAL 8200500.

AVERAGE RELEASE RATE: 25.12 LPM OR 6.64 GPM

AVERAGE BLOWDOWN RATE: 6647.41 LPM OR 1756.25 GPM

TOTAL VOLUME RELEASED: 8040. LITERS OR 2124. GALLONS

TOTAL VOLUME USED FOR DILUTION: 2127170. LITERS OR 562000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
*****							
A	10381.	700. 17195.	6.87E-08	3.01E-09	3.50E-01	0.00E-01	11278.
B	10381.	705. 17196.	5.95E-08	1.97E-09	3.50E-01	0.00E-01	11279.
C	10481.	2045. 17209.	1.20E-03	1.11E-08	5.38E-07		
D	10681.	1. 17226.	5.31E-09	1.71E-08	4.22E-07		
E	10481.	2145. 17210.	1.44E-08	1.01E-08	2.32E-06		
F	10681.	1. 17225.	1.65E-08	7.75E-09	2.83E-06		
G	10581.	1330. 17223.	4.99E-09	4.32E-09	1.79E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
*****				
GROSS BETA	5.52E-07	6.87E-08	2.42E-10	8.00E-01
GROSS ALPHA	1.58E-08	1.97E-09	-8.84E-12	N/A
TRITIUM	2.81E 00	3.50E-01	1.32E-03	4.39E 01



## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 426

RELEASE MADE FROM T6204

RELEASE START DATE 10781. TIME 2020.

RELEASE COMPLETION DATE 10881. TIME 27.

RELEASE DURATION : 247. MINUTES

TANK LEVELS : INITIAL 123. INCHES FINAL 2. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 8797228. FINAL 8830450.

AVERAGE RELEASE RATE: 32.28 LPM OR 8.53 GPM

AVERAGE BLOWDOWN RATE: 5090.90 LPM OR 1345.02 GPM

TOTAL VOLUME RELEASED: 7974. LITERS OR 2107. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1257453. LITERS OR 332220. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	10781.	625. 17232.	4. 73E-08	1. 97E-09	1. 17E-01	0. 00E-01	11300.
B	10781.	630. 17233	4. 74E-08	2. 32E-09	1. 18E-01	0. 00E-01	11301.
C	10781.	1930. 17236.	1. 31E-08	7. 13E-09	4. 18E-07		
D	10881.	1655. 17237.	1. 90E-08	9. 13E-09	4. 18E-07		
E	10781.	2120. 17238.	7. 89E-09	5. 95E-09	1. 32E-05		
F	10881.	1640. 17239.	1. 21E-08	8. 85E-09	5. 37E-06		
G	10581.	1330. 17223.	4. 99E-09	4. 32E-09	1. 79E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	3. 78E-07	4. 74E-08	2. 67E-10	8. 91E-01
GROSS ALPHA	1. 85E-08	2. 32E-09	-1. 26E-11	N/A
TRITIUM	9. 39E-01	1. 18E-01	7. 42E-04	2. 47E 01

TABLE 1.2 (PAGE 3 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 427

RELEASE MADE FROM T6204

RELEASE START DATE 12081. TIME 1735.

RELEASE COMPLETION DATE 12181. TIME 28.

RELEASE DURATION : 413. MINUTES

TANK LEVELS : INITIAL 120. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 1806986. FINAL 1912130.

AVERAGE RELEASE RATE: 18.35 LPM OR 4.85 GPM

AVERAGE BLOWDOWN RATE: 9636.08 LPM OR 2545.86 GPM

TOTAL VOLUME RELEASED: 7578. LITERS OR 2002. GALLONS

TOTAL VOLUME USED FOR DILUTION: 3979700. LITERS OR 1051440. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	12081.	550. 17301.	6.84E-07	2.94E-09	1.15E 00	0.00E-01	11352.
B	12081.	550. 17302.	7.15E-07	2.95E-09	1.15E 00	0.00E-01	11353.
C	12081.	1633. 17305.	7.90E-09	5.12E-09	4.31E-07		
D	12281.	1640. 17306.	5.75E-09	1.16E-08	4.38E-07		
E	12081.	1632. 17307.	1.93E-08	8.25E-09	3.00E-06		
F	12281.	1642. 17308.	1.03E-08	6.04E-09	8.37E-06		
G	12081.	830. 17303.	3.64E-08	1.53E-08	2.72E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	5.42E-06	7.15E-07	1.29E-09	4.30E 00
GROSS ALPHA	2.24E-08	2.95E-09	-2.35E-11	N/A
TRITIUM	8.75E 00	1.15E 00	2.19E-03	7.31E 01

TABLE 1.2 (PAGE 4 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 428

RELEASE MADE FROM T6204

RELEASE START DATE 12381. TIME 1023.

RELEASE COMPLETION DATE 12381. TIME 1525.

RELEASE DURATION : 302. MINUTES

TANK LEVELS : INITIAL 124. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 2694088. FINAL 2768078.

AVERAGE RELEASE RATE: 26.19 LPM OR 6.92 GPM

AVERAGE BLOWDOWN RATE: 9273.25 LPM OR 2450.00 GPM

TOTAL VOLUME RELEASED: 7908. LITERS OR 2089. GALLONS

TOTAL VOLUME USED FOR DILUTION: 2800521. LITERS OR 739900. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	12281.	555. 17332.	7.00E-08	3.36E-09	8.95E-01	0.00E-01	11364.
B	12281.	600. 17333.	1.17E-07	3.27E-09	8.95E-01	0.00E-01	11365.
C	12381.	720. 17352.	1.31E-08	1.33E-08	4.29E-07		
D	12381.	1635. 17374.	6.75E-09	2.64E-08	4.31E-07		
E	12381.	1120. 17357.	1.15E-08	9.49E-09	4.33E-06		
F	12381.	1630. 17372.	3.01E-08	9.38E-09	3.90E-05		
G	12681.	800. 17380.	1.07E-08	6.73E-09	2.46E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	9.25E-07	1.17E-07	2.99E-10	9.98E-01
GROSS ALPHA	2.59E-08	3.27E-09	9.74E-12	N/A
TRITIUM	7.08E 00	8.95E-01	2.52E-03	8.40E 01

TABLE 1.2 (PAGE 5 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 429

RELEASE MADE FROM T6203

RELEASE START DATE 12381. TIME 1911.

RELEASE COMPLETION DATE 12481. TIME 1818.

RELEASE DURATION : 1387. MINUTES

TANK LEVELS : INITIAL 126. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 2835900. FINAL 3189400.

AVERAGE RELEASE RATE: 5.80 LPM OR 1.53 GPM

AVERAGE BLOWDOWN RATE: 9646.70 LPM OR 2548.67 GPM

TOTAL VOLUME RELEASED: 8040. LITERS OR 2124. GALLONS

TOTAL VOLUME USED FOR DILUTION: 13379975. LITERS OR 3535000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	12381.	525. 17340.	4.38E-07	2.73E-09	1.86E 00	2.20E-05	11373.
B	12381.	530. 17341.	4.06E-07	2.19E-09	1.86E 00	2.20E-05	11374.
C	12381.	1635. 17373.	6.95E-09	3.62E-09	4.31E-07		
D	12691.	333. 17378.	7.21E-09	1.19E-08	4.31E-07		
E	12381.	2110. 17376.	1.48E-08	1.94E-08	4.22E-04		
F	12681.	320. 17377.	1.53E-08	1.11E-08	4.57E-05		
G	12681.	800. 17380.	1.07E-08	6.73E-09	2.46E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	3.52E-06	4.38E-07	2.57E-10	8.55E-01
GROSS ALPHA	1.76E-08	2.19E-09	-2.73E-12	N/A
TRITIUM	1.50E 01	1.86E 00	1.12E-03	3.73E 01
133XE	1.77E-04	2.20E-05	1.32E-08	6.61E-03

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 430

RELEASE MADE FROM T6203

RELEASE START DATE 21181. TIME 1055.

RELEASE COMPLETION DATE 21181. TIME 2120.

RELEASE DURATION 625. MINUTES

TANK LEVELS INITIAL 120. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 7338780. FINAL 7476500.

AVERAGE RELEASE RATE: 12.23 LPM OR 3.23 GPM

AVERAGE BLOWDOWN RATE: 8340.32 LPM OR 2203.52 GPM

TOTAL VOLUME RELEASED: 7644. LITERS OR 2020. GALLONS

TOTAL VOLUME USED FOR DILUTION: 5212702. LITERS OR 1377200. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	21081.	840. 17512.	1.64E-06	2.81E-09	1.85E 00	1.37E-03	11474.
B	21081.	845. 17513.	1.89E-06	2.41E-09	1.88E 00	1.37E-03	11475.
C	21081.	2015. 17508.	1.06E-08	2.20E-08	1.36E-06		
D	21181.	2230. 17509.	8.97E-09	1.09E-08	4.39E-07		
E	21181.	2000. 17510.	1.34E-08	1.89E-08	6.28E-06		
F	21181.	2220. 17511.	2.06E-08	2.88E-03	1.96E-04		
G	20981.	835. 17507.	9.55E-09	9.42E-09	7.96E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.44E-05	1.89E-06	2.75E-09	9.18E 00
GROSS ALPHA	1.84E-08	2.41E-09	-1.03E-11	N/A
TRITIUM	1.44E 01	1.88E 00	2.75E-03	9.18E 01
133XE	1.03E-02	1.35E-03	1.98E-06	9.88E-01
131XE	1.52E-04	1.99E-05	2.91E-08	1.46E-02



TABLE 1.2 (PAGE 7 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 431

RELEASE MADE FROM T6203

RELEASE START DATE 21281. TIME 1953.

RELEASE COMPLETION DATE 21381. TIME 426.

RELEASE DURATION : 513 MINUTES

TANK LEVELS : INITIAL 126. INCHES FINAL 4. INCHES

BLOWDOWN INTEGRATOR READINGS:

INITIAL 7773600. FINAL 7885600.

AVERAGE RELEASE RATE: 15.67 LPM OR 4.14 GPM

AVERAGE BLOWDOWN RATE: 8263.55 LPM OR 2183.24 GPM

TOTAL VOLUME RELEASED: 8040. LITERS OR 2124. GALLONS

TOTAL VOLUME USED FOR DILUTION: 4239200. LITERS OR 1120000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	21281.	650. 17523.	5.56E-07	2.61E-09	1.32E 00	3.70E-04	11487.
B	21281.	655. 17524.	4.93E-07	2.75E-09	1.32E 00	3.70E-04	11490.
C	21281.	1900. 17528.	1.45E-08	1.52E-08	4.25E-07		
D	21381.	605. 17529.	1.71E-08	4.95E-08	4.55E-05		
E	21281.	2120. 17530.	3.07E-08	5.23E-08	2.40E-03		
F	21381.	610. 17531.	6.47E-09	1.45E-08	1.75E-03		
G	21181.	845. 17521.	2.11E-08	1.55E-08	1.31E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	4.47E-06	5.56E-07	1.01E-09	3.38E 00
GROSS ALPHA	2.21E-08	2.75E-09	2.41E-11	N/A
TRITIUM	1.07E 01	1.32E 00	2.51E-03	8.36E 01
133XE	2.97E-03	3.70E-04	7.00E-07	3.50E-01

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 432

RELEASE MADE FROM T6203

RELEASE START DATE 21481. TIME 1930.

RELEASE COMPLETION DATE 21581. TIME 120.

RELEASE DURATION : 350 MINUTES

TANK LEVELS : INITIAL 75. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 8403400. FINAL 8484000.

AVERAGE RELEASE RATE: 13.18 LPM OR 3.48 GPM

AVERAGE BLOWDOWN RATE: 8716.31 LPM OR 2302.86 GPM

TOTAL VOLUME RELEASED: 4613. LITERS OR 1219. GALLONS

TOTAL VOLUME USED FOR DILUTION: 3050710. LITERS OR 806000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI- /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	21481.	600.17544.	2.37E-07	4.83E-09	7.89E-01	7.19E-05	11503.
B	21481.	605.17545.	2.12E-07	3.67E-09	7.71E-01	7.19E-05	11504.
C	21481.	835.17547.	7.28E-09	1.73E-08	1.22E-06		
D	21581.	215.17548.	1.18E-08	6.95E-09	1.67E-06		
E	21481.	2030.17549.	1.82E-08	2.90E-08	1.11E-03		
F	21581.	220.17550.	2.36E-08	2.92E-08	1.57E-05		
G	21181.	845.17521.	2.11E-08	1.55E-08	1.31E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS LTA	1.09E-06	2.37E-07	3.26E-10	1.09E 00
GROSS ALPHA	1.69E-08	3.67E-09	1.79E-11	N/A
TRITIUM	3.64E 00	7.89E-01	1.19E-03	3.97E 01
133XE	3.32E-04	7.19E-05	1.09E-07	5.43E-02

TABLE 1.2 (PAGE 9 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 433

RELEASE MADE FROM T6203

RELEASE START DATE 21681. TIME 1801.

RELEASE COMPLETION DATE 21681. TIME 2202.

RELEASE DURATION : 241. MINUTES

TANK LEVELS : INITIAL 52. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 9049900. FINAL 9105526.

AVERAGE RELEASE RATE: 12.58 LPM OR 3.32 GPM

AVERAGE BLOWDOWN RATE: 8736.28 LPM OR 2308.13 GPM

TOTAL VOLUME RELEASED: 3031. LITERS OR 801. GALLONS

TOTAL VOLUME USED FOR DILUTION: 2105444. LITERS OR 556260. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
*****							
A	21681.	740. 17551.	1.05E-07	3.25E-09	2.10E-01	5.47E-05	11507.
B	21681.	745. 17552.	8.80E-08	3.25E-09	2.17E-01	5.47E-05	11508.
C	21681.	1645. 17554.	8.91E-09	2.08E-08	4.24E-07		
D	21681.	2310. 17555.	1.79E-08	1.68E-08	1.21E-06		
E	21681.	1901. 17556.	1.95E-08	3.02E-08	3.76E-04		
F	21681.	2301. 17557.	6.45E-07	1.58E-08	5.63E-06		
G	21381.	1325. 17546.	7.86E-09	5.33E-09	1.77E-04		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
*****				
GROSS BETA	3.18E-07	1.05E-07	1.40E-10	4.66E-01
GROSS ALPHA	9.84E-09	3.25E-09	-2.99E-12	N/A
TRITIUM	6.58E-01	2.17E-01	3.12E-04	1.04E 01
133XE	1.66E-04	5.47E-05	7.86E-08	3.93E-02

TABLE 1.2 (PAGE 10 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 434

RELEASE MADE FROM T6203

RELEASE START            DATE        21881.            TIME        2000.

RELEASE COMPLETION DATE        21881.            TIME        2345.

RELEASE DURATION            :        225. MINUTES

TANK LEVELS            :        INITIAL        127. INCHES            FINAL        2. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 9577478.            FINAL 9611600.

AVERAGE RELEASE RATE:            36.61 LPM OR            9.67 GPM

AVERAGE BLOWDOWN RATE:        5740.08 LPM OR        1516.53 GPM

TOTAL VOLUME RELEASED:        8237. LITERS OR        2176. GALLONS

TOTAL VOLUME USED FOR DILUTION:    1291518. LITERS OR    341220. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-TVG /ML	MCA NUMBER
A	21881.	750.17564.	1.75E-07	2.63E-09	1.03E-01	5.68E-05	11519.
B	21881.	755.17565.	2.02E-07	2.63E-09	1.03E-01	5.68E-05	11520.
C	21881.	1900.17583.	1.27E-08	7.88E-09	4.25E-07		
D	21981.	100.17584.	2.34E-08	7.45E-09	4.25E-07		
E	21881.	2101.17585.	3.23E-08	1.39E-08	7.36E-04		
F	21981.	40.17586.	2.73E-08	1.39E-08	5.13E-05		
G	21781.	1125.17561.	1.73E-08	4.87E-09	7.17E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.66E-06	2.02E-07	1.17E-09	3.90E 00
GROSS ALPHA	2.16E-08	2.63E-09	-1.42E-11	N/A
TRITIUM	8.47E-01	1.03E-01	6.51E-04	2.17E 01
133XE	4.68E-04	5.68E-05	3.60E-07	1.80E-01

TABLE 1.2 (PAGE 11 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 435

RELEASE MADE FROM T6203

RELEASE START DATE 22081 TIME 1824

RELEASE COMPLETION DATE 22081 TIME 2153

RELEASE DURATION : 209 MINUTES

TANK LEVELS : INITIAL 127 INCHES FINAL 5 INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 9957118 FINAL 9986225

AVERAGE RELEASE RATE: 38.47 LPM OR 10.16 GPM

AVERAGE BLOWDOWN RATE: 5271.29 LPM OR 1392.68 GPM

TOTAL VOLUME RELEASED: 8040 LITERS OR 2124 GALLONS

TOTAL VOLUME USED FOR DILUTION: 1101700 LITERS OR 291070 GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	22081	605.17596	1.20E-07	2.43E-09	3.10E-01	3.46E-05	11538
B	22081	610.17597	1.60E-07	2.43E-09	2.89E-01	3.46E-05	11539
C	22081	1730.17602	1.76E-08	1.64E-08	4.39E-07		
D	22081	2253.17603	1.43E-08	2.07E-08	4.30E-07		
E	22081	2030.17604	9.40E-09	1.86E-08	6.70E-07		
F	22081	2253.17605	1.81E-08	4.72E-09	3.39E-06		
G	21781	857.17559	1.69E-08	7.64E-09	1.84E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.29E-06	1.60E-07	1.04E-09	3.46E 00
GROSS ALPHA	1.95E-08	2.43E-09	-3.78E-11	N/A
TRITIUM	2.49E 00	3.10E-01	2.25E-03	7.49E 01
133XE	2.78E-04	3.46E-05	2.51E-07	1.25E-01



TABLE 1.2 (PAGE 12 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 436

RELEASE MADE FROM T6202

RELEASE START DATE 22681. TIME 140.

RELEASE COMPLETION DATE 22681. TIME 520.

RELEASE DURATION : 220. MINUTES

TANK LEVELS : INITIAL 107. INCHES FINAL 9. INCHES

BLOWDOWN INTEGRATOR READINGS:

INITIAL 2800. FINAL 47500.

AVERAGE RELEASE RATE: 29.36 LPM OR 7.76 GPM

AVERAGE BLOWDOWN RATE: 7690.43 LPM OR 2031.82 GPM

TOTAL VOLUME RELEASED: 6458. LITERS OR 1706. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1691895. LITERS OR 447000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	22481.	752. 17623.	4. 76E-07	2. 64E-09	2. 92E-01	8. 52E-05	11559.
B	22481.	752. 17624.	2. 55E-07	2. 63E-09	2. 97E-01	8. 52E-05	11560.
C	22581.	2130. 17633.	1. 11E-08	9. 42E-09	4. 26E-07		
D	22681.	735. 17634.	1. 63E-08	5. 21E-09	5. 24E-07		
E	22681.	320. 17635.	2. 80E-08	2. 24E-08	1. 35E-03		
F	22681.	735. 17636.	2. 06E-08	1. 88E-08	1. 63E-05		
G	22481.	830. 17628.	1. 57E-07	5. 46E-08	4. 06E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	3. 07E-06	4. 76E-07	1. 21E-09	4. 05E 00
GROSS ALPHA	1. 70E-08	2. 63E-09	-1. 98E-10	N/A
TRITIUM	1. 92E 00	2. 97E-01	1. 13E-03	3. 76E 01
133XE	5. 50E-04	8. 52E-05	3. 24E-07	1. 62E-01

TABLE 1.2 (PAGE 13 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 437

RELEASE MADE FROM T6204

RELEASE START: DATE 22781. TIME 1719.

RELEASE COMPLETION DATE 22781. TIME 2139.

RELEASE DURATION : 260. MINUTES

TANK LEVELS : INITIAL 116. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 420337. FINAL 459235.

AVERAGE RELEASE RATE: 27.88 LPM OR 7.37 GPM

AVERAGE BLOWDOWN RATE: 5662.65 LPM OR 1496.08 GPM

TOTAL VOLUME RELEASED: 7249. LITERS OR 1915. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1472289. LITERS OR 388980. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	22681.	1435.17654	2.80E-08	4.28E-09	1.95E-01	2.47E-05	11582.
B	22681.	1440.17655	2.07E-08	4.17E-09	1.95E-01	2.47E-05	11584.
C	22781.	1405.17674	1.97E-08	3.23E-08	6.46E-07		
D	22781.	2240.17675	1.60E-08	8.34E-09	5.81E-07		
E	22781.	1907.17676	1.84E-08	5.86E-08	1.10E-03		
F	22781.	2240.17677	7.24E-08	8.35E-09	2.59E-05		
G	22581.	915.17639	1.53E-07	5.78E-08	4.30E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	2.03E-07	2.80E-08	-6.13E-10	-2.04E 00
GROSS ALPHA	1.02E-08	4.17E-09	-2.63E-10	N/A
TRITIUM	1.41E 00	1.95E-01	9.56E-04	3.19E 01
133XE	1.79E-04	2.47E-05	1.21E-07	6.05E-02

TABLE 1.2 (PAGE 14 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 436

RELEASE MADE FROM T6204

RELEASE START DATE 30681. TIME 1107.

RELEASE COMPLETION DATE 30681. TIME 1510.

RELEASE DURATION : 243. MINUTES

TANK LEVELS : INITIAL 128. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 1972000. FINAL 2010900.

AVERAGE RELEASE RATE: 33.63 LPM OR 8.88 GPM

AVERAGE BLOWDOWN RATE: 6059.12 LPM OR 1600.82 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1472365. LITERS OR 389000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	30281.	1455. 17705.	4.18E-08	1.98E-09	6.26E-02	4.37E-05	11598.
B	30281.	1500. 17706.	7.62E-08	2.24E-09	6.29E-02	4.37E-05	11600.
C	30681.	1025. 17733.	7.06E-08	1.16E-08	4.13E-07		
D	30681.	1805. 17751.	3.03E-08	7.15E-09	1.02E-06		
E	30681.	1210. 17748.	8.52E-09	8.68E-09	3.59E-04		
F	30681.	1835. 17752.	2.39E-08	4.74E-09	2.62E-05		
G	30281.	845. 17703.	1.16E-08	3.18E-09	7.30E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	6.23E-07	7.62E-08	3.56E-10	1.19E 00
GROSS ALPHA	1.83E-08	2.24E-09	5.19E-12	N/A
TRITIUM	5.14E-01	6.29E-02	3.47E-04	1.16E 01
133XE	3.57E-04	4.37E-05	2.41E-07	1.21E-01

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 439

RELEASE MADE FROM T6204

RELEASE START DATE 31081. TIME 930.

RELEASE COMPLETION DATE 31081. TIME 1833.

RELEASE DURATION : 543. MINUTES

TANK LEVELS : INITIAL 120. INCHES FINAL 8. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 2838340. FINAL 2968760.

AVERAGE RELEASE RATE: 13.59 LPM OR 3.59 GPM

AVERAGE BLOWDOWN RATE: 9090.97 LPM OR 2401.84 GPM

TOTAL VOLUME RELEASED: 7381. LITERS OR 1950. GALLONS

TOTAL VOLUME USED FOR DILUTION: 4936397. LITERS OR 1304200. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

SAMP.	SAMP. RC	UCI-B	UCI-A	UCI-3H	UCI-DNG	MCA
DATE	TIME NUMBER	/ML	/ML	/ML	/ML	NUMBER
A	30981. 645.17745.	3.27E-07	4.61E-09	1.55E-00	2.28E-05	11627.
B	30981. 650.17746.	2.24E-07	5.12E-09	1.54E-00	2.28E-05	11628.
C	31081. 916.17759.	1.16E-08	1.66E-08	1.19E-06		
D	31081. 2145.17760.	8.02E-09	8.95E-09	4.23E-07		
E	31081. 1030.17761.	8.59E-09	6.43E-09	2.59E-03		
F	31081. 2130.17762.	7.95E-09	5.54E-09	1.40E-05		
G	30281. 845.17703.	1.16E-08	3.18E-09	7.30E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL	UCI/ML	UCI/ML	% OF LIMIT
	CURIES	BEF. DIL.	AFT. DIL.	OR MPCW
GROSS BETA	2.41E-06	3.27E-07	4.71E-10	1.57E-00
GROSS ALPHA	3.78E-08	5.12E-09	2.90E-12	N/A
TRITIUM	1.14E-01	1.55E-00	2.31E-03	7.69E-01
133XE	1.68E-04	2.26E-05	3.40E-08	1.70E-02

TABLE 1.2 (PAGE 16 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 440

RELEASE MADE FROM T4204

RELEASE START DATE 31181. TIME 2100.

RELEASE COMPLETION DATE 31281. TIME 24.

RELEASE DURATION : 204. MINUTES

TANK LEVELS : INITIAL 124. INCHES FINAL 7. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 3252075. FINAL 3295500.

AVERAGE RELEASE RATE: 37.80 LPM OR 9.99 GPM

AVERAGE BLOWDOWN RATE: 8057.04 LPM OR 2128.68 GPM

TOTAL VOLUME RELEASED: 7710. LITERS OR 2037. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1643636. LITERS OR 434250. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	31181.	645. 17774.	7. 24E-07	2. 98E-09	4. 17E-01	5. 16E-05	11643.
B	31181.	650. 17775.	6. 96E-07	2. 99E-09	4. 29E-01	5. 16E-05	11645.
C	31181.	2040. 17779.	1. 26E-08	6. 18E-09	5. 91E-07		
D	31281.	315. 17780.	8. 54E-09	1. 54E-08	5. 21E-07		
E	31181.	2200. 17781.	1. 35E-08	1. 17E-08	2. 15E-03		
F	31281.	255. 17782.	8. 09E-09	9. 91E-09	4. 25E-07		
G	31181.	1045. 17785.	1. 50E-08	2. 74E-09	1. 34E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	5. 58E-06	7. 24E-07	3. 31E-09	1. 10E 01
GROSS ALPHA	2. 31E-08	2. 99E-09	1. 15E-12	N/A
TRITIUM	3. 31E 00	4. 29E-01	2. 00E-03	6. 68E 01
133XE	3. 98E-04	5. 16E-05	2. 41E-07	1. 20E-01



TABLE 1.2 (PAGE 17 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 441

RELEASE MADE FROM T6204

RELEASE START DATE 31381. TIME 1655.

RELEASE COMPLETION DATE 31381. TIME 2040.

RELEASE DURATION : 225. MINUTES

TANK LEVELS : INITIAL 110. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 3690800. FINAL 3723500.

AVERAGE RELEASE RATE: 30.75 LPM OR 8.13 GPM

AVERAGE BLOWDOWN RATE: 5500.87 LPM OR 1453.33 GPM

TOTAL VOLUME RELEASED: 6919. LITERS OR 1828. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1237695. LITERS OR 327000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	31281.	1435.17797.	6.55E-07	6.05E-09	2.63E-01	2.76E-05	11654.
B	31281.	1440.17798.	6.65E-07	6.05E-09	2.64E-01	2.76E-05	11656.
C	31381.	1625.17804.	8.04E-09	1.11E-08	4.19E-07		
D	31381.	2140.17805.	1.76E-08	6.36E-09	1.96E-06		
E	31381.	1755.17806.	7.48E-09	5.59E-09	1.72E-03		
F	31381.	2150.17807.	7.31E-09	3.44E-09	1.90E-04		
G	31181.	1045.17785.	1.50E-08	2.74E-09	1.34E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	4.60E-06	6.65E-07	3.61E-09	1.20E 01
GROSS ALPHA	4.19E-08	6.05E-09	1.84E-11	N/A
TRITIUM	1.83E 00	2.64E-01	1.47E-03	4.89E 01
133XE	1.91E-04	2.76E-05	1.53E-07	7.67E-02

TABLE 1. 2 (PAGE 18 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 442

RELEASE MADE FROM T6204

RELEASE START DATE 31881. TIME 2049.

RELEASE COMPLETION DATE 31981. TIME 425.

RELEASE DURATION : 456. MINUTES

TANK LEVELS : INITIAL 120. INCHES FINAL 8. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 4887856. FINAL 4993200.

AVERAGE RELEASE RATE: 16. 19 LPM OR 4. 28 GPM

AVERAGE BLOWDOWN RATE: 8744. 01 LPM OR 2310. 18 GPM

TOTAL VOLUME RELEASED: 7381. LITERS OR 1950. GALLONS

TOTAL VOLUME USED FOR DILUTION: 3987270. LITERS OR 1053440. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

SAMP.	SAMP. RC	UCI-B	UCI-A	UCI-3H	UCI-DNG	MCA
DATE	TIME NUMBER	/ML	/ML	/ML	/ML	NUMBER
A	31781. 1425. 17833.	1. 85E-06	1. 94E-09	1. 04E 00	8. 72E-06	11680.
B	31781. 1430. 17834.	1. 94E-06	1. 94E-09	1. 04E 00	8. 72E-06	11682.
C	31881. 1915. 17859.	1. 49E-08	4. 74E-09	9. 92E-07		
D	31981. 725. 17860.	1. 49E-08	4. 74E-09	9. 92E-07		
E	31881. 2149. 17861.	1. 49E-08	4. 23E-09	1. 02E-04		
F	31981. 712. 17862.	2. 71E-08	2. 64E-09	3. 06E-04		
G	31781. 1005. 17832.	1. 50E-08	6. 97E-09	9. 92E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL	UCI/ML	UCI/ML	% OF LIMIT
	CURIES	BEF. DIL.	AFT. DIL.	OR MPCW
GROSS BETA	1. 43E-05	1. 94E-06	3. 56E-09	1. 19E 01
GROSS ALPHA	1. 43E-08	1. 94E-09	-9. 30E-12	N/A
TRITIUM	7. 68E 00	1. 04E 00	1. 92E-03	6. 41E 01
133XE	6. 44E-05	8. 72E-06	1. 61E-08	8. 06E-03

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 443

RELEASE MADE FROM T6204

RELEASE START DATE 32181. TIME 1746.

RELEASE COMPLETION DATE 32181. TIME 2143.

RELEASE DURATION 237. MINUTES

TANK LEVELS INITIAL 127. INCHES FINAL 3. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 5564800. FINAL 5608150.

AVERAGE RELEASE RATE: 34.48 LPM OR 9.11 GPM

AVERAGE BLOWDOWN RATE: 6923.20 LPM OR 1829.11 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1640797. LITERS OR 433500. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

D=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	32081.	635. 17885.	4.08E-07	2.50E-09	2.24E-01	3.24E-06	11695.
B	32081.	640. 17886.	2.19E-07	7.86E-10	2.22E-01	3.24E-06	11696.
C	32181.	1650. 17904.	1.49E-08	2.47E-09	5.91E-07		
D	32181.	2255. 17905.	1.32E-08	5.08E-09	1.03E-06		
E	32181.	1840. 17906.	1.95E-08	8.16E-09	1.03E-03		
F	32181.	2245. 17907.	6.85E-08	1.30E-08	3.69E-05		
G	31781.	1005. 17832.	1.50E-08	6.97E-09	9.92E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	3.33E-06	4.08E-07	1.95E-09	6.49E 00
GROSS ALPHA	6.42E-09	7.86E-10	-3.07E-11	N/A
TRITIUM	1.83E 00	2.24E-01	1.11E-03	3.70E 01
133XE	2.65E-05	3.24E-06	1.61E-08	8.03E-03

TABLE 1.2 (PAGE 20 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 444

RELEASE MADE FROM T6204

RELEASE START DATE 32381. TIME 1915.

RELEASE COMPLETION DATE 32381. TIME 2330.

RELEASE DURATION 255. MINUTES

TANK LEVELS INITIAL 142. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 6105000. FINAL 6149900.

AVERAGE RELEASE RATE 35.15 LPM OR 9.29 GPM

AVERAGE BLOWDOWN RATE 6664.57 LPM OR 1760.78 GPM

TOTAL VOLUME RELEASED 8962. LITERS OR 2368. GALLONS

TOTAL VOLUME USED FOR DILUTION 1699465. LITERS OR 449000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

J=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	32381.	630. 17910.	1.39E-07	6.56E-08	1.51E-01	1.36E-06	11708.
B	32381.	630. 17911.	1.22E-07	6.52E-08	1.49E-01	1.36E-06	11702.
C	32381.	1818. 17919.	2.56E-08	4.42E-09	5.91E-07		
D	32481.	45. 17920.	1.49E-08	3.08E-09	5.91E-07		
E	32381.	2110. 17921.	2.66E-08	5.38E-09	7.22E-04		
F	32481.	30. 17922.	1.51E-08	8.54E-09	1.84E-05		
G	32381.	900. 17917.	1.50E-08	6.30E-09	3.53E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.25E-06	1.39E-07	6.51E-10	2.17E 00
GROSS ALPHA	5.84E-07	6.52E-08	3.09E-10	N/A
TRITIUM	1.35E 00	1.51E-01	7.91E-04	2.64E 01
133XE	1.22E-05	1.36E-06	7.13E-09	3.57E-03

TABLE 1.2 (PAGE 21 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 445

RELEASE MADE FROM T6204

RELEASE START DATE 32581. TIME 1757.

RELEASE COMPLETION DATE 32581. TIME 2145.

RELEASE DURATION : 228. MINUTES

TANK LEVELS : INITIAL 126. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 6561120. FINAL 6597900.

AVERAGE RELEASE RATE: 34.97 LPM OR 9.24 GPM

AVERAGE BLOWDOWN RATE: 6105.80 LPM OR 1613.16 GPM

TOTAL VOLUME RELEASED: 7974. LITERS OR 2107. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1392123. LITERS OR 367800. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	32581.	630. 17924.	1.38E-07	1.01E-08	6.64E-02	0.00E-01	11713.
B	32581.	630. 17925.	1.32E-07	9.39E-09	6.65E-02	0.00E-01	11712.
C	32581.	1720. 17937.	2.25E-08	1.50E-08	7.62E-07		
D	32581.	2245. 17938.	1.51E-08	2.69E-09	5.91E-07		
E	32581.	1900. 17939.	1.50E-08	7.54E-09	3.82E-04		
F	32581.	2255. 17940.	1.50E-08	3.21E-09	1.51E-05		
G	32381.	900. 17917.	1.50E-08	6.30E-09	3.53E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.10E-06	1.38E-07	7.01E-10	2.34E 00
GROSS ALPHA	7.49E-08	9.39E-09	1.76E-11	N/A
TRITIUM	5.30E-01	6.65E-02	3.79E-04	1.26E 01



TABLE 1.2 (PAGE 22 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 446

RELEASE MADE FROM T6204

RELEASE START DATE 32881. TIME 1115.

RELEASE COMPLETION DATE 32881. TIME 1630.

RELEASE DURATION : 315. MINUTES

TANK LEVELS : INITIAL 134. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 7170198. FINAL 7220145.

AVERAGE RELEASE RATE: 27.20 LPM OR 7.19 GPM

AVERAGE BLOWDOWN RATE: 6001.57 LPM OR 1585.62 GPM

TOTAL VOLUME RELEASED: 8567. LITERS OR 2263. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1890494. LITERS OR 499470. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	32681.	630. 17942.	1.73E-07	3.38E-09	3.21E-02	0.00E-01	11731.
B	32681.	630. 17943.	1.86E-07	4.66E-09	3.19E-02	0.00E-01	11732.
C	32881.	1045. 17994.	1.30E-08	1.54E-08	4.21E-07		
D	32881.	1925. 17995.	1.33E-08	4.54E-09	4.21E-07		
E	32881.	1210. 17996.	2.21E-08	7.79E-09	1.73E-04		
F	32881.	1930. 17997.	1.29E-08	3.28E-09	4.21E-07		
G	32381.	900. 17917.	1.50E-08	6.30E-09	3.53E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.59E-06	1.86E-07	7.72E-10	2.57E 00
GROSS ALPHA	3.99E-08	4.66E-09	-7.41E-12	N/A
TRITIUM	2.75E-01	3.21E-02	1.45E-04	4.83E 00

TABLE 1.2 (PAGE 23 OF 23)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 447

RELEASE MADE FROM T6204

RELEASE START DATE 33181. TIME 1900.

RELEASE COMPLETION DATE 33181. TIME 2230.

RELEASE DURATION : 210. MINUTES

TANK LEVELS : INITIAL 116. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 7929074. FINAL 7964817.

AVERAGE RELEASE RATE: 34.52 LPM OR 9.12 GPM

AVERAGE BLOWDOWN RATE: 6442.25 LPM OR 1702.05 GPM

TOTAL VOLUME RELEASED: 7249. LITERS OR 1915. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1352873. LITERS OR 357430. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	33081.	640.17998.	6.34E-08	1.55E-09	2.22E-02	0.00E-01	11739.
B	33081.	645.17999.	6.97E-08	2.01E-09	2.20E-02	0.00E-01	11740.
C	33181.	1755.18010.	1.31E-08	2.74E-09	4.34E-07		
D	40181.	40.18011.	1.38E-08	2.09E-09	4.34E-07		
E	33181.	1955.18012.	1.32E-08	2.97E-09	1.49E-06		
F	40181.	35.18013.	1.20E-08	6.78E-10	1.01E-06		
G	33081.	1010.18002.	1.22E-08	2.69E-09	6.89E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	5.05E-07	6.97E-08	3.07E-10	1.02E 00
GROSS ALPHA	1.46E-08	2.01E-09	-3.64E-12	N/A
TRITIUM	1.61E-01	2.22E-02	1.18E-04	3.92E 00

TABLE 1.3: LIQUID EFFLUENT RELEASED VIA THE TURBINE  
BUILDING SUMP AND THE REACTOR BUILDING SUMP  
(CONTINUOUS RELEASE)

1st QUARTER 1981

TURBINE BUILDING SUMP

	MONTH	JAN	FEB	MAR	QUARTERLY TOTAL
VOLUME	LITERS	3.07E+06	3.22E+06	3.22E+06	9.51E+06
TRITIUM	AVERAGE $\mu\text{Ci}/\text{ml}$	5.40E-05	1.41E-04	1.40E-04	1.11E-04 *
	TOTAL CURIES	1.66E-01	4.54E-01	4.51E-01	1.07E+00
GROSS $\beta\gamma$	AVERAGE $\mu\text{Ci}/\text{ml}$	1.24E-08	1.49E-08	6.32E-09	2.31E-08 *
	TOTAL CURIES	3.81E-05	4.80E-05	2.04E-05	1.07E-04
GROSS $\alpha$	AVERAGE $\mu\text{Ci}/\text{ml}$	8.58E-09	1.22E-08	1.46E-08	8.39E-09 *
	TOTAL CURIES	2.63E-05	3.93E-05	4.70E-05	1.13E-04

REACTOR BUILDING SUMP

	MONTH	JAN	FEB	MAR	QUARTERLY TOTAL
VOLUME	LITERS	8.90E+05	2.30E+05	5.10E+05	1.63E+06
TRITIUM	AVERAGE $\mu\text{Ci}/\text{ml}$	3.59E-04	1.67E-03	8.21E-04	8.92E-04 *
	TOTAL CURIES	3.20E-01	3.84E-01	4.19E-01	1.12E+00
GROSS $\beta\gamma$	AVERAGE $\mu\text{Ci}/\text{ml}$	6.77E-09	1.34E-08	3.14E-09	3.22E-09 *
	TOTAL CURIES	6.02E-06	3.08E-06	1.60E-06	1.07E-05
GROSS $\alpha$	AVERAGE $\mu\text{Ci}/\text{ml}$	2.89E-09	3.76E-09	1.45E-08	1.16E-08 *
	TOTAL CURIES	2.57E-06	8.65E-07	7.40E-06	1.08E-05

\* "weighted" average

TABLE 2.1 - RADIOACTIVE GASEOUS EFFLUENT RELEASES FOR 1st QUARTER, 1981

		UNITS	JAN	FEB	MAR	QUARTERLY TOTAL
1a. Total Noble Gases		Curies	5.62E+00	2.07E+01	4.24E+00	3.10E+01
1b. Total Tritium		Curies	8.86E-02	3.96E-01	1.75E+00	2.24E+00
1c. Total Halogens		Curies	NSA	NSA	NSA	NSA
1d. Total Particulate Gross (β,γ) Activity RT-7325		Curies	4.87E-12	3.51E-12	1.39E-11	2.23E-11
1e. Total Particulate Gross Alpha Activity RT-7325		Curies	9.12E-13	1.14E-12	1.71E-12	3.77E-12
2. Maximum Hourly Release Rate for Any One Hour Period		Ci/hr	1.13E-01	5.61E-01	1.51E-01	5.61E-01
3. Estimated Total Radioactivity Released by Nuclide (MPCa)						
Particulates	MPCa	Curies	NSA	NSA	NSA	NSA
Halogens	MPCa	Curies	NSA	NSA	NSA	NSA
Gases	MPCa	Curies				
3H	2.00E-07		8.86E-02	3.96E-01	1.75E+00	2.24E+00
133Xe	3.00E-07		5.38E+00	2.01E+01	4.18E+00	3.02E+01
131Xe(M)	4.00E-07		1.54E-01	2.13E-01	2.63E+02	4.16E-01
135Xe	1.00E-07		3.19E-02	6.23E-02	1.41E-02	4.90E-02
85Kr(M)	1.00E-07		1.31E-02	NSA	6.50E-03	1.96E-02
88Kr	2.00E-08		2.13E-02	NSA	9.58E-03	3.09E-02
87Kr	2.00E-08		2.18E-02	NSA	6.61E-03	2.84E-02
85Kr	3.00E-07		NSA	2.57E-01	NSA	2.57E-01
133Xe(M)	3.00E-07		NSA	6.23E-02	NSA	6.23E-02

$4.7E-05 = 4.7 \times 10^{-5}$   
 $5.2E+03 = 5.2 \times 10^{+3}$

NSA means no significant activity.

## GAS WASTE SUMMARY FOR RELEASE NUMBER 495

RELEASE START	DATE	10281.	TIME	1725.
RELEASE COMPLETION	DATE	10381.	TIME	802.

RELEASE DURATION 877 MINUTES OR 14.62 HOURS

TANK PRESSURES INITIAL 350 PSIG FINAL 50 PSIG

TANK TEMPERATURE 82 DEG-F

AVERAGE RELEASE RATE 14.84 CFM

TOTAL VOLUME OF GAS RELEASED 3.69E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 86 DEG-F FLOWRATE 32000. ACFM

STABILITY CATAGORY B

RC-NUMBERS GRAB 17193. TRITIUM 17194.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 8.87E-06 2.00E-07 4.43E 01 3.27E-03

133XE 9.49E-06 3.00E-07 3.16E 01 3.50E-03

TOTAL CURIES OF NOBLE GAS RELEASED 3.50E-03

AVERAGE RELEASE RATE 4.63E-04 CI/HR OR 1.29E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.77E-03 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	2.3	6.4	3.2	2.0	1.9	4.2	3.5	3.8
PERCENT	1.0	2.6	0.8	2.4	1.8	3.9	2.7	2.3

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.5	7.0	5.2	4.5	3.1	3.0	0.0	0.0
PERCENT	6.2	33.4	18.7	11.0	0.9	0.2	0.0	0.0

PERCENT CALM 12.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 496

RELEASE START	DATE	11081	TIME	1820
RELEASE COMPLETION	DATE	11181	TIME	1635

RELEASE DURATION 1335 MINUTES OR 22.25 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 42 PSIG

TANK TEMPERATURE 77 DEG-F

AVERAGE RELEASE RATE 12.73 CFM

TOTAL VOLUME OF GAS RELEASED 4.81E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 84 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS G34B 17265. TRITIUM 17266.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 4.13E-05 2.00E-07 2.06E 02 1.99E-02

133XE 2.21E-03 3.00E-07 7.37E 03 1.06E 00

131XEM 9.56E-05 4.00E-07 2.39E 02 4.60E-02

TOTAL CURIES OF NOBLE GAS RELEASED 1.11E 00

AVERAGE RELEASE RATE 5.08E-02 CI/HR OR 1.41E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.56E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	4.3	4.7	1.6	1.5	1.8	2.2
PERCENT	0.0	0.0	0.1	5.2	0.7	0.2	1.3	1.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	2.4	7.2	3.6	5.0	2.5	2.2	2.4	1.0
PERCENT	8.7	21.9	15.2	9.3	2.3	0.5	0.1	0.1

PERCENT CALM 32.5



## GAS WASTE SUMMARY FOR RELEASE NUMBER 497

RELEASE START	DATE	11481.	TIME	1126.
RELEASE COMPLETION	DATE	11581.	TIME	235.

RELEASE DURATION 909 MINUTES OR 15.15 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 76 DEG-F

AVERAGE RELEASE RATE 18.83 CFM

TOTAL VOLUME OF GAS RELEASED 4.85E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 92 DEG-F. FLOWRATE 32000. ACFM

## STABILITY CATAGORY B

RC-NUMBERS GRAB 17271. TRITIUM 17270.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H 9.92E-06 2.00E-07 4.96E 01 4.81E-03

133XE 3.54E-04 3.00E-07 1.18E 03 1.72E-01

TOTAL CURIES OF NOBLE GAS RELEASED 1.72E-01

AVERAGE RELEASE RATE 1.16E-02 CI/HR OR 3.23E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.64E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	2.5	3.0	4.3	2.0	2.9	7.3	3.0	2.3
PERCENT	0.9	2.4	3.9	1.3	0.8	0.1	0.6	2.8

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	3.8	3.1	2.0	2.8	2.7	2.7	2.7	3.1
PERCENT	8.7	16.4	9.3	4.6	5.9	5.8	4.8	9.9

PERCENT CALM 30.8

## GAS WASTE SUMMARY FOR RELEASE NUMBER 498

RELEASE START	DATE	11781.	TIME	1404.
RELEASE COMPLETION	DATE	11881.	TIME	612.

RELEASE DURATION 968 MINUTES OR 16.13 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 73 DEG-F

AVERAGE RELEASE RATE 17.32 CFM

TOTAL VOLUME OF GAS RELEASED 4.75E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY C

RC-NUMBERS GRAB 17291. TRITIUM 17292.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 1.40E-05 2.00E-07 7.00E 01 6.65E-03

133XE 5.78E-04 3.00E-07 1.93E 03 2.74E-01

135XE 2.17E-06 1.00E-07 2.17E 01 1.03E-03

TOTAL CURIES OF NOBLE GAS RELEASED 2.75E-01

AVERAGE RELEASE RATE 1.75E-02 CI/HR OR 4.86E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 5.50E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	3.2	2.6	4.5	3.8	2.4	1.8	1.5	1.1
PERCENT	8.0	6.0	36.2	17.3	3.2	3.7	0.5	0.5

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	1.6	1.9	1.7	1.4	0.0	2.0	1.6	1.9
PERCENT	0.	0.7	1.3	3.8	0.0	0.2	1.3	1.6

PERCENT CALM 22.6

## GAS WASTE SUMMARY FOR RELEASE NUMBER 499

RELEASE START	DATE	11981.	TIME	1640.
RELEASE COMPLETION	DATE	12081.	TIME	610.

RELEASE DURATION 810 MINUTES OR 13.50 HOURS

TANK PRESSURES INITIAL 420 PSIG FINAL 49 PSIG

TANK TEMPERATURE 76 DEG-F

AVERAGE RELEASE RATE 20.10 CFM

TOTAL VOLUME OF GAS RELEASED 4.61E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 98 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY C

RC-NUMBERS GRAB 17294. TRITIUM 17295.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------------	-----------------

\*\*\*\*\*

3H 1.19E-05 2.00E-07 5.95E 01 5.49E-03

133XE 6.94E-05 3.00E-07 2.31E 02 3.20E-02

TOTAL CURIES OF NOBLE GAS RELEASED 3.20E-02

AVERAGE RELEASE RATE 2.78E-03 CI/HR OR 7.71E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 9.20E-03 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	10.0	5.5	5.0	5.8	2.0	2.2	5.1
PERCENT	0.0	0.9	3.3	6.5	2.4	1.0	3.5	7.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.4	4.3	7.8	7.8	0.0	0.0	0.0	0.0
PERCENT	2.7	1.5	38.8	29.4	0.0	0.0	0.0	0.0

PERCENT CALM 2.9

## GAS WASTE SUMMARY FOR RELEASE NUMBER 500

RELEASE START	DATE	12481.	TIME	224.
RELEASE COMPLETION	DATE	12481.	TIME	840.

RELEASE DURATION 376 MINUTES OR 6.27 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 74 DEG-F

AVERAGE RELEASE RATE 44.51 CFM

TOTAL VOLUME OF GAS RELEASED 4.74E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATEGORY A

RC-NUMBERS GRAB 17348. TRITIUM 17349.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	2.59E-05	2.00E-07	1.29E 02	1.23E-02
133XE	1.28E-03	3.00E-07	4.27E 03	6.07E-01
85KRM	2.76E-05	1.00E-07	2.76E 02	1.31E-02
88KR	4.50E-05	2.00E-08	2.25E 03	2.13E-02
135XE	5.96E-05	1.00E-07	5.96E 02	2.82E-02
87KR	4.60E-05	2.00E-08	2.30E 03	2.18E-02

TOTAL CURIES OF NOBLE GAS RELEASED 6.91E-01

AVERAGE RELEASE RATE 1.12E-01 CI/HR OR 3.12E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 6.88E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.3	3.7	6.3	8.0	20.9	19.4	11.4	5.7
PERCENT	1.4	1.0	3.5	7.5	4.4	2.7	0.7	0.5

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	7.2	6.3	6.0	6.0	11.6	15.6	13.7	5.7
PERCENT	5.7	13.7	14.4	16.4	8.4	5.5	4.7	2.3

PERCENT CALM 7.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 501

RELEASE START	DATE	12581.	TIME	1350.
RELEASE COMPLETION	DATE	12681.	TIME	234.

RELEASE DURATION 764 MINUTES OR 12.73 HOURS

TANK PRESSURES INITIAL 425 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 21.38 CFM

TOTAL VOLUME OF GAS RELEASED 4.62E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 30000. ACFM

STABILITY CATEGORY A

RC-NUMBERS GRAB 17369. TRITIUM 17370.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------------	-----------------

\*\*\*\*\*

3H	1.25E-05	2.00E-07	6.25E 01	5.78E-03
----	----------	----------	----------	----------

133XE	3.10E-03	3.00E-07	1.03E 04	1.43E 00
-------	----------	----------	----------	----------

TOTAL CURIES OF NOBLE GAS RELEASED 1.43E 00

AVERAGE RELEASE RATE 1.13E-01 CI/HR OR 3.14E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.50E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	10.3	8.4	5.7	8.6	10.9	8.6	12.8	15.0
PERCENT	8.4	11.7	3.2	1.2	0.5	0.2	0.3	3.6

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	20.1	13.4	6.8	5.2	15.6	19.3	15.2	14.4
PERCENT	19.7	6.5	1.3	0.2	0.5	9.4	15.4	14.4

PERCENT CALM 2.9

## GAS WASTE SUMMARY FOR RELEASE NUMBER 502

RELEASE START	DATE	12781.	TIME	1826.
RELEASE COMPLETION	DATE	12881.	TIME	735.

RELEASE DURATION 789 MINUTES OR 13.15 HOURS

TANK PRESSURES INITIAL 400 PSIG FINAL 50 PSIG

TANK TEMPERATURE 79 DEG-F

AVERAGE RELEASE RATE 19.36 CFM

TOTAL VOLUME OF GAS RELEASED 4.32E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 30000. ACFM

STABILITY CATAGORY C

RC-NUMBERS GRAB 17388. TRITIUM 17387.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 4.90E-05 2.00E-07 2.45E 02 2.12E-02

133XE 2.21E-03 3.00E-07 7.37E 03 9.56E-01

131XEM 1.19E-04 4.00E-07 2.97E 02 5.15E-02

TOTAL CURIES OF NOBLE GAS RELEASED 1.01E 00

AVERAGE RELEASE RATE 7.82E-02 CI/HR OR 2.17E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.41E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	1.8	4.2	3.1	2.3	5.6	7.6	10.8	12.5
PERCENT	0.4	4.3	2.2	1.1	0.7	1.9	3.5	5.8

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	4.5	6.1	4.5	4.3	3.8	6.1	9.6	4.1
PERCENT	2.1	12.6	12.3	8.8	7.6	13.5	11.6	2.0

PERCENT CALM 8.3



## GAS WASTE SUMMARY FOR RELEASE NUMBER 503

RELEASE START	DATE	12981.	TIME	2132.
RELEASE COMPLETION	DATE	13081.	TIME	1000.

RELEASE DURATION 748 MINUTES OR 12.47 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 22.13 CFM

TOTAL VOLUME OF GAS RELEASED 4.69E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 103 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17423. TRITIUM 17424.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 1.98E-05 2.00E-07 9.90E 01 9.28E-03

133XE 1.78E-03 3.00E-07 5.93E 03 8.34E-01

131XEM 1.20E-04 4.00E-07 3.00E 02 5.62E-02

135XE 5.66E-06 1.00E-07 5.66E 01 2.65E-03

TOTAL CURIES OF NOBLE GAS RELEASED 8.93E-01

AVERAGE RELEASE RATE 7.24E-02 CI/HR OR 2.01E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.22E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	4.0	5.2	6.6	4.8	3.4	2.1	2.2	2.7
PERCENT	2.4	13.1	24.5	9.9	1.3	0.9	0.5	1.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	4.4	2.9	1.8	1.8	2.3	2.8	2.1	2.8
PERCENT	1.4	1.9	1.6	3.3	5.7	4.3	4.0	4.5

PERCENT CALM 19.4

## GAS WASTE SUMMARY FOR RELEASE NUMBER 504

RELEASE START	DATE	13181.	TIME	1420.
RELEASE COMPLETION	DATE	20181.	TIME	322.

RELEASE DURATION 782 MINUTES OR 13.03 HOURS

TANK PRESSURES INITIAL 425 PSIG FINAL 48 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 21.00 CFM

TOTAL VOLUME OF GAS RELEASED 4.65E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 104 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17444. TRITIUM 17445.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SEC	UCI/SEC	MPC(A)	CURIES

\*\*\*\*\*

3H	1.69E-05	2.00E-07	8.45E 01	7.86E-03
133XE	9.99E-04	3.00E-07	3.33E 03	4.65E-01
131XEM	5.10E-05	4.00E-07	1.27E 02	2.37E-02

TOTAL CURIES OF NOBLE GAS RELEASED 4.88E-01

AVERAGE RELEASE RATE 3.81E-02 CI/HR OR 1.06E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.17E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	18.3	16.1	10.7	9.9	9.3	9.5	8.7	11.4
PERCENT	11.5	23.8	7.4	10.0	10.0	7.0	4.7	7.6

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	14.9	13.9	10.7	11.2	6.5	4.2	0.0	0.0
PERCENT	7.3	6.8	0.4	0.6	2.0	0.6	0.0	0.0

PERCENT CALM 0.2

## GAS WASTE SUMMARY FOR RELEASE NUMBER 505

RELEASE START	DATE	20381.	TIME	2205.
RELEASE COMPLETION	DATE	20481.	TIME	1138.

RELEASE DURATION 813 MINUTES OR 13.55 HOURS

TANK PRESSURES INITIAL 460 PSIG FINAL 48 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 22.07 CFM

TOTAL VOLUME OF GAS RELEASED 5.08E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17471. TRITIUM 17470.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 5.79E-05 2.00E-07 2.89E 02 2.94E-02

133XE 3.13E-04 3.00E-07 1.04E 03 1.59E-01

TOTAL CURIES OF NOBLE GAS RELEASED 1.59E-01

AVERAGE RELEASE RATE 1.39E-02 CI/HR OR 3.86E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 4.63E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0	7.0	5.8	5.0	2.7	2.1	2.6	3.1
PERCENT	5	24.3	23.3	8.3	3.8	4.2	6.7	10.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	2.6	8	0.0	0.0	0.0	4.6	0.0	0.0
PERCENT	5.1	6	0.0	0.0	0.0	0.2	0.0	0.0

PERCENT CALM 13.3

## GAS WASTE SUMMARY FOR RELEASE NUMBER 506

RELEASE START	DATE	20981.	TIME	1730.
RELEASE COMPLETION	DATE	21081.	TIME	1100.

RELEASE DURATION 1050 MINUTES OR 17.50 HOURS

TANK PRESSURES INITIAL 410 PSIG FINAL 42 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 15.27 CFM

TOTAL VOLUME OF GAS RELEASED 4.54E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 101 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17500. TRITIUM 17501.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	3.53E-04	2.00E-07	1.76E 03	1.60E-01
133XE	2.05E-02	3.00E-07	6.83E 04	9.30E 00
131XEM	9.18E-05	4.00E-07	2.29E 02	4.17E-02
133XEM	9.99E-05	3.00E-07	3.33E 02	4.53E-02
135XE	3.29E-06	1.00E-07	3.29E 01	1.49E-03
85KR	5.66E-04	3.00E-07	1.89E 03	2.57E-01

TOTAL CURIES OF NOBLE GAS RELEASED 9.65E 00

AVERAGE RELEASE RATE 5.61E-01 CI/HR OR 1.56E 02 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.74E 00 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	20.8	19.4	13.1	9.1	19.2	0.0	0.0	0.0
PERCENT	6.2	58.9	16.0	3.2	0.1	0.0	0.0	0.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	3.3	8.2	9.9	7.3	5.1	13.6	0.0	0.0
PERCENT	0.3	2.9	9.4	1.6	0.9	0.3	0.0	0.0

PERCENT CALM 0.2

## GAS WASTE SUMMARY FOR RELEASE NUMBER 507

RELEASE START	DATE	21281.	TIME	1930.
RELEASE COMPLETION	DATE	21381.	TIME	1325.

RELEASE DURATION 1075 MINUTES OR 17.92 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 15.80 CFM

TOTAL VOLUME OF GAS RELEASED 4.81E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 101 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATEGORY D

PC-NUMBERS GRAB 17526. TRITIUM 17527.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	3.39E-04	2.00E-07	1.69E 03	1.63E-01
133XE	7.26E-03	3.00E-07	2.42E 04	3.49E 00
131XEM	7.63E-05	4.00E-07	1.91E 02	3.67E-02
133XEM	1.61E-05	3.00E-07	5.37E 01	7.74E-03
135XE	1.33E-06	1.00E-07	1.33E 01	6.40E-04

TOTAL CURIES OF NOBLE GAS RELEASED 3.54E 00

AVERAGE RELEASE RATE 2.07E-01 CI/HR OR 5.74E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 6.50E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	6.2	4.2	3.4	4.6	3.0	3.7	5.6	5.5
PERCENT	0.7	2.6	3.7	4.1	1.6	1.3	2.4	1.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	7.2	5.8	4.6	5.8	4.9	6.1	6.0	6.3
PERCENT	8.9	13.1	8.9	6.2	4.4	10.2	5.6	1.9

PERCENT CALM 22.9

## GAS WASTE SUMMARY FOR RELEASE NUMBER 508

RELEASE START	DATE	21881.	TIME	1745.
RELEASE COMPLETION	DATE	21981.	TIME	1132.

RELEASE DURATION 1067 MINUTES OR 17.78 HOURS

TANK PRESSURES INITIAL 450 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 16.33 CFM

TOTAL VOLUME OF GAS RELEASED 4.93E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY A

RC-NUMBERS GRAB 17562. TRITIUM 17563.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 7.51E-06 2.00E-07 3.75E 01 3.70E-03

133XE 1.05E-02 3.00E-07 3.50E 04 5.18E 00

131XEM 1.81E-04 4.00E-07 4.52E 02 8.93E-02

133XEM 9.23E-06 3.00E-07 3.08E 01 4.55E-03

TOTAL CURIES OF NOBLE GAS RELEASED 5.27E 00

AVERAGE RELEASE RATE 2.97E-01 CI/HR OR 8.24E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 9.12E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PERCENT CALM 100.0



## GAS WASTE SUMMARY FOR RELEASE NUMBER 509

RELEASE START	DATE	22181.	TIME	1830.
RELEASE COMPLETION	DATE	22281.	TIME	1115.

RELEASE DURATION 1005 MINUTES OR 16.75 HOURS

TANK PRESSURES INITIAL 420 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 16.04 CFM

TOTAL VOLUME OF GAS RELEASED 4.56E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 102 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17613. TRITIUM 17614.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H 6.29E-06 2.00E-07 3.15E 01 2.87E-03

133XE 1.35E-03 3.00E-07 4.50E 03 6.16E-01

131XEM 3.78E-05 4.00E-07 9.45E 01 1.72E-02

TOTAL CURIES OF NOBLE GAS RELEASED 6.33E-01

AVERAGE RELEASE RATE 3.80E-02 CI/HR OR 1.06E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.17E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	6.2	5.6	7.5	7.8	6.4	5.7	10.8	14.8
PERCENT	1.8	9.9	22.0	13.6	0.3	1.6	4.5	9.3

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	15.4	15.5	8.5	1.4	2.1	4.6	2.4	2.1
PERCENT	20.5	6.8	0.8	0.3	0.1	2.0	1.0	0.9

PERCENT CALM 4.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 510

RELEASE START	DATE	22481.	TIME	1710.
RELEASE COMPLETION	DATE	22581.	TIME	708.

RELEASE DURATION 838 MINUTES OR 13.97 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 20.27 CFM

TOTAL VOLUME OF GAS RELEASED 4.81E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 92 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 17625. TRITIUM 17626.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	3.06E-05	2.00E-07	1.53E 02	1.47E-02
133XE	7.91E-04	3.00E-07	2.64E 03	3.89E-01
131XEM	3.27E-05	4.00E-07	8.17E 01	1.57E-02
135XE	1.55E-06	1.00E-07	1.55E 01	7.46E-04

TOTAL CURIES OF NOBLE GAS RELEASED 3.97E-01

AVERAGE RELEASE RATE 2.95E-02 CI/HR OR 8.1E-05 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 9.21E-02

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	4.0	6.4	8.6	5.1	2.4	2.9	3.4	2.4
PERCENT	2.7	10.9	25.1	12.5	5.6	2.1	3.6	0.2

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	2.0	4.7	7.0	4.9	5.7	8.6	14.2	11.7
PERCENT	0.4	1.2	2.6	2.3	0.1	2.1	14.7	6.7

PERCENT CALM 7.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 511

RELEASE START	DATE	22781.	TIME	1815.
RELEASE COMPLETION	DATE	22881.	TIME	1020.

RELEASE DURATION 965 MINUTES OR 16.08 HOURS

TANK PRESSURES INITIAL 395 PSIG FINAL 50 PSIG

TANK TEMPERATURE 84 DEG-F

AVERAGE RELEASE RATE 15.46 CFM

TOTAL VOLUME OF GAS RELEASED 4.22E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 99 DEG-F. FLOWRATE 33000. ACFM

## STABILITY CATAGORY D

RC-NUMBERS GRAB 17657. TRITIUM 17658.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	5.12E-05	2.00E-07	2.56E 02	2.16E-02
133XE	2.39E-03	3.00E-07	7.97E 03	1.01E 00
131XEM	2.81E-05	4.00E-07	7.02E 01	1.19E-02
133XEM	1.11E-05	3.00E-07	3.70E 01	4.69E-03

TOTAL CURIES OF NOBLE GAS RELEASED 1.03E 00

AVERAGE RELEASE RATE 6.51E-02 CI/HR OR 1.81E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.03E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0
PERCENT	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	13.5	11.7	7.1	8.7	9.3	12.4	12.3	3.2
PERCENT	12.6	45.2	7.5	14.9	10.3	7.6	3.6	0.4

PERCENT CALM 4.3

## GAS WASTE SUMMARY FOR RELEASE NUMBER 512

RELEASE START                      DATE     30381.     TIME     1508.  
 RELEASE COMPLETION                DATE     30481.     TIME     638.

RELEASE DURATION     930 MINUTES OR            15.50 HOURS

TANK PRESSURES INITIAL   435 PSIG                      FINAL     50 PSIG

TANK TEMPERATURE        82 DEG-F

AVERAGE RELEASE RATE            17.96 CFM

TOTAL VOLUME OF GAS RELEASED   4.73E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 102 DEG-F. FLOWRATE     33000. ACFM

STABILITY CATEGORY D

RC-NUMBERS            GRAB     17707.     TRITIUM     17708.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	2.06E-05	2.00E-07	1.03E 02	9.75E-03
133XE	5.87E-04	3.00E-07	1.96E 03	2.78E-01

TOTAL CURIES OF NOBLE GAS RELEASED   2.78E-01

AVERAGE RELEASE RATE     1.85E-02 CI/HR   OR   5.15E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT   5.82E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	18.1	0.0	15.5	0.0	0.0	0.0	0.0	0.0
PERCENT	41.1	0.0	11.8	0.0	0.0	0.0	0.0	0.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0

PERCENT CALM            0.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 513

RELEASE START	DATE	30681.	TIME	1955.
RELEASE COMPLETION	DATE	30781.	TIME	1348.

RELEASE DURATION 1073 MINUTES OR 17.88 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 82 DEG-F

AVERAGE RELEASE RATE 15.77 CFM

TOTAL VOLUME OF GAS RELEASED 4.79E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY C

RC-NUMBERS GRAB 17737. TRITIUM 17736.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	5.76E-05	2.00E-07	2.88E 02	2.76E-02
133XE	1.32E-03	3.00E-07	4.40E 03	6.33E-01
85KRM	1.09E-05	1.00E-07	1.09E 02	5.22E-03
88KR	1.72E-05	2.00E-08	8.60E 02	8.24E-03
135XE	2.29E-05	1.00E-07	2.29E 02	1.10E-02
87KR	1.38E-05	2.00E-08	6.90E 02	6.61E-03

TOTAL CURIES OF NOBLE GAS RELEASED 6.64E-01

AVERAGE RELEASE RATE 3.87E-02 CI/HR OR 1.07E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.63E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	7.4	10.0	10.7	6.4	3.5	1.5	1.5
PERCENT	0.0	0.4	3.6	15.9	4.3	2.4	0.2	0.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.3	6.3	7.0	8.2	6.3	5.7	5.1	4.7
PERCENT	1.4	4.4	4.9	14.0	5.8	2.5	2.5	3.0

PERCENT CALM 34.6

## GAS WASTE SUMMARY FOR RELEASE NUMBER 514

RELEASE START	DATE	30981.	TIME	2050.
RELEASE COMPLETION	DATE	31081.	TIME	1148.

RELEASE DURATION 898 MINUTES OR 14.97 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 81 DEG-F

AVERAGE RELEASE RATE 18.88 CFM

TOTAL VOLUME OF GAS RELEASED 4.80E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 96 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17753. TRITIUM 17754.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	8.67E-05	2.00E-07	4.33E 02	4.16E-02
133XE	4.57E-03	3.00E-07	1.52E 04	2.19E 00
131XEM	5.47E-05	4.00E-07	1.37E 02	2.63E-02

TOTAL CURIES OF NOBLE GAS RELEASED 2.22E 00

AVERAGE RELEASE RATE 1.51E-01 CI/HR OR 4.20E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 4.69E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	3.0	4.0	5.2	3.1	3.1	3.4	3.1	2.2
PERCENT	1.3	3.2	6.5	2.5	3.5	1.8	1.7	1.8

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	4.4	4.4	4.4	1.8	3.3	3.1	2.1	2.0
PERCENT	6.6	19.1	20.7	4.1	2.6	4.5	1.7	1.3

PERCENT CALM 16.1



## GAS WASTE SUMMARY FOR RELEASE NUMBER 515

RELEASE START	DATE	31181.	TIME	1750.
RELEASE COMPLETION	DATE	31281.	TIME	1140.

RELEASE DURATION 1070 MINUTES OR 17.83 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 81 DEG-F

AVERAGE RELEASE RATE 15.44 CFM

TOTAL VOLUME OF GAS RELEASED 4.68E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 101 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17776. TRITIUM 17777.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	2.42E-07	2.00E-07	1.21E 00	1.13E-04
133XE	8.00E-04	3.00E-07	2.67E 03	3.74E-01

TOTAL CURIES OF NOBLE GAS RELEASED 3.74E-01

AVERAGE RELEASE RATE 2.10E-02 CI/HR OR 5.83E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 6.48E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.3	5.8	3.1	3.6	5.5	8.1	2.4	2.1
PERCENT	1.9	14.7	6.5	4.6	1.9	1.7	0.6	0.6

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	2.9	4.0	4.3	3.9	3.4	3.4	3.0	2.1
PERCENT	2.1	5.3	13.0	12.2	11.7	3.5	1.5	0.3

PERCENT CALM 17.7

## GAS WASTE SUMMARY FOR RELEASE NUMBER 516

RELEASE START	DATE	31381.	TIME	1032.
RELEASE COMPLETION	DATE	31481.	TIME	503.

RELEASE DURATION 1111 MINUTES OR 18.52 HOURS

TANK PRESSURES INITIAL 410 PSIG FINAL 43 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 14.39 CFM

TOTAL VOLUME OF GAS RELEASED 4.53E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 104 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY B

RC-NUMBERS GRAB 17795. TRITIUM 17796.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	3.69E-08	2.00E-07	1.84E-01	1.67E-05
133XE	6.87E-04	3.00E-07	2.29E 03	3.11E-01
85KRM	2.81E-06	1.00E-07	2.81E 01	1.27E-03
88KR	2.96E-06	2.00E-08	1.48E 02	1.34E-03
135XE	7.01E-06	1.00E-07	7.01E 01	3.17E-03

TOTAL CURIES OF NOBLE GAS RELEASED 3.17E-01

AVERAGE RELEASE RATE 1.71E-02 CI/HR OR 4.75E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 5.74E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	9.3	4.3	2.4	5.7	2.8	2.6	9.8	8.6
PERCENT	0.1	1.0	0.6	0.6	7.2	7.4	4.3	3.4

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	11.1	9.1	5.5	4.1	4.1	9.1	16.1	12.8
PERCENT	12.2	4.8	5.2	1.6	2.2	4.0	18.2	2.4

PERCENT CALM 24.7

## GAS WASTE SUMMARY FOR RELEASE NUMBER 517

RELEASE START	DATE	31581.	TIME	1414.
RELEASE COMPLETION	DATE	31681.	TIME	555.

RELEASE DURATION 941 MINUTES OF 15.68 HOURS

TANK PRESSURES INITIAL 450 PSIG FINAL 50 PSIG

TANK TEMPERATURE 81 DEG-F

AVERAGE RELEASE RATE 18.48 CFM

TOTAL VOLUME OF GAS RELEASED 4.92E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 104 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATEGORY A

RC-NUMBERS GRAB 17815. TRITIUM 17814.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 1.46E-05 2.00E-07 7.30E 01 7.19E-03

133XE 2.28E-04 3.00E-07 7.60E 02 1.12E-01

TOTAL CURIES OF NOBLE GAS RELEASED 1.12E-01

AVERAGE RELEASE RATE 7.62E-03 CI/HR OR 2.12E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.42E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	3.9	5.1	5.0	5.5	8.7	6.3	6.8	5.6
PERCENT	1.0	8.6	7.7	2.9	4.6	3.9	4.7	2.6

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	7.2	4.4	4.2	4.3	4.1	4.3	3.1	4.2
PERCENT	4.7	6.3	6.2	10.5	9.7	6.3	0.8	1.3

PERCENT CALM 17.9

## GAS WASTE SUMMARY FOR RELEASE NUMBER 518

RELEASE START	DATE	31881.	TIME	1415.
RELEASE COMPLETION	DATE	31981.	TIME	520.

RELEASE DURATION 905 MINUTES OR 15.08 HOURS

TANK PRESSURES INITIAL 420 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 17.81 CFM

TOTAL VOLUME OF GAS RELEASED 4.56E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 105 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY B

RC-NUMBERS GRAB 17831. TRITIUM 17830.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A)	CURIES
*****				
3H	4.44E-06	2.00E-07	2.22E 01	2.03E-03
133XE	3.27E-04	3.00E-07	1.09E 03	1.49E-01

TOTAL CURIES OF NOBLE GAS RELEASED 1.49E-01

AVERAGE RELEASE RATE 1.00E-02 CI/HR OR 2.79E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.12E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.8	4.7	7.9	7.2	6.5	2.1	1.4	2.0
PERCENT	0.5	7.1	18.6	13.3	2.2	0.4	0.2	0.3

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	4.3	3.3	2.2	2.5	2.8	5.6	4.6	6.2
PERCENT	1.0	5.2	13.3	6.0	1.9	0.3	2.1	9.4

PERCENT CALM 18.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 519

RELEASE START	DATE	32081.	TIME	1729.
RELEASE COMPLETION	DATE	32181.	TIME	824.

RELEASE DURATION 895 MINUTES OR 14.92 HOURS

TANK PRESSURES INITIAL 422 PSIG FINAL 52 PSIG

TANK TEMPERATURE 82 DEG-F

AVERAGE RELEASE RATE 17.94 CFM

TOTAL VOLUME OF GAS RELEASED 4.55E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 101 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17883. TRITIUM 17882.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 1.66E-06 2.00E-07 8.30E 00 7.55E-04

133XE 1.45E-04 3.00E-07 4.83E 02 6.59E-02

TOTAL CURIES OF NOBLE GAS RELEASED 6.59E-02

AVERAGE RELEASE RATE 4.47E-03 CI/HR OR 1.24E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.39E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	8.1	7.1	6.9	6.0	4.3	5.8	5.6	3.2
PERCENT	3.1	27.8	24.9	5.5	5.8	4.3	0.2	0.2

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.5	4.4	4.9	7.6	8.2	6.2	8.8	9.7
PERCENT	0.5	2.3	2.6	3.5	5.3	1.9	1.5	0.6

PERCENT CALM 10.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 520

RELEASE START	DATE	32181.	TIME	1903.
RELEASE COMPLETION	DATE	32281.	TIME	746.

RELEASE DURATION 763 MINUTES OR 12.72 HOURS

TANK PRESSURES INITIAL 390 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 19.41 CFM

TOTAL VOLUME OF GAS RELEASED 4.19E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 99 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 17902. TRITIUM 17903.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------------	-----------------

\*\*\*\*\*

3H 8.78E-06 2.00E-07 4.39E 01 3.68E-03

133XE 1.24E-04 3.00E-07 4.13E 02 5.20E-02

TOTAL CURIES OF NOBLE GAS RELEASED 5.20E-02

AVERAGE RELEASE RATE 4.38E-03 CI/HR OR 1.22E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.40E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	3.1	9.8	8.9	0.0	8.1	6.0
PERCENT	0.0	0.0	0.2	7.9	2.7	0.0	14.0	17.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	3.6	3.4	2.7	2.8	1.4	0.0	0.0	5.7
PERCENT	26.3	16.1	11.3	1.8	0.1	0.0	0.0	0.1

PERCENT CALM 5.3



## GAS WAST. SUMMARY FOR RELEASE NUMBER 521

RELEASE START	DATE	32481.	TIME	1641.
RELEASE COMPLETION	DATE	32581.	TIME	1058.

RELEASE DURATION 1097 MINUTES OR 18.28 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 15.09 CFM

TOTAL VOLUME OF GAS RELEASED 4.69E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 86 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 17914. TRITIUM 17915.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A)	CURIES
*****				
3H	7.98E-06	2.00E-07	3.99E 01	3.74E-03
133XE	1.35E-05	3.00E-07	4.50E 01	6.33E-03

TOTAL CURIES OF NOBLE GAS RELEASED 6.33E-03

AVERAGE RELEASE RATE 5.51E-04 CI/HR OR 1.53E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.02E-03 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	6.0	4.3	3.7	3.9	7.3	6.0	6.9
PERCENT	0.0	1.9	2.5	2.7	1.9	0.5	1.3	1.2

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	8.8	7.2	6.7	5.4	3.9	1.7	1.4	0.0
PERCENT	9.5	23.5	22.8	26.1	3.1	0.6	0.1	0.0

PERCENT CALM 2.1

## GAS WASTE SUMMARY FOR RELEASE NUMBER 522

RELEASE START	DATE	32781	TIME	1830
RELEASE COMPLETION	DATE	32881	TIME	1117

RELEASE DURATION 10<sup>0</sup> (MINUTES OR 16.78 HOURS

TANK PRESSURES INITIAL 350 PSIG FINAL 52 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 12.89 CFM

TOTAL VOLUME OF GAS RELEASED 3.68E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 84 DEG-F FLOWRATE 31000 ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 17976 TRITIUM 17977

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SEC	MPC(A) UCI/SEC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 4.49E-03 2.00E-07 2.24E 04 1.65E 00

133XE 6.44E-06 3.00E-07 2.15E 01 2.37E-03

TOTAL CURIES OF NOBLE GAS RELEASED 2.37E-03

AVERAGE RELEASE RATE 9.85E-02 CI/HR OR 2.74E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 56E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	15.7	15.2	14.3	14.6	0.0	17.4	0.0	12.6
PERCENT	17.6	46.9	20.4	1.2	0.0	0.2	0.0	0.3

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	0.0	10.8	14.1	8.2	6.1	11.4	9.9	12.2
PERCENT	0.0	0.2	0.3	0.1	0.2	1.6	3.7	7.0

PERCENT CALM 0.3

TABLE 4.1

RADIOCHEMISTRY SUMMARY FROM 10181. TO 33181.

SYSTEM	BETA/GAMMA	ALPHA	TRITIUM	
*****				
FARM POND (EFFLUENT)				
	3.38E-08	2.34E-08	2.56E-04	MAXIMUM
	6.21E-09	4.29E-09	6.82E-07	MINIMUM
	1.93E-08(13)	1.16E-08(13)	7.29E-05(13)	AVERAGE
.....				
COOLING TOWER BLOWDOWN				
	6.45E-07	5.86E-08	3.57E-03	MAXIMUM
	4.99E-09	2.64E-09	4.21E-07	MINIMUM
	3.34E-08(62)	1.33E-08(62)	6.31E-04(**)	AVERAGE
.....				
REACTOR BUILDING SUMP (EFFLUENT)				
	5.53E-08	1.17E-08	3.72E-03	MAXIMUM
	4.94E-09	1.39E-09	5.55E-05	MINIMUM
	1.16E-08(45)	3.22E-09(45)	8.92E-04(45)	AVERAGE
.....				
TURBINE BUILDING SUMP (EFFLUENT)				
	3.70E-07	5.03E-08	3.81E-04	MAXIMUM
	5.78E-09	1.42E-09	8.61E-06	MINIMUM
	2.31E-08(38)	8.39E-09(38)	1.11E-04(38)	AVERAGE
.....				
SYSTEM 21				
	1.94E-08	7.53E-09	5.48E-04	MAXIMUM
	5.08E-09	1.67E-09	8.01E-05	MINIMUM
	9.67E-09(23)	3.20E-09(23)	3.26E-04(23)	AVERAGE
.....				
SYSTEM 31				
	1.94E-08	7.52E-09	6.58E-04	MAXIMUM
	4.94E-09	1.68E-09	3.02E-05	MINIMUM
	7.63E-09(28)	2.78E-09(28)	2.95E-04(28)	AVERAGE
.....				
SYSTEM 41				
	5.22E-07	1.30E-07	9.92E-07	MAXIMUM
	2.39E-08	1.02E-08	4.15E-07	MINIMUM
	2.09E-07(3)	5.99E-08(3)	7.21E-07(3)	AVERAGE
.....				
SYSTEM 42				
	3.16E-08	6.84E-09	9.92E-07	MAXIMUM
	5.41E-09	2.19E-09	4.77E-07	MINIMUM
	1.73E-08(3)	3.83E-09(3)	7.45E-07(3)	AVERAGE
.....				
SYSTEM 46				
	8.28E-08	7.69E-09	3.08E-04	MAXIMUM
	5.67E-09	1.54E-09	8.10E-05	MINIMUM
	1.45E-08(33)	3.00E-09(33)	1.93E-04(33)	AVERAGE
.....				
SYSTEM 47				
	1.94E-08	7.53E-09	2.95E-04	MAXIMUM
	5.08E-09	1.67E-09	2.18E-04	MINIMUM
	8.65E-09(24)	3.16E-09(24)	2.45E-04(24)	AVERAGE

## NOTES:

1. ALL ACTIVITIES EXPRESSED IN UNITS OF UCI/ML.
2. ( ) REPRESENTS THE NUMBER OF SAMPLES REPRESENTED BY THE AVERAGE VALUE.



## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 448

RELEASE MADE FROM T6204

RELEASE START DATE 40481. TIME 1305.

RELEASE COMPLETION DATE 40481. TIME 1630.

RELEASE DURATION : 205. MINUTES

TANK LEVELS : INITIAL 115. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 8778333. FINAL 8815041.

AVERAGE RELEASE RATE: 35.68 LPM OR 9.43 GPM

AVERAGE BLOWDOWN RATE: 6777.55 LPM OR 1790.63 GPM

TOTAL VOLUME RELEASED: 7315. LITERS OR 1933. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1389398. LITERS OR 367080. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	40381.	640. 18033.	6.02E-08	3.03E-09	2.21E-02	0.00E-01	11763.
B	40381.	645. 18034.	3.75E-08	1.28E-09	2.21E-02	0.00E-01	11764.
C	40481.	1145. 18039.	1.20E-08	6.92E-09	4.21E-07		
D	40481.	1835. 18042.	1.21E-08	2.90E-09	4.21E-07		
E	40481.	1405. 18041.	1.30E-08	1.15E-08	1.33E-04		
F	40481.	1820. 18040.	1.65E-07	9.96E-09	2.65E-06		
G	33081.	1010. 18002.	1.22E-08	2.69E-09	6.89E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	4.40E-07	6.02E-08	2.52E-10	8.38E-01
GROSS ALPHA	9.36E-09	1.28E-09	7.40E-12	N/A
TRITIUM	1.62E-01	2.21E-02	1.15E-04	3.85E 00



## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 449

RELEASE MADE FROM T6204

RELEASE START DATE 41081. TIME 1125.

RELEASE COMPLETION DATE 41081. TIME 1508.

RELEASE DURATION : 223. MINUTES

TANK LEVELS : INITIAL 125. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 107600. FINAL 142890.

AVERAGE RELEASE RATE: 35.17 LPM OR 9.29 GPM

AVERAGE BLOWDOWN RATE: 5989.80 LPM OR 1582.51 GPM

TOTAL VOLUME RELEASED: 7842. LITERS OR 2072. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1335726. LITERS OR 352900. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	NCH NUMBER
A	40981.	530.18099.	1.06E-07	1.81E-08	6.03E-03	0.00E-01	11787.
B	40981.	535.18100.	8.50E-08	2.52E-08	6.01E-03	0.00E-01	11788.
C	41081.	1110.18103.	1.50E-08	2.73E-09	4.04E-07		
D	41081.	1605.18104.	9.73E-09	1.25E-08	4.04E-07		
E	41081.	1230.18105.	2.34E-08	4.63E-09	3.65E-05		
F	41081.	1615.18106.	8.78E-09	4.64E-09	3.68E-05		
G	40681.	900.18057.	1.40E-08	9.61E-09	4.21E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	8.31E-07	1.06E-07	5.37E-10	1.79E 00
GROSS ALPHA	1.98E-07	2.52E-08	9.10E-11	N/A
TRITIUM	4.73E-02	6.03E-03	3.52E-05	1.17E 00



## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 450

RELEASE MADE FROM T6204

RELEASE START DATE 41681. TIME 2207.

RELEASE COMPLETION DATE 41781. TIME 225.

RELEASE DURATION : 258. MINUTES

TANK LEVELS : INITIAL 138. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 1512030. FINAL 1554600.

AVERAGE RELEASE RATE: 34.23 LPM OR 9.04 GPM

AVERAGE BLOWDOWN RATE: 6245.25 LPM OR 1650.00 GPM

TOTAL VOLUME RELEASED: 8831. LITERS OR 2333. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1611274. LITERS OR 425700. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	41581.	1505.18130.	3.08E-07	2.44E-08	3.86E-02	0.00E-01	11811.
B	41581.	1510.18131.	1.88E-07	9.62E-09	3.93E-02	0.00E-01	11812.
C	41681.	442.18175.	8.83E-09	2.46E-09	3.93E-07		
D	41781.	430.18176.	8.72E-09	5.43E-09	1.34E-06		
E	41681.	2307.18177.	1.32E-08	2.56E-09	2.34E-04		
F	41781.	415.18178.	1.93E-08	4.27E-09	1.40E-05		
G	41381.	835.18115.	1.46E-08	5.45E-09	4.04E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	2.72E-06	3.08E-07	1.60E-09	5.33E 00
GROSS ALPHA	8.50E-08	9.62E-09	2.27E-11	N/A
TRITIUM	3.47E-01	3.93E-02	2.14E-04	7.14E 00

TABLE 1.2 (PAGE 4 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 451

RELEASE MADE FROM T6204

RELEASE START DATE 41881. TIME 2226.

RELEASE COMPLETION DATE 41981. TIME 230.

RELEASE DURATION : 244. MINUTES

TANK LEVELS : INITIAL 129. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 1984000. FINAL 2030128.

AVERAGE RELEASE RATE: 33.49 LPM OR 8.85 GPM

AVERAGE BLOWDOWN RATE: 7155.51 LPM OR 1890.49 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1745945. LITERS OR 461280. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	41881.	815. 18144.	4.60E-07	1.99E-08	4.59E-01	0.00E-01	11825.
B	41881.	820. 18145.	3.12E-07	1.98E-08	4.48E-01	0.00E-01	11832.
C	41881.	2100. 18152.	1.86E-08	2.64E-09	4.01E-07		
D	41981.	507. 18153.	2.46E-08	2.58E-09	1.43E-06		
E	41881.	2332. 18154.	2.65E-08	2.78E-09	2.30E-03		
F	41981.	446. 18155.	2.44E-08	2.66E-09	5.60E-07		
G	41381.	835. 18115.	1.46E-08	5.45E-09	4.04E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	3.76E-06	4.60E-07	2.07E-09	6.92E 00
GROSS ALPHA	1.62E-07	1.98E-08	6.68E-11	N/A
TRITIUM	3.75E 00	4.59E-01	2.14E-03	7.13E 01

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 452

RELEASE MADE FROM T6204

RELEASE START DATE 42381. TIME 1345.

RELEASE COMPLETION DATE 42381. TIME 1753.

RELEASE DURATION : 248. MINUTES

TANK LEVELS : INITIAL 134. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 3154450. FINAL 3200430.

AVERAGE RELEASE RATE: 34.01 LPM OR 8.99 GPM

AVERAGE BLOWDOWN RATE: 7017.51 LPM OR 1854.03 GPM

TOTAL VOLUME RELEASED: 8435. LITERS OR 2229. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1740343. LITERS OR 459800. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	42281.	700.18180.	1.33E-07	1.67E-08	5.95E-02	0.00E-01	11847.
B	42281.	705.18181.	1.77E-07	1.67E-08	5.92E-02	0.00E-01	11850.
C	42381.	1335.18197.	2.16E-08	4.45E-09	4.06E-07		
D	42381.	1852.18195.	1.80E-08	2.48E-09	9.75E-07		
E	42381.	1445.18199.	1.85E-08	4.07E-09	3.18E-04		
F	42381.	1852.18200.	1.36E-08	2.63E-09	1.82E-04		
G	42081.	845.18161.	2.22E-08	2.67E-09	5.38E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.49E-06	1.77E-07	7.47E-10	2.49E 00
GROSS ALPHA	1.41E-07	1.67E-08	6.76E-11	N/A
TRITIUM	5.02E-01	5.95E-02	2.87E-04	9.57E 00

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 453

RELEASE MADE FROM T6204

RELEASE START DATE 42681. TIME 1940.

RELEASE COMPLETION DATE 42681. TIME 2330.

RELEASE DURATION : 230. MINUTES

TANK LEVELS : INITIAL 127. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 4021910. FINAL 4065140.

AVERAGE RELEASE RATE: 34.96 LPM OR 9.24 GPM

AVERAGE BLOWDOWN RATE: 7114.15 LPM OR 1879.57 GPM

TOTAL VOLUME RELEASED: 8040. LITERS OR 2124. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1636255. LITERS OR 432300. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	42681.	1000. 18208.	9.91E-08	2.36E-09	5.18E-02	0.00E-01	11870.
B	42681.	1005. 18209.	9.97E-08	2.36E-09	5.15E-02	0.00E-01	11871.
C	42681.	1938. 18212.	8.74E-09	3.51E-09	5.56E-07		
D	42781.	135. 18213.	8.75E-09	3.02E-09	5.47E-07		
E	42681.	2040. 18214.	8.80E-09	6.32E-09	2.64E-04		
F	42781.	130. 18215.	8.81E-09	3.73E-09	3.91E-06		
G	42081.	845. 18161.	2.22E-08	2.67E-09	5.38E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	8.02E-07	9.97E-08	3.79E-10	1.26E 00
GROSS ALPHA	1.90E-08	2.36E-09	-1.51E-12	N/A
TRITIUM	4.16E-01	5.18E-02	2.53E-04	8.44E 00

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 454

RELEASE MADE FROM T6204

RELEASE START DATE 42881. TIME 1507.

RELEASE COMPLETION DATE 42881. TIME 2030.

RELEASE DURATION : 323. MINUTES

TANK LEVELS : INITIAL 142. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 4480600. FINAL 4522222.

AVERAGE RELEASE RATE: 27.75 LPM OR 7.33 GPM

AVERAGE BLOWDOWN RATE: 4877.38 LPM OR 1288.61 GPM

TOTAL VOLUME RELEASED: 8962. LITERS OR 2368. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1575393. LITERS OR 416220. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	42781.	1507.18228.	7.52E-08	1.91E-08	9.71E-03	7.07E-06	11880.
B	42781.	1505.18229.	1.02E-07	1.91E-08	9.81E-03	7.07E-06	11883.
C	42881.	1447.18246.	1.12E-08	4.96E-09	3.91E-07		
D	42881.	2137.18247.	8.31E-09	3.85E-09	7.65E-07		
E	42881.	1610.18248.	1.98E-08	4.85E-09	9.28E-05		
F	42881.	2145.18249.	2.46E-08	2.76E-09	3.76E-06		
G	42781.	830.18225.	8.75E-09	1.72E-09	6.21E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	9.14E-07	1.02E-07	5.27E-10	1.76E 00
GROSS ALPHA	1.71E-07	1.91E-08	9.83E-11	N/A
TRITIUM	8.79E-02	9.81E-03	5.52E-05	1.84E 00
133XE	6.34E-05	7.07E-06	4.00E-08	2.00E-02



## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 455

RELEASE MADE FROM T6204

RELEASE START DATE 42981. TIME 1745.

RELEASE COMPLETION DATE 42981. TIME 2200.

RELEASE DURATION : 255. MINUTES

TANK LEVELS : INITIAL 127. INCHES FINAL 7. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 4684827. FINAL 4722688.

AVERAGE RELEASE RATE: 31.01 LPM OR 8.19 GPM

AVERAGE BLOWDOWN RATE: 5619.76 LPM OR 1484.75 GPM

TOTAL VOLUME RELEASED: 7908. LITERS OR 2089. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1433039. LITERS OR 378610. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	42981.	450.18235.	9.50E-08	1.92E-08	6.84E-03	9.13E-04	11891.
B	42981.	450.18236.	9.40E-08	1.92E-08	6.84E-03	9.13E-04	11896.
C	42981.	1640.18253.	1.26E-08	7.07E-09	3.97E-07		
D	43081.	15.18254.	1.12E-08	6.03E-09	5.41E-07		
E	42981.	1845.18255.	8.67E-09	9.91E-09	4.77E-05		
F	43081.	5.18256.	1.62E-08	9.11E-09	3.97E-07		
G	42781.	830.18225.	8.75E-09	1.72E-09	6.21E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	7.51E-07	9.50E-08	4.73E-10	1.58E 00
GROSS ALPHA	1.52E-07	1.92E-08	9.60E-11	N/A
TRITIUM	5.41E-02	6.84E-03	3.72E-05	1.24E 00
133XE	7.22E-03	9.13E-04	5.01E-06	2.51E 00



## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 456

RELEASE MADE FROM T6204

RELEASE START DATE 50181. TIME 1850.

RELEASE COMPLETION DATE 50181. TIME 2255.

RELEASE DURATION : 245. MINUTES

TANK LEVELS : INITIAL 135. INCHES FINAL 7. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 5081313. FINAL 5125000.

AVERAGE RELEASE RATE: 34.43 LPM OR 9.10 GPM

AVERAGE BLOWDOWN RATE: 6749.20 LPM OR 1783.14 GPM

TOTAL VOLUME RELEASED: 8435. LITERS OR 2229. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1653553. LITERS OR 436870. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	50181.	400.18259.	1.01E-07	2.16E-08	4.13E-02	2.71E-06	11908.
B	50181.	400.18260.	1.06E-07	2.16E-08	4.17E-02	2.71E-06	11911.
C	50181.	1652.18285.	1.34E-08	1.54E-08	3.98E-07		
D	50281.	30.18286.	8.30E-09	6.85E-09	5.04E-07		
E	50181.	1950.18287.	1.23E-08	2.17E-08	3.98E-07		
F	50281.	30.18288.	7.11E-08	2.48E-08	4.19E-06		
G	42781.	830.18225.	8.75E-09	1.72E-09	6.21E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	8.94E-07	1.06E-07	4.94E-10	1.65E 00
GROSS ALPHA	1.82E 07	2.16E-08	1.01E-10	N/A
TRITIUM	3.52E-01	4.17E-02	2.12E-04	7.05E 00
133XE	2.29E-05	2.71E-06	1.38E-08	6.88E-03

TABLE 1.2 (PAGE 10 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 457

RELEASE MADE FROM T6204

RELEASE START DATE 50281. TIME 1725.

RELEASE COMPLETION DATE 50281. TIME 2125.

RELEASE DURATION : 240. MINUTES

TANK LEVELS : INITIAL 127. INCHES FINAL 7. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 5313867. FINAL 5356557.

AVERAGE RELEASE RATE: 32.95 LPM OR 8.71 GPM

AVERAGE BLOWDOWN RATE: 6732.57 LPM OR 1778.75 GPM

TOTAL VOLUME RELEASED: 7908. LITERS OR 2089. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1615816. LITERS OR 426900. GALLONS

## DEFINITIONS:

A= LIQUID WASTE SAMPLE NUMBER ONE

B= LIQUID WASTE SAMPLE NUMBER TWO

C= RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D= RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E= BLOWDOWN SAMPLE - DURING RELEASE

F= BLOWDOWN SAMPLE - AFTER RELEASE

G= BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	50281.	535. 18275.	5.34E-07	1.66E-08	9.42E-02	1.41E-06	11920.
B	50281.	540. 18276.	6.36E-07	2.09E-08	9.53E-02	1.41E-06	11921.
C	50281.	1625. 18289.	8.22E-09	1.37E-08	3.98E-07		
D	50281.	2315. 18290.	6.48E-09	1.72E-08	3.98E-07		
E	50281.	1825. 18291.	7.57E-08	4.77E-08	4.51E-04		
F	50281.	2310. 18292.	9.55E-09	4.87E-08	4.46E-07		
G	42781.	830. 18225.	8.75E-09	1.72E-09	6.21E-05		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	5.03E-06	6.36E-07	3.05E-09	1.02E 01
GROSS ALPHA	1.65E-07	2.09E-08	9.34E-11	N/A
TRITIUM	7.53E-01	9.53E-02	4.64E-04	1.55E 01
133XE	1.12E-05	1.41E-06	6.87E-09	3.43E-03

TABLE 1.2 (PAGE 11 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 458

RELEASE MADE FROM T6204

RELEASE START DATE 50481. TIME 1859.

RELEASE COMPLETION DATE 50481. TIME 2213.

RELEASE DURATION : 194. MINUTES

TANK LEVELS : INITIAL 109. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 5829000. FINAL 5863400.

AVERAGE RELEASE RATE: 34.99 LPM OR 9.24 GPM

AVERAGE BLOWDOWN RATE: 6711.55 LPM OR 1773.20 GPM

TOTAL VOLUME RELEASED: 6788. LITERS OR 1793. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1302040. LITERS OR 344000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	50481.	605. 18282.	3.59E-07	2.60E-08	4.45E-02	0.00E-01	11928.
B	50481.	610. 18283.	3.51E-07	2.59E-08	4.37E-02	0.00E-01	11929.
C	50481.	1800. 18300.	1.99E-08	1.93E-08	3.98E-07		
D	50581.	40. 18301.	2.09E-08	1.46E-08	3.98E-07		
E	50481.	2000. 18302.	3.85E-08	7.98E-08	2.03E-04		
F	50581.	50. 18303.	2.31E-08	1.95E-08	1.85E-06		
G	50481.	900. 18299.	3.53E-08	2.01E-08	6.90E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	2.44E-06	3.59E-07	1.68E-09	5.60E 00
GROSS ALPHA	1.76E-07	2.59E-08	3.02E-11	N/A
TRITIUM	3.02E-01	4.45E-02	2.31E-04	7.69E 00

TABLE 1.2 (PAGE 12 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 459

RELEASE MADE FROM T6204

RELEASE START DATE 50781. TIME 1255.

RELEASE COMPLETION DATE 50781. TIME 1613.

RELEASE DURATION : 198. MINUTES

TANK LEVELS : INITIAL 118. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 6541370. FINAL 6577173.

AVERAGE RELEASE RATE: 37.28 LPM OR 9.85 GPM

AVERAGE BLOWDOWN RATE: 6844.16 LPM OR 1808.23 GPM

TOTAL VOLUME RELEASED: 7381. LITERS OR 1950. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1355144. LITERS OR 358030. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	50681.	815. 18311.	2.85E-07	9.66E-09	3.72E-02	2.71E-06	11942.
B	50681.	820. 18312.	3.87E-07	1.78E-08	3.67E-02	2.71E-06	11944.
C	50781.	1250. 18324.	1.74E-08	8.26E-09	3.98E-07		
D	50781.	1830. 18325.	1.55E-08	1.63E-08	3.98E-07		
E	50781.	1355. 18326.	2.50E-08	2.51E-08	6.38E-06		
F	50781.	1815. 18327.	3.14E-08	4.02E-08	1.31E-05		
G	50481.	900. 18299.	3.53E-08	2.01E-08	6.90E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	2.86E-06	3.87E-07	1.91E-09	6.35E 00
GROSS ALPHA	1.31E-07	1.78E-08	-1.23E-11	N/A
TRITIUM	2.74E-01	3.72E-02	2.01E-04	6.71E 00
133XE	2.00E-05	2.71E-06	1.47E-08	7.34E-03

TABLE 1.2 (PAGE 13 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 460

RELEASE MADE FROM T6204

RELEASE START DATE 51281. TIME 1235.

RELEASE COMPLETION DATE 51281. TIME 1545.

RELEASE DURATION : 190. MINUTES

TANK LEVELS : INITIAL 105. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 7842640. FINAL 7890080.

AVERAGE RELEASE RATE: 34.68 LPM OR 9.16 GPM

AVERAGE BLOWDOWN RATE: 9450.55 LPM OR 2496.84 GPM

TOTAL VOLUME RELEASED: 6590. LITERS OR 1741. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1795604. LITERS OR 474400. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	51181.	610. 18330.	4.46E-07	2.80E-08	5.64E-01	5.73E-06	11969.
B	51181.	615. 18331.	5.75E-07	4.39E-08	5.66E-01	5.73E-06	11970.
C	51281.	1045. 18345.	2.21E-08	1.36E-08	3.88E-07		
D	51281.	1735. 18346.	2.62E-08	2.66E-08	2.30E-06		
E	51281.	1345. 18347.	2.99E-08	2.81E-08	2.37E-03		
F	51281.	1730. 18348.	2.55E-08	1.56E-08	2.01E-06		
G	51381.	1100. 18393.	2.52E-08	1.55E-08	1.72E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	3.79E-06	5.75E-07	2.01E-09	6.70E 00
GROSS ALPHA	2.89E-07	4.39E-08	1.04E-10	N/A
TRITIUM	3.73E 00	5.66E-01	2.07E-03	6.90E 01
133XE	3.78E-05	5.73E-06	2.10E-08	1.05E-02



TABLE 1.2 (PAGE 14 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 461

RELEASE MADE FROM T6202

RELEASE START DATE 51281. TIME 1920.

RELEASE COMPLETION DATE 51281. TIME 2312.

RELEASE DURATION : 232. MINUTES

TANK LEVELS : INITIAL 144. INCHES FINAL 9. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 7935400. FINAL 7985100.

AVERAGE RELEASE RATE: 38.35 LPM OR 10.13 GPM

AVERAGE BLOWDOWN RATE: 8108.38 LPM OR 2142.24 GPM

TOTAL VOLUME RELEASED: 8896. LITERS OR 2350. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1881145. LITERS OR 497000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	51281.	635. 18337.	4.70E-07	3.12E-08	3.53E-01	4.18E-06	11974.
B	51281.	645. 18338.	5.72E-07	4.77E-08	3.54E-01	4.18E-06	- 11976.
C	51281.	1820. 18379.	2.54E-08	9.11E-09	5.34E-07		
D	51381.	130. 18380.	2.04E-08	7.01E-09	1.35E-06		
E	51281.	2025. 18381.	5.51E-08	4.45E-08	1.35E-03		
F	51381.	138. 18382.	2.19E-08	1.86E-08	4.50E-03		
G	51381.	1100. 18393.	2.52E-08	1.55E-08	1.72E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	5.09E-06	5.72E-07	2.57E-09	8.57E-00
GROSS ALPHA	4.24E-07	4.77E-08	1.52E-10	N/A
TRITIUM	3.15E-00	3.54E-01	1.67E-03	5.56E-01
133XE	3.72E-05	4.18E-06	1.97E-08	9.84E-03



TABLE 1.2 (PAGE 15 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 462

RELEASE MADE FROM T6204

RELEASE START DATE 51481. TIME 1843.

RELEASE COMPLETION DATE 51481. TIME 2245.

RELEASE DURATION 242. MINUTES

TANK LEVELS : INITIAL 129. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 8487069. FINAL 8538648.

AVERAGE RELEASE RATE: 33.77 LPM OR 8.92 GPM

AVERAGE BLOWDOWN RATE: 8067.21 LPM OR 2131.36 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1952265. LITERS OR 515790. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	51381.	705.18384.	5.03E-07	5.03E-08	2.34E-01	5.07E-06	11988.
B	51381.	700.18385.	6.59E-07	6.35E-08	2.41E-01	5.07E-06	11990.
C	51481.	1730.18416.	1.64E-08	1.05E-08	6.15E-07		
D	51581.	45.18419.	1.61E-08	1.18E-08	1.12E-06		
E	51481.	1945.18420.	2.80E-08	2.13E-08	1.00E-03		
F	51581.	30.18421.	1.53E-07	5.03E-08	3.59E-06		
G	51381.	1100.18393.	2.52E-08	1.55E-08	1.72E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	5.38E-06	6.59E-07	2.64E-09	8.80E 00
GROSS ALPHA	5.19E-07	6.35E-08	2.00E-10	N/A
TRITIUM	1.97E 00	2.41E-01	1.00E-03	3.34E 01
133XE	4.14E-05	5.07E-06	2.11E-08	1.06E-02

TABLE 1.2 (PAGE 16 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 463

RELEASE MADE FROM 16204

RELEASE START DATE 52081 TIME 1745

RELEASE COMPLETION DATE 52081 TIME 2122

RELEASE DURATION : 217 MINUTES

TANK LEVELS : INITIAL 118 INCHES FINAL 4 INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 9881144 FINAL 9910962

AVERAGE RELEASE RATE: 34.62 LPM OR 9.15 GPM

AVERAGE BLOWDOWN RATE: 5200.97 LPM OR 1374.10 GPM

TOTAL VOLUME RELEASED: 7513 LITERS OR 1985 GALLONS

TOTAL VOLUME USED FOR DILUTION: 1128611 LITERS OR 298180 GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	51981	700.18441	1.00E-07	2.00E-08	1.35E-01	0.00E-01	12018
B	51981	705.18442	1.44E-07	1.99E-08	1.33E-01	0.00E-01	12022
C	52081	1705.18458	2.24E-08	1.05E-08	5.20E-07		
D	52081	1845.18459	2.37E-08	5.84E-09	7.98E-04		
E	52081	2320.18460	2.05E-08	8.24E-09	3.91E-07		
F	52081	2320.18461	1.01E-08	5.47E-09	7.97E-06		
G	51881	830.18427	1.88E-08	5.71E-09	3.89E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.08E-06	1.44E-07	3.31E-10	2.77E-00
GROSS ALPHA	1.50E-07	1.99E-08	9.38E-11	N/A
TRITIUM	1.02E-00	1.35E-01	8.96E-04	2.99E-01

TABLE 1.2 (PAGE 17 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 464

RELEASE MADE FROM T6204

RELEASE START DATE 52181. TIME 1750.

RELEASE COMPLETION DATE 52181. TIME 2150.

RELEASE DURATION : 240. MINUTES

TANK LEVELS : INITIAL 128. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 79900. FINAL 112800.

AVERAGE RELEASE RATE: 34.05 LPM OR 9.00 GPM

AVERAGE BLOWDOWN RATE: 5188.60 LPM OR 1370.83 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1245265. LITERS OR 329000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	52181.	640. 18456.	2. 26E-07	6. 03E-08	6. 09E-02	1. 73E-06	12032.
B	52181.	645. 18457.	2. 79E-07	5. 44E-08	5. 86E-02	1. 73E-06	12034.
C	52181.	1735. 18474.	1. 68E-08	2. 15E-08	3. 97E-07		
D	52181.	2330. 18475.	1. 68E-08	2. 76E-08	3. 89E-07		
E	52181.	1850. 18476.	2. 11E-08	7. 61E-09	3. 13E-04		
F	52181.	2350. 18477.	2. 88E-08	1. 51E-08	3. 35E-06		
G	51881.	830. 18437.	1. 88E-08	5. 71E-09	3. 89E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	2. 28E-06	2. 79E-07	1. 70E-09	5. 66E 00
GROSS ALPHA	4. 45E-07	5. 44E-08	3. 17E-10	N/A
TRITIUM	4. 98E-01	6. 09E-02	3. 97E-04	1. 32E 01
133XE	1. 41E-05	1. 73E-06	1. 13E-08	5. 64E-03

TABLE 1.2 (PAGE 18 OF 29)

## LIQUID PASTE SUMMARY FOR RELEASE NUMBER 465

RELEASE MADE FROM T6204

RELEASE START DATE 52281. TIME 1630.

RELEASE COMPLETION DATE 52281. TIME 2030.

RELEASE DURATION : 240. MINUTES

TANK LEVELS : INITIAL 128. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 267000. FINAL 299800.

AVERAGE RELEASE RATE: 34.05 LPM OR 9.00 GPM

AVERAGE BLOWDOWN RATE: 5172.83 LPM OR 1366.67 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1241480. LITERS OR 328000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	52281.	640. 18471.	1. 27E-07	1. 96E-08	2. 67E-02	0. 00E-01	12037.
B	52281.	645. 18472.	9. 27E-08	1. 98E-08	2. 72E-02	0. 00E-01	12038.
C	52281.	1615. 18489.	2. 97E-08	2. 17E-08	3. 93E-07		
D	52281.	2210. 18490.	2. 71E-08	1. 99E-08	6. 36E-07		
E	52281.	1730. 18491.	2. 60E-08	1. 28E-08	1. 24E-04		
F	52281.	2215. 18492.	2. 46E-08	1. 00E-08	4. 20E-06		
G	51881.	830. 18437.	1. 88E-08	5. 71E-09	3. 89E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1. 04E-06	1. 27E-07	7. 08E-10	2. 36E 00
GROSS ALPHA	1. 62E-07	1. 98E-08	9. 19E-11	N/A
TRITIUM	2. 22E-01	2. 72E-02	1. 78E-04	5. 92E 00

TABLE 1.2 (PAGE 19 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 466

RELEASE MADE FROM T6204

RELEASE START DATE 52781. TIME 1850.

RELEASE COMPLETION DATE 52781. TIME 2321.

RELEASE DURATION : 271. MINUTES

TANK LEVELS : INITIAL 130. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 1276320. FINAL 1331829.

AVERAGE RELEASE RATE: 30.64 LPM OR 8.10 GPM

AVERAGE BLOWDOWN RATE: 7752.83 LPM OR 2048.30 GPM

TOTAL VOLUME RELEASED: 8303. LITERS OR 2194. GALLONS

TOTAL VOLUME USED FOR DILUTION: 2101016. LITERS OR 555090. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
*****							
A	52681.	1400. 18500.	5.22E-07	1.73E-08	1.91E-02	0.00E-01	12053.
B	52681.	1405. 18501.	5.18E-07	2.44E-08	1.92E-02	0.00E-01	12054.
C	52781.	1750. 18517.	1.05E-08	1.07E-08	4.06E-07		
D	52881.	200. 18518.	3.77E-08	2.03E-08	3.91E-06		
E	52781.	1950. 18519.	1.54E-08	8.92E-09	6.45E-05		
F	52881.	200. 18520.	3.23E-08	2.01E-08	4.47E-07		
G	52681.	1055. 18505.	7.50E-09	2.77E-09	9.42E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
*****				
GROSS BETA	4.33E-06	5.22E-07	2.03E-09	6.75E 00
GROSS ALPHA	2.03E-07	2.44E-08	8.52E-11	N/A
TRITIUM	1.60E-01	1.92E-02	7.57E-05	2.52E 00

TABLE 1.2 (PAGE 20 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 467

RELEASE MADE FROM T6204

RELEASE START DATE 52981. TIME 1726.

RELEASE COMPLETION DATE 52981. TIME 2130.

RELEASE DURATION 244. MINUTES

TANK LEVELS : INITIAL 129. INCHES FINAL 6. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 1732650. FINAL 1765966.

AVERAGE RELEASE RATE: 33.22 LPM OR 8.78 GPM

AVERAGE BLOWDOWN RATE: 5168.08 LPM OR 1365.41 GPM

TOTAL VOLUME RELEASED: 8106. LITERS OR 2142. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1261011. LITERS OR 333160. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	52981.	810. 18521.	1. 67E-06	3. 09E-08	2. 28E-01	0. 00E-01	12068.
B	52981.	815. 18522.	1. 69E-06	3. 09E-08	2. 30E-01	0. 00E-01	12069.
C	52981.	1625. 18575.	3. 99E-08	6. 58E-09	4. 06E-07		
D	52981.	2345. 18545.	3. 94E-08	3. 54E-08	4. 47E-07		
E	52981.	1830. 18576.	2. 62E-08	1. 20E-08	1. 27E-03		
F	52981.	2345. 18544.	2. 85E-08	9. 80E-09	4. 56E-06		
G	52681.	1055. 18505.	7. 50E-09	2. 77E-09	9. 42E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1. 37E-05	1. 69E-06	1. 07E-08	3. 58E 01
GROSS ALPHA	2. 50E-07	3. 09E-08	1. 80E-10	N/A
TRITIUM	1. 86E 00	2. 30E-01	1. 47E-03	4. 89E 01



TABLE 1.2 (PAGE 21 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 468

RELEASE MADE FROM T6204

RELEASE START DATE 53181. TIME 1649.

RELEASE COMPLETION DATE 53181. TIME 2052.

RELEASE DURATION : 243. MINUTES

TANK LEVELS : INITIAL 136. INCHES FINAL 10. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 2120275. FINAL 2153530.

AVERAGE RELEASE RATE: 34.17 LPM OR 9.03 GPM

AVERAGE BLOWDOWN RATE: 5179.84 LPM OR 1368.52 GPM

TOTAL VOLUME RELEASED: 8303. LITERS OR 2194. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1258702. LITERS OR 332550. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	53181.	600. 10548.	8.53E-07	2.20E-08	1.48E-01	0.00E-01	12077.
B	53181.	600. 18549.	7.94E-07	2.47E-08	1.47E-01	0.00E-01	12078.
C	60281.	950. 18610.	0.00E-01	0.00E-01	4.23E-06		
D	60281.	1740. 18611.	0.00E-01	0.00E-01	4.23E-07		
E	60281.	1220. 18612.	0.00E-01	0.00E-01	1.68E-03		
F	60281.	1755. 18613.	0.00E-01	0.00E-01	2.05E-05		
G	52681.	1055. 18505.	7.50E-09	2.77E-09	9.42E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	7.08E-06	3.53E-07	5.54E-09	1.85E 01
GROSS ALPHA	2.05E-07	2.47E-08	1.44E-10	N/A
TRITIUM	1.23E 00	1.48E-01	9.71E-04	3.24E 01

TABLE 1.2 (PAGE 22 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 469

RELEASE MADE FROM T6204

RELEASE START DATE 60281. TIME 1119.

RELEASE COMPLETION DATE 60281. TIME 1530.

RELEASE DURATION : 251. MINUTES

TANK LEVELS : INITIAL 124. INCHES FINAL 5. INCHES

BLOWDOWN INTEGRATOR READINGS:

INITIAL 2478800. FINAL 2532400.

AVERAGE RELEASE RATE: 31.24 LPM OR 8.25 GPM

AVERAGE BLOWDOWN RATE: 8082.71 LPM OR 2135.46 CPM

TOTAL VOLUME RELEASED: 7842. LITERS OR 2072. GALLONS

TOTAL VOLUME USED FOR DILUTION: 2028760. LITERS OR 536000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	60181.	900.18552.	1.38E-06	2.70E-08	4.56E-01	0.00E-01	12082.
B	60181.	905.18560.	8.05E-07	2.88E-08	4.61E-01	0.00E-01	12083.
C	60281.	950.18610.	2.08E-08	2.04E-08	3.74E-07		
D	60281.	1740.18611.	1.58E-08	1.18E-08	4.23E-07		
E	60281.	1220.18612.	2.98E-08	1.25E-08	1.68E-03		
F	60281.	1755.18613.	2.33E-08	9.18E-09	2.05E-05		
G	60181.	900.18571.	2.03E-08	4.29E-09	5.32E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.08E-05	1.38E-06	5.22E-09	1.74E 01
GROSS ALPHA	2.26E-07	2.88E-08	9.44E-11	N/A
TRITIUM	3.61E 00	4.61E-01	1.77E-03	5.91E 01

TABLE 1.2 (PAGE 23 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 470

RELEASE MADE FROM T6204

RELEASE START DATE 60481. TIME 1705.

RELEASE COMPLETION DATE 60481. TIME 2210.

RELEASE DURATION : 305. MINUTES

TANK LEVELS : INITIAL 130. INCHES FINAL 7. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 2923964. FINAL 2989275.

AVERAGE RELEASE RATE: 26.58 LPM OR 7.02 GPM

AVERAGE BLOWDOWN RATE: 8104.99 LPM OR 2141.34 GPM

TOTAL VOLUME RELEASED: 8106. LITERS OR 2142. GALLONS

TOTAL VOLUME USED FOR DILUTION: 2472021. LITERS OR 653110. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
*****							
A	60481.	645.18614.	1.05E-06	3.04E-08	7.38E-01	0.00E-01	12100.
B	60481.	650.18615.	9.43E-07	3.04E-08	7.24E-01	0.00E-01	12101.
C	60481.	1637.18636.	5.42E-08	2.21E-08	8.90E-07		
D	60581.	15.18637.	2.79E-08	2.14E-08	8.90E-07		
E	60481.	1805.18638.	1.48E-08	1.33E-08	1.91E-03		
F	60581.	10.18639.	1.82E-08	7.80E-09	1.10E-05		
G	60181.	900.18571.	2.03E-08	4.29E-09	6.32E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
*****				
GROSS BETA	8.52E-06	1.05E-06	3.37E-09	1.12E 01
GROSS ALPHA	2.46E-07	3.04E-08	8.53E-11	N/A
TRITIUM	5.98E 00	7.38E-01	2.41E-03	8.04E 01

TABLE 1.2 (PAGE 24 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 471

RELEASE MADE FROM T6204

RELEASE START DATE 60681. TIME 1755.

RELEASE COMPLETION DATE 60681. TIME 2155.

RELEASE DURATION : 240. MINUTES

TANK LEVELS : INITIAL 126. INCHES FINAL 7. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 3422055. FINAL 3455850.

AVERAGE RELEASE RATE: 32.68 LPM OR 8.63 GPM

AVERAGE BLOWDOWN RATE: 5329.75 LPM OR 1408.12 GPM

TOTAL VOLUME RELEASED: 7842. LITERS OR 2072. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1279141. LITERS OR 337950. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	60681.	620. 18644.	6.67E-07	2.34E-08	1.93E-01	0.00E-01	12114.
B	60681.	625. 18645.	5.78E-07	1.99E-08	1.91E-01	0.00E-01	12115.
C	60681.	1725. 18654.	3.61E-08	8.04E-09	1.47E-06		
D	60681.	2330. 18655.	2.46E-08	2.28E-08	3.99E-07		
E	60681.	1900. 18656.	2.83E-08	1.45E-08	8.68E-04		
F	60681.	2315. 18657.	2.35E-08	9.12E-09	1.06E-03		
G	60181.	900. 18571.	2.03E-08	4.29E-09	6.32E-06		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BEA	5.23E-06	6.67E-07	3.94E-09	1.31E 01
GROSS ALPHA	1.56E-07	1.99E-08	9.53E-11	N/A
TRITIUM	1.51E 00	1.93E-01	1.18E-03	3.92E 01

TABLE 1.2 (PAGE 25 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 472

RELEASE MADE FROM T6204

RELEASE START DATE 61081. TIME 1441.

RELEASE COMPLETION DATE 61081. TIME 1845.

RELEASE DURATION : 244. MINUTES

TANK LEVELS : INITIAL 126. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 4205555. FINAL 4239300.

AVERAGE RELEASE RATE: 32.68 LPM OR 8.63 GPM

AVERAGE BLOWDOWN RATE: 5234.62 LPM OR 1382.99 GPM

TOTAL VOLUME RELEASED: 7974. LITERS OR 2107. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1277248. LITERS OR 337430. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	60981.	640. 18660.	1.29E-06	7.55E-08	1.38E-01	0.00E-01	12124.
B	60981.	645. 18661.	8.41E-07	3.92E-08	1.34E-01	0.00E-01	12125.
C	61081.	1400. 18677.	2.42E-08	4.57E-09	5.38E-07		
D	61081.	2040. 18684.	1.10E-08	6.52E-09	1.74E-06		
E	61081.	1620. 18679.	1.70E-08	7.74E-09	6.82E-04		
F	61081.	2045. 18685.	1.62E-08	5.72E-09	5.38E-07		
G	60981.	848. 18668.	7.68E-09	3.36E-09	3.99E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.03E-05	1.29E-06	7.93E-09	2.64E 01
GROSS ALPHA	3.13E-07	3.92E-08	2.22E-10	N/A
TRITIUM	1.10E 00	1.38E-01	8.53E-04	2.84E 01

TABLE 1.2 (PAGE 26 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 473

RELEASE MADE FROM T6204

RELEASE START DATE 61381. TIME 1817.

RELEASE COMPLETION DATE 61381. TIME 2217.

RELEASE DURATION : 240. MINUTES

TANK LEVELS : INITIAL 128. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 4873900. FINAL 4912360.

AVERAGE RELEASE RATE: 34.05 LPM OR 9.00 GPM

AVERAGE BLOWDOWN RATE: 6065.46 LPM OR 1602.50 GPM

TOTAL VOLUME RELEASED: 8172. LITERS OR 2159. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1455711. LITERS OR 384600. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	61381.	625. 18695.	2.41E-07	2.34E-08	4.70E-02	0.00E-01	12148.
B	61381.	630. 18696.	2.42E-07	1.99E-08	4.72E-02	0.00E-01	12149.
C	61381.	1730. 18702.	1.09E-08	9.85E-09	6.05E-07		
D	61481.	10. 18705.	1.59E-08	9.23E-09	7.06E-06		
E	61381.	2015. 18703.	1.16E-08	6.05E-09	1.95E-04		
F	61481.	5. 18704.	2.05E-08	3.90E-09	8.94E-07		
G	60981.	848. 18668.	7.68E-09	3.36E-09	3.99E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.98E-06	2.43E-07	1.31E-09	4.37E 00
GROSS ALPHA	1.63E-07	1.99E-08	9.25E-11	N/A
TRITIUM	3.86E-01	4.72E-02	2.63E-04	8.78E 00



TABLE 1.2 (PAGE 27 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 474

RELEASE MADE FROM T6204

RELEASE START DATE 61981. TIME 1450.

RELEASE COMPLETION DATE 61981. TIME 1940.

RELEASE DURATION : 290. MINUTES

TANK LEVELS : INITIAL 130. INCHES FINAL 5. INCHES

BLOWDOWN INTEGR. FOR READINGS:

INITIAL 6226000. FINAL 6263200.

AVERAGE RELEASE RATE: 28.41 LPM OR 7.50 GPM

AVERAGE BLOWDOWN RATE: 4855.24 LPM OR 1282.76 GPM

TOTAL VOLUME RELEASED: 8237. LITERS OR 2176. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1408020. LITERS OR 372000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
A	61881.	1050. 18728.	2.37E-07	1.72E-08	3.07E-02	0.00E-01	12168.
B	61881.	1055. 18729.	1.95E-07	1.72E-03	2.93E-02	0.00E-01	12171.
C	61981.	1115. 18735.	3.30E-08	2.15E-08	3.73E-07		
D	61901.	2040. 18736.	3.83E-08	1.82E-08	8.36E-07		
E	61981.	600. 18737.	2.46E-08	1.01E-08	1.99E-04		
F	61981.	2040. 18738.	2.50E-08	1.57E-08	7.36E-06		
G	61581.	905. 18710.	2.72E-08	1.27E-08	3.69E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
GROSS BETA	1.95E-06	2.37E-07	1.22E-09	4.07E 00
GROSS ALPHA	1.42E-07	1.72E-08	2.63E-11	N/A
TRITIUM	2.53E-01	3.07E-02	1.79E-04	5.95E 00

TABLE 1.2 (PAGE 28 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 475

RELEASE MADE FROM T6204

RELEASE START DATE 62681. TIME 1901.

RELEASE COMPLETION DATE 62681. TIME 2234.

RELEASE DURATION : 213. MINUTES

TANK LEVELS : INITIAL 123. INCHES FINAL 5. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 7580731. FINAL 7630032.

AVERAGE RELEASE RATE: 36.51 LPM OR 9.35 GPM

AVERAGE BLOWDOWN RATE: 8760.76 LPM OR 2314.60 GPM

TOTAL VOLUME RELEASED: 7776. LITERS OR 2054. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1866043. LITERS OR 493010. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE - DURING RELEASE

F=BLOWDOWN SAMPLE - AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
*****							
A	62681.	630. 18761.	1.50E-07	1.95E-08	2.79E-02	0.00E-01	12203.
B	62681.	635. 18762.	1.11E-07	1.82E-08	2.77E-02	0.00E-01	12204.
C	62681.	1845. 18799.	8.21E-09	1.17E-08	6.55E-07	.	
D	62781.	45. 18800.	1.02E-08	4.52E-09	5.77E-07		
E	62682.	2020. 18801.	1.62E-08	8.02E-09	1.86E-04		
F	62781.	45. 18802.	1.08E-08	1.08E-08	2.23E-06		
G	62381.	845. 18759.	1.26E-08	4.12E-09	3.69E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
*****				
GROSS BETA	1.17E-06	1.50E-07	5.72E-10	1.91E 00
GROSS ALPHA	1.41E-07	1.82E-08	5.83E-11	N/A
TRITIUM	2.17E-01	2.79E-02	1.16E-04	3.86E 00

TABLE 1.2 (PAGE 29 OF 29)

## LIQUID WASTE SUMMARY FOR RELEASE NUMBER 476

RELEASE MADE FROM T6204

RELEASE START DATE 62981. TIME 1837.

RELEASE COMPLETION DATE 62981. TIME 2230.

RELEASE DURATION : 233. MINUTES

TANK LEVELS : INITIAL 132. INCHES FINAL 4. INCHES

## BLOWDOWN INTEGRATOR READINGS:

INITIAL 8167100. FINAL 8200000.

AVERAGE RELEASE RATE: 36.20 LPM OR 9.56 GPM

AVERAGE BLOWDOWN RATE: 5344.48 LPM OR 1412.02 GPM

TOTAL VOLUME RELEASED: 8435. LITERS OR 2229. GALLONS

TOTAL VOLUME USED FOR DILUTION: 1245265. LITERS OR 329000. GALLONS

## DESCRIPTIONS:

A=LIQUID WASTE SAMPLE NUMBER ONE

B=LIQUID WASTE SAMPLE NUMBER TWO

C=RIVER SAMPLE - UPSTREAM BEFORE RELEASE

D=RIVER SAMPLE - DOWNSTREAM AFTER RELEASE

E=BLOWDOWN SAMPLE-DURING RELEASE

F=BLOWDOWN SAMPLE -AFTER RELEASE

G=BLOWDOWN SAMPLE - WEEKLY

	SAMP. DATE	SAMP. RC TIME NUMBER	UCI-B /ML	UCI-A /ML	UCI-3H /ML	UCI-DNG /ML	MCA NUMBER
*****							
A	62981.	710. 1876.	1.10E-07	2.95E-08	1.27E-02	0.00E-01	12207.
B	62981.	715. 18765.	1.00E-07	2.41E-08	1.26E-02	0.00E-01	12208.
C	62981.	1815. 18786.	1.74E-08	6.26E-09	7.59E-07		
D	63081.	30. 18784.	1.01E-08	4.69E-09	1.44E-06		
E	62981.	1730. 18785.	1.40E-08	1.16E-08	8.24E-05		
F	63081.	15. 18783.	1.24E-08	7.65E-09	6.49E-07		
G	62981.	848. 18777.	2.03E-08	8.96E-09	3.74E-07		

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	TOTAL CURIES	UCI/ML BEF. DIL.	UCI/ML AFT. DIL.	% OF LIMIT OR MPCW
*****				
GROSS BETA	9.26E-07	1.10E-07	6.02E-10	2.01E 00
GROSS ALPHA	2.03E-07	2.41E-08	1.02E-10	N/A
TRITIUM	1.07E-01	1.27E-02	8.54E-05	2.85E 00

TABLE 1.3: LIQUID EFFLUENT RELEASED VIA THE TURBINE  
BUILDING SUMP AND THE REACTOR BUILDING SUMP  
(CONTINUOUS RELEASE)

2ndQUARTER 1981

TURBINE BUILDING SUMP

	MONTH	APRIL	MAY	JUNE	QUARTERLY TOTAL
VOLUME	LITERS	3.93E+06	3.81E+06	5.00E+06	1.27E+07
TRITIUM	AVERAGE $\mu\text{Ci/ml}$	9.33E-05	6.79E-05	4.81E-06	5.40E-05*
	TOTAL CURIES	3.67E-01	2.59E-01	2.41E-02	6.86E-01
GROSS $\beta\gamma$	AVERAGE $\mu\text{Ci/ml}$	9.92E-09	1.03E-08	8.13E-09	9.43E-09*
	TOTAL CURIES	3.90E-05	3.92E-05	4.07E-05	1.20E-04
GROSS $\alpha$	AVERAGE $\mu\text{Ci/ml}$	2.52E-09	5.99E-09	3.72E-09	4.07E-09*
	TOTAL CURIES	9.90E-06	2.28E-05	1.86E-05	5.17E-05

REACTOR BUILDING SUMP

	MONTH	APRIL	MAY	JUNE	QUARTERLY TOTAL
VOLUME	LITERS	2.83E+05	5.78E+05	5.65E+05	1.43E+06
TRITIUM	AVERAGE $\mu\text{Ci/ml}$	9.38E-04	7.83E-04	6.53E-04	7.86E-04*
	TOTAL CURIES	2.65E-01	4.53E-01	3.69E-01	1.12E+00
GROSS $\beta\gamma$	AVERAGE $\mu\text{Ci/ml}$	1.01E-08	1.16E-08	9.96E-09	1.05E-08*
	TOTAL CURIES	2.86E-06	6.70E-06	5.63E-06	1.50E-05
GROSS $\alpha$	AVERAGE $\mu\text{Ci/ml}$	2.53E-09	3.25E-09	2.52E-09	2.73E-09*
	TOTAL CURIES	7.16E-07	1.88E-06	1.42E-06	3.90E-06

\* "weighted" average

TABLE 2.1 - RADIOACTIVE GASEOUS EFFLUENT RELEASES FOR 2nd QUARTER, 19 81

		UNITS	APRIL	MAY	JUNE	QUARTERLY TOTAL
1a. Total Noble Gases		Curies	3.68E-01	1.05E+01	9.50E-03	1.09E+01
1b. Total Tritium		Curies	4.11E+00	7.19E-01	3.14E+00	7.97E+00
1c. Total Halogens		Curies	NSA	NSA	1.40E-06	1.40E-06
1d. Total Particulate Gross (B,y) Activity RT-7325		Curies	4.53E-12	3.64E-12	5.21E-12	1.34E-11
1e. Total Particulate Gross Alpha Activity RT-7325		Curies	1.48E-12	1.11E-12	1.51E-12	4.10E-12
2. Maximum Hourly Release Rate for Any One Hour Period		ci/hr	8.54E-02	3.37E-01	1.00E-01	3.37E-01
3. Estimated Total Radioactivity Released by Nuclide (MPCa)						
Particulates	MPCa	Curies	NSA	NSA	NSA	NSA
Halogens	MPCa	Curies	NSA	NSA	131I	131I
					1.40E-06	1.40E-06
Gases	MPCa	Curies				
3H	2.00E-07		4.11E+00	7.19E-01	3.14E+00	7.97E+00
133Xe	3.00E-07		3.24E-01	1.04E+01	9.50E-03	1.07E+01
131Xe(m)	4.00E-07		4.37E-02	7.50E-02	NSA	1.19E-01
135Xe	1.00E-07		6.69E-04	8.87E-03	NSA	9.54E-03
133Xe(m)	3.00E-07		NSA	3.72E-02	NSA	3.72E-02
85Kr(m)	1.00E-07		NSA	2.60E-03	NSA	2.60E-03
88Kr	2.00E-08		NSA	2.74E-03	NSA	2.74E-03

4.7E-05 =  $4.7 \times 10^{-5}$   
 5.2E+03 =  $5.2 \times 10^{+3}$

NSA means no significant activity.



## GAS WASTE SUMMARY FOR RELEASE NUMBER 523

RELEASE START	DATE	40281.	TIME	1845.
RELEASE COMPLETION	DATE	40381.	TIME	1635.

RELEASE DURATION 1310 MINUTES OR 21.83 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 76 DEG-F

AVERAGE RELEASE RATE 12.73 CFM

TOTAL VOLUME OF GAS RELEASED 4.72E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 82 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18024. TRITIUM 18023.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H	5.86E-04	2.00E-07	2.93E 03 2.77E-01
----	----------	----------	-------------------

TOTAL CURIES OF NOBLE GAS RELEASED 0.00E-01

AVERAGE RELEASE RATE 1.27E-02 CI/HR OR 3.52E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 5.87E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	3.9	2.9	0.0	0.0	12.7	13.2	11.1
PERCENT	0.0	0.3	0.4	0.0	0.0	0.5	2.3	2.6

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	14.6	14.7	14.5	7.7	12.4	2.1	1.2	0.0
PERCENT	32.8	28.8	16.8	6.2	2.4	1.1	0.2	0.0

PERCENT CALM 5.5



## GAS WASTE SUMMARY FOR RELEASE NUMBER 524

RELEASE START	DATE	40881.	TIME	1249.
RELEASE COMPLETION	DATE	40981.	TIME	731.

RELEASE DURATION 1122 MINUTES OR 18.70 HOURS

TANK PRESSURES INITIAL 385 PSIG FINAL 50 PSIG

TANK TEMPERATURE 71 DEG-F

AVERAGE RELEASE RATE 13.23 CFM

TOTAL VOLUME OF GAS RELEASED 4.20E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 84 DEG-F. FLOWRATE 33000. ACFM

## STABILITY CATAGORY D

RC-NUMBERS GRAB 18061. TRITIUM 18062.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H	8.12E-04	2.00E-07	4.06E 03 3.41E-01
----	----------	----------	-------------------

TOTAL CURIES OF NOBLE GAS RELEASED 0.00E-01

AVERAGE RELEASE RATE 1.82E-02 CI/HR OR 5.07E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 8.45E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	8.3	6.8	5.9	6.0	5.5	9.8	9.8	10.6
PERCENT	4.4	6.1	3.8	1.5	0.9	2.0	2.6	2.6

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	9.1	5.5	8.3	12.5	7.6	10.2	8.8	12.1
PERCENT	3.0	1.5	5.1	5.6	4.7	8.8	9.9	21.1

PERCENT CALM 15.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 525

RELEASE START	DATE	41481.	TIME	145.
RELEASE COMPLETION	DATE	41481.	TIME	2148.

RELEASE DURATION 1203 MINUTES OR 20.05 HOURS

TANK PRESSURES INITIAL 420 PSIG FINAL 49 PSIG

TANK TEMPERATURE 72 DEG-F

AVERAGE RELEASE RATE 13.63 CFM

TOTAL VOLUME OF GAS RELEASED 4.64E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 101 DEG-F. FLOWRATE 30000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18114. TRITIUM 18113.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H	1.41E-04	2.00E-07	7.05E 02 6.55E-02
----	----------	----------	-------------------

TOTAL CURIES OF NOBLE GAS RELEASED 0.00E-01

AVERAGE RELEASE RATE 3.27E-03 CI/HR OR 9.07E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.51E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	0.0	0.0	6.6	10.5	9.8	6.3
PERCENT	0.0	0.0	0.0	0.0	0.2	3.5	4.8	0.7

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	8.3	0.0	0.0	3.7	9.5	11.6	11.3	21.4
PERCENT	0.3	0.0	0.0	0.2	2.8	8.4	2.9	17.6

PERCENT CALM 58.5

## GAS WASTE SUMMARY FOR RELEASE NUMBER 526

RELEASE START	DATE	41581.	TIME	1940.
RELEASE COMPLETION	DATE	41681.	TIME	1437.

RELEASE DURATION 1137 MINUTES OR 18.95 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 40 PSIG

TANK TEMPERATURE 72 DEG-F

AVERAGE RELEASE RATE 15.55 CFM

TOTAL VOLUME OF GAS RELEASED 5.01E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 98 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18128. TRITIUM 18127.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H	3.03E-03	2.00E-07	1.51E 04 1.52E 00
----	----------	----------	-------------------

TOTAL CURIES OF NOBLE GAS RELEASED 0.00E-01

AVERAGE RELEASE RATE 8.01E-02 CI/HR OR 2.22E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.71E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	3.8	10.4	9.2	6.8	6.5	8.6	9.8	7.6
PERCENT	0.2	4.7	3.4	2.3	1.6	1.9	4.8	1.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	7.3	7.1	7.1	11.4	14.3	13.0	10.9	9.3
PERCENT	2.3	6.6	20.5	22.4	12.1	7.4	3.9	0.8

PERCENT CALM 3.2

## GAS WASTE SUMMARY FOR RELEASE NUMBER 527

RELEASE START	DATE	41881.	TIME	2203.
RELEASE COMPLETION	DATE	41981.	TIME	1307.

RELEASE DURATION 904 MINUTES OR 15.07 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 47 PSIG

TANK TEMPERATURE 76 DEG-F

AVERAGE RELEASE RATE 18.59 CFM

TOTAL VOLUME OF GAS RELEASED 4.76E 08

FOR TOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 103 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 18142. TRITIUM 18143.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	2.28E-04	2.00E-07	1.14E 03	1.09E-01
133XE	2.75E-06	3.00E-07	9.17E 00	1.31E-03

TOTAL CURIES OF NOBLE GAS RELEASED 1.31E-03

AVERAGE RELEASE RATE 7.29E-03 CI/HR OR 2.02E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.36E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.9	7.9	8.9	7.8	3.8	5.3	2.9	2.8
PERCENT	0.1	10.5	16.2	4.6	0.9	1.8	0.5	0.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.5	7.0	5.7	10.6	7.1	3.2	2.1	0.0
PERCENT	3.4	21.1	13.3	11.7	9.9	2.0	0.2	0.0

PERCENT CALM 3.5

## GAS WASTE SUMMARY FOR RELEASE NUMBER 528

RELEASE START	DATE	42081.	TIME	1953.
RELEASE COMPLETION	DATE	42181.	TIME	1120.

RELEASE DURATION 927 MINUTES OR 15.45 HOURS

TANK PRESSURES INITIAL 410 PSIG FINAL 45 PSIG

TANK TEMPERATURE 77 DEG-F

AVERAGE RELEASE RATE 17.25 CFM

TOTAL VOLUME OF GAS RELEASED 4.53E 08

REACTOR BUILDING VENTILATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 18158. TRITIUM 18159.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	2.91E-03	2.00E-07	1.45E 04	1.32E 00
----	----------	----------	----------	----------

133XE	3.21E-06	3.00E-07	1.07E 01	1.45E-03
-------	----------	----------	----------	----------

TOTAL CURIES OF NOBLE GAS RELEASED 1.45E-03

AVERAGE RELEASE RATE 8.54E-02 CI/HR OR 2.37E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.95E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.3	5.4	8.8	7.4	8.5	8.0	9.0	7.4
PERCENT	1.1	3.8	4.9	3.8	2.0	2.2	3.2	3.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	10.8	7.5	7.0	7.8	6.7	6.4	5.1	3.3
PERCENT	9.3	19.3	14.7	6.9	5.2	2.4	0.7	0.4

PERCENT CALM 16.8

## GAS WASTE SUMMARY FOR RELEASE NUMBER 529

RELEASE START	DATE	42481.	TIME	1630.
RELEASE COMPLETION	DATE	42581.	TIME	800.

RELEASE DURATION 930 MINUTES OR 15.50 HOURS

TANK PRESSURES INITIAL 400 PSIG FINAL 50 PSIG

TANK TEMPERATURE 78 DEG-F

AVERAGE RELEASE RATE 16.45 CFM

TOTAL VOLUME OF GAS RELEASED 4.33E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 102 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18193. TRITIUM 18193.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------------	-----------------

\*\*\*\*\*

3H 2.06E-04 2.00E-07 1.03E 03 8.93E-02

133XE 1.55E-05 3.00E-07 5.17E 01 6.72E-03

TOTAL CURIES OF NOBLE GAS RELEASED 6.72E-03

AVERAGE RELEASE RATE 6.19E-03 CI/HR OR 1.72E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.80E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	2.0	0.0	5.7	7.4	10.5	7.4
PERCENT	0.0	0.0	0.2	0.0	0.1	1.2	16.0	9.7

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	7.8	6.1	5.6	5.9	5.7	0.0	13.1	9.9
PERCENT	18.2	16.0	20.1	12.8	3.1	0.0	0.5	0.2

PERCENT CALM 1.8



## GAS WASTE SUMMARY FOR RELEASE NUMBER 530

RELEASE START	DATE	42681.	TIME	2220.
RELEASE COMPLETION	DATE	42781.	TIME	1250.

RELEASE DURATION 870 MINUTES OR 14.50 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 78 DEG-F

AVERAGE RELEASE RATE 19.60 CFM

TOTAL VOLUME OF GAS RELEASED 4.83E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 93 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY C

RC-NUMBERS GRAB 18210. TRITIUM 18211.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 2.62E-04 2.00E-07 1.31E 03 1.26E-01

133XE 2.39E-05 3.00E-07 7.97E 01 1.15E-02

TOTAL CURIES OF NOBLE GAS RELEASED 1.13E-02

AVERAGE RELEASE RATE 9.52E-03 CI/HR OR 2.64E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 4.28E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.1	4.5	4.5	2.6	2.6	3.0	5.4	4.3
PERCENT	9.9	6.1	6.4	3.6	2.0	0.8	1.0	0.7

DIRECTION	S	SSW	SW	WSW	W	WNW	N)	NNW
MPH	4.5	4.7	4.9	6.3	4.0	4.0	4.7	6.2
PERCENT	1.7	4.7	8.3	4.3	4.5	6.4	5.1	6.2

PERCENT CALM 27.9

## GAS WASTE SUMMARY FOR RELEASE NUMBER 531

RELEASE START	DATE	42981.	TIME	1650.
RELEASE COMPLETION	DATE	43081.	TIME	843.

RELEASE DURATION 953 MINUTES OR 15.88 HOURS

TANK PRESSURES INITIAL 430 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 17.37 CFM

TOTAL VOLUME OF GAS RELEASED 4.69E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 103 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18244. TRITIUM 18245.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 2.50E-04 2.00E-07 1.25E 03 1.17E-01

133XE 3.38E-04 3.00E-07 1.13E 03 1.58E-01

131XEM 3.64E-05 4.00E-07 9.10E 01 1.71E-02

TOTAL CURIES OF NOBLE GAS RELEASED 1.75E-01

AVERAGE RELEASE RATE 1.84E-02 CI/HR OR 5.12E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 6.74E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	7.8	7.3	9.0	6.2	6.5	8.8	8.5
PERCENT	0.0	1.5	3.7	11.1	4.4	8.0	10.0	5.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	9.8	8.9	6.0	4.4	9.5	9.1	5.7	0.0
PERCENT	15.7	19.3	1.2	0.7	1.8	1.5	0.6	0.0

PERCENT CALM 14.2

## GAS WASTE SUMMARY FOR RELEASE NUMBER 532

RELEASE START	DATE	50181.	TIME	1330.
RELEASE COMPLETION	DATE	50281.	TIME	153.

RELEASE DURATION 743 MINUTES OR 12.38 HOURS

TANK PRESSURES INITIAL 420 PSIG FINAL 48 PSIG

TANK TEMPERATURE 81 DEG-F

AVERAGE RELEASE RATE 21.77 CFM

TOTAL VOLUME OF GAS RELEASED 4.58E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 105 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY E

RC-NUMBERS GRAB 18257. TRITIUM 18258.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 3.21E-04 2.00E-07 1.60E 03 1.47E-01

133XE 3.15E-04 3.00E-07 1.05E 03 1.44E-01

131XEM 5.82E-05 4.00E-07 1.45E 02 2.67E-02

135XE 1.46E-06 1.00E-07 1.46E 01 6.69E-04

TOTAL CURIES OF NOBLE GAS RELEASED 1.72E-01

AVERAGE RELEASE RATE 2.57E-02 CI/HR OR 7.15E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 9.64E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	17.5	11.6	10.9	5.8	5.6	6.1	8.9	7.7
PERCENT	3.1	4.5	9.5	1.5	0.3	1.1	2.4	1.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.4	6.0	11.1	6.2	6.1	7.6	12.6	19.4
PERCENT	2.4	0.8	2.7	13.2	6.8	8.1	9.6	22.8

PERCENT CALM 9.8

## GAS WASTE SUMMARY FOR RELEASE NUMBER 533

RELEASE START                      DATE      50381.      TIME              15.  
 RELEASE COMPLETION                DATE      50381.      TIME              1414.

RELEASE DURATION    839 MINUTES OR              13.98 HOURS

TANK PRESSURES INITIAL    450 PSIG                      FINAL      50 PSIG

TANK TEMPERATURE      80 DEG-F

AVERAGE RELEASE RATE              20.77 CFM

TOTAL VOLUME OF GAS RELEASED    4.93E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 107 DEG-F. FLOWRATE      31000. ACFM

STABILITY CATAGORY D

RC NUMBERS              GRAB      18279.      TRITIUM      18280.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	8.27E-04	2.00E-07	4.13E 03	4.08E-01
133XE	8.62E-03	3.00E-07	2.87E 04	4.25E 00
131XEM	4.27E-05	4.00E-07	1.07E 02	2.11E-02
133XEM	5.00E-05	3.00E-07	1.67E 02	2.47E-02
135XE	1.31E-06	1.00E-07	1.31E 01	6.46E-04

TOTAL CURIES OF NOBLE GAS RELEASED    4.30E 00

AVERAGE RELEASE RATE    3.37E-01 CI/HR    OR    9.35E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT    1.08E 00 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	8.2	9.5	7.9	8.9	5.7	3.2	4.7	4.4
PERCENT	0.4	7.0	5.9	5.0	5.7	1.9	4.0	8.0

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	5.7	4.4	5.2	7.1	8.2	8.7	10.3	0.0
PERCENT	8.5	11.0	10.5	10.5	8.7	5.1	1.5	0.0

PERCENT CALM              6.2

## GAS WASTE SUMMARY FOR RELEASE NUMBER 534

RELEASE START DATE 50581 TIME 2306  
 RELEASE COMPLETION DATE 50681 TIME 1007

RELEASE DURATION 661 MINUTES OR 11.02 HOURS

TANK PRESSURES INITIAL 290 PSIG FINAL 55 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 15.49 CFM

TOTAL VOLUME OF GAS RELEASED 2.90E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 103 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18297 TRITIUM 18296

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	5.85E-05	2.00E-07	2.92E 02	1.70E-02
133XE	9.44E-03	3.00E-07	3.15E 04	2.74E 00
85KRM	4.13E-06	1.00E-07	4.13E 01	1.20E-03
131XEM	5.30E-05	4.00E-07	1.32E 02	1.54E-02
88KR	4.50E-06	2.00E-08	2.25E 02	1.30E-03
133XEM	4.34E-05	3.00E-07	1.45E 02	1.26E-02
135XE	1.10E-05	1.00E-07	1.10E 02	3.19E-03

TOTAL CURIES OF NOBLE GAS RELEASED 2.77E 00

AVERAGE RELEASE RATE 2.53E-01 CI/HR OR 7.03E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 7.90E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	0.0	4.5	4.5	5.7	10.4	13.6	12.5
PERCENT	0.0	0.0	0.7	1.0	0.4	7.0	45.5	32.3

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	9.1	4.6	2.3	0.0	0.0	0.0	0.0	0.0
PERCENT	9.2	3.1	0.3	0.0	0.0	0.0	0.0	0.0

PERCENT CALM 0.4

## GAS WASTE SUMMARY FOR RELEASE NUMBER 535

RELEASE START	DATE	50881.	TIME	1220.
RELEASE COMPLETION	DATE	50981.	TIME	405.

RELEASE DURATION 945 MINUTES OR 15.75 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 17.98 CFM

TOTAL VOLUME OF GAS RELEASED 4.81E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 104 DEG-F. FLOWRATE 30000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18319. TRITIUM 18320.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H 1.75E-04 2.00E-07 8.75E 02 8.42E-02

133XE 2.00E-03 3.00E-07 6.67E 03 9.62E-01

131XEM 3.22E-05 4.00E-07 8.05E 01 1.55E-02

TOTAL CURIES OF NOBLE GAS RELEASED 9.77E-01

AVERAGE RELEASE RATE 6.74E-02 CI/HR OR 1.87E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.16E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	18.6	16.5	16.9	16.5	15.3	15.6	18.4	23.2
PERCENT	2.7	5.7	0.3	0.5	1.7	4.0	6.9	9.4

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	20.6	16.2	10.8	13.7	21.6	22.2	14.7	15.7
PERCENT	24.2	10.0	0.3	0.5	11.6	11.2	4.2	6.6

PERCENT CALM 0.1



## GAS WASTE SUMMARY FOR RELEASE NUMBER 536

RELEASE START	DATE	51181.	TIME	1755.
RELEASE COMPLETION	DATE	51281.	TIME	840.

RELEASE DURATION 885 MINUTES OR 14.75 HOURS

TANK PRESSURES INITIAL 400 PSIG FINAL 45 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 17.47 CFM

TOTAL VOLUME OF GAS RELEASED 4.38E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 101 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18332. TRITIUM 18333.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 1.58E-04 2.00E-07 7.90E 02 6.92E-02

133XE 2.27E-03 3.00E-07 7.57E 03 9.94E-01

131XEM 2.67E-05 4.00E-07 6.68E 01 1.17E-02

TOTAL CURIES OF NOBLE GAS RELEASED 1.01E 00

AVERAGE RELEASE RATE 7.29E-02 CI/HR OR 2.02E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.32E-01 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	8.5	6.0	4.1	2.7	3.3	5.0	4.6	1.4
PERCENT	4.8	14.8	5.0	3.9	0.1	0.5	0.1	0.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	7.1	7.2	6.0	12.4	19.9	14.0	10.4	13.1
PERCENT	7.2	8.3	11.5	11.4	11.8	9.3	7.4	3.5

PERCENT CALM 5.3

## GAS WASTE SUMMARY FOR RELEASE NUMBER 537

RELEASE START	DATE	51381.	TIME	2147.
RELEASE COMPLETION	DATE	51481.	TIME	1510.

RELEASE DURATION 1043 MINUTES OR 17.38 HOURS

TANK PRESSURES INITIAL 435 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 16.08 CFM

TOTAL VOLUME OF GAS RELEASED 4.75E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 100 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY C

RC-NUMBERS GRAB 18386. TRITIUM 18387.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H	1.79E-04	2.00E-07	8.95E 02	8.50E-02
133XE	2.63E-03	3.00E-07	8.77E 03	1.25E 00
85KRM	2.96E-06	1.00E-07	2.96E 01	1.41E-03
131XEM	2.39E-05	4.00E-07	5.97E 01	1.13E-02
88KR	3.03E-06	2.00E-08	1.51E 02	1.44E-03
135XE	1.06E-05	1.00E-07	1.06E 02	5.03E-03

TOTAL CURIES OF NOBLE GAS RELEASED 1.27E 00

AVERAGE RELEASE RATE 7.78E-02 CI/HR OR 2.16E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.53E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	7.7	5.4	3.0	3.6	7.7	8.7	8.8	5.5
PERCENT	1.8	4.8	2.0	0.6	1.5	9.7	13.7	2.2

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	4.1	3.5	3.3	3.6	4.1	4.8	4.6	5.2
PERCENT	0.6	1.3	13.0	14.0	5.9	5.5	8.3	2.8

PERCENT CALM 12.1

## GAS WASTE SUMMARY FOR RELEASE NUMBER 538

RELEASE START	DATE	51881	TIME	2030.
RELEASE COMPLETION	DATE	51981.	TIME	1337.

RELEASE DURATION 1027 MINUTES OR 17.12 HOURS

TANK PRESSURES INITIAL 420 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 15.69 CFM

TOTAL VOLUME OF GAS RELEASED 4.56E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 86 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18435. TRITIUM 18436.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 2.41E-05 2.00E-07 1.20E 02 1.10E-02

133XE 2.05E-04 3.00E-07 6.83E 02 9.35E-02

TOTAL CURIES OF NOBLE GAS RELEASED 9.35E-02

AVERAGE RELEASE RATE 6.11E-03 CI/HR OR 1.70E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.98E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	5.0	2.4	3.9	3.6	4.2	5.2	4.0	2.7
PERCENT	1.1	1.0	0.6	1.5	1.3	2.8	1.4	2.4

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	4.3	3.9	3.1	1.9	4.2	6.2	6.3	3.7
PERCENT	3.4	2.2	2.0	1.0	3.4	13.6	18.9	14.4

PERCENT CALM 29.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 539

RELEASE START	DATE	52281.	TIME	1725.
RELEASE COMPLETION	DATE	52381.	TIME	1150.

RELEASE DURATION 1105 MINUTES OR 18.42 HOURS

TANK PRESSURES INITIAL 400 PSIG FINAL 50 PSIG

TANK TEMPERATURE 75 DEG-F

AVERAGE RELEASE RATE 13.92 CFM

TOTAL VOLUME OF GAS RELEASED 4.36E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 87 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18482. TRITIUM 18481.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 1.94E-05 2.00E-07 9.70E 01 8.45E-03

133XE 1.54E-04 3.00E-07 5.13E 02 6.71E-02

TOTAL CURIES OF NOBLE GAS RELEASED 6.71E-02

AVERAGE RELEASE RATE 4.10E-03 C./HR OR 1.14E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 1.34E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	15.9	13.5	14.7	15.7	21.0	25.6	15.7	18.1
PERCENT	29.4	12.6	1.7	1.1	0.5	0.4	0.2	0.2

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	17.1	21.0	12.6	7.4	9.9	12.1	11.8	16.9
PERCENT	0.4	0.3	1.0	4.6	3.3	4.6	9.7	28.9

PERCENT CALM 0.9

## GAS WASTE SUMMARY FOR RELEASE NUMBER 540

RELEASE START	DATE	52681.	TIME	1838.
RELEASE COMPLETION	DATE	52781.	TIME	1122.

RELEASE DURATION 1004 MINUTES OR 16.73 HOURS

TANK PRESSURES INITIAL 425 PSIG FINAL 75 PSIG

TANK TEMPERATURE 70 DEG-F

AVERAGE RELEASE RATE 15.47 CFM

TOTAL VOLUME OF GAS RELEASED 4.40E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 87 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18493. TRITIUM 18494.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	1.68E-05	2.00E-07	8.40E 01	7.39E-03
133XE	2.65E-05	3.00E-07	8.83E 01	1.17E-02

TOTAL CURIES OF NOBLE GAS RELEF D 1.17E-02

AVERAGE RELEASE RATE 1.14E-03 CI/HR OR 3.16E-01 UCI/SEC

PERCENT OF TECH SPEC. LIMIT 4.19E-03 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	2.2	1.9	1.9	2.0	3.3	4.1	6.6	5.0
PERCENT	1.1	2.4	4.0	2.6	1.6	1.0	2.9	5.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	5.1	6.4	4.7	5.0	4.1	3.8	3.8	1.8
PERCENT	8.3	21.7	6.8	5.4	5.5	6.1	5.5	5.5

PERCENT CALM 13.4

## GAS WASTE SUMMARY FOR RELEASE NUMBER 541

RELEASE START	DATE	52881.	TIME	1819.
RELEASE COMPLETION	DATE	52981.	TIME	1557.

RELEASE DURATION 1298 MINUTES OR 21.63 HOURS

TANK PRESSURES INITIAL 425 PSIG FINAL 50 PSIG

TANK TEMPERATURE 75 DEG-F

AVERAGE RELEASE RATE 12.70 CFM

TOTAL VOLUME OF GAS RELEASED 4.67E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 87 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18513. TRITIUM 18512.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 6.21E-05 2.00E-07 3.10E 02 2.90E-02

133XE 1.67E-05 3.00E-07 5.57E 01 7.80E-03

TOTAL CURIES OF NOBLE GAS RELEASED 7.80E-03

AVERAGE RELEASE RATE 1.70E-03 CI/HR OR 4.72E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 7.32E-03 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	19.4	16.6	12.7	10.0	7.6	8.1	7.3	12.2
PERCENT	6.6	24.7	18.2	7.8	5.0	5.6	0.2	0.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	13.5	17.1	16.9	11.5	12.2	10.3	10.8	14.5
PERCENT	0.7	2.0	7.1	2.3	4.3	9.2	1.5	2.0

PERCENT CALM 2.5



## GAS WASTE SUMMARY FOR RELEASE NUMBER 542

RELEASE START	DATE	60281.	TIME	1355.
RELEASE COMPLETION	DATE	60381.	TIME	1230.

RELEASE DURATION 1355 MINUTES OR 22.58 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 70 DEG-F

AVERAGE RELEASE RATE 12.77 CFM

TOTAL VOLUME OF GAS RELEASED 4.90E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 84 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18562. TRITIUM 18563.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 5.33E-05 2.00E-07 2.66E 02 2.61E-02

133XE 6.50E-06 3.00E-07 2.17E 01 3.19E-03

TOTAL CURIES OF NOBLE GAS RELEASED 3.19E-03

AVERAGE RELEASE RATE 1.30E-03 CI/HR OR 3.60E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 5.79E-03 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	1.3	2.4	2.2	2.2	3.7	3.4	5.8
PERCENT	0.0	0.1	0.1	0.7	0.9	2.6	1.3	0.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	5.4	3.8	3.6	3.8	2.8	4.1	4.6	3.1
PERCENT	1.4	1.4	0.8	0.8	1.0	4.7	3.1	0.4

PERCENT CALM 79.7

## GAS WASTE SUMMARY FOR RELEASE NUMBER 543

RELEASE START	DATE	60681.	TIME	2001.
RELEASE COMPLETION	DATE	60781.	TIME	1558.

RELEASE DURATION 1197 MIN. LS OR 19.95 HOURS

TANK PRESSURES INITIAL 425 PSIG FINAL 50 PSIG

TANK TEMPERATURE 70 DEG-F

AVERAGE RELEASE RATE 13.90 CFM

TOTAL VOLUME OF GAS RELEASED 4.71E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 87 DEG-F. FLOWRATE 32000. ACFM

STABILITY CATAGOR<sup>Y</sup> D

RC-NUMBERS GRAB 18642. TRITIUM 18643.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
*****				
3H	2.08E-05	2.00E-07	1.04E 02	9.80E-03
133XE	7.02E-06	3.00E-07	2.34E 01	3.31E-03

TOTAL CURIES OF NOBLE GAS RELEASED 3.31E-03

AVERAGE RELEASE RATE 6.57E-04 CI/HR OR 1.83E-01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.79E-03 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	10.7	9.3	9.3	9.0	8.7	3.7	4.8	6.9
PERCENT	14.0	12.8	9.6	3.4	0.6	1.8	4.3	2.1

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.1	7.1	7.4	11.9	11.1	12.5	8.8	10.9
PERCENT	3.4	4.4	3.3	3.4	2.7	7.8	6.9	15.6

PERCENT CALM 3.4

## GAS WASTE SUMMARY FOR RELEASE NUMBER 544

RELEASE START	DATE	61281.	TIME	1840.
RELEASE COMPLETION	DATE	61381.	TIME	2110.

RELEASE DURATION 1590 MINUTES OR 26.50 HOURS

TANK PRESSURES INITIAL 450 PSIG FINAL 50 PSIG

TANK TEMPERATURE 73 DEG-F

AVERAGE RELEASE RATE 11.10 CFM

TOTAL VOLUME OF GAS RELEASED 5.00E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 90 DEG-F. FLOWRATE 33000. ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 18691. TRITIUM 18693.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ MPC(A)	TOTAL CURIES
---------	---------------------	-------------------	---------------------	-----------------

\*\*\*\*\*

3H 5.31E-03 2.00E-07 2.65E 04 2.65E 00

133XE 1.01E-06 3.00E-07 3.37E 00 5.05E-04

TOTAL CURIES OF NOBLE GAS RELEASED 5.05E-04

AVERAGE RELEASE RATE 1.00E-01 CI/HR OR 2.78E 01 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 4.64E-01 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	13.9	14.6	12.1	9.1	8.9	9.1	10.2	9.4
PERCENT	3.6	11.3	7.4	8.0	4.5	0.8	2.4	1.9

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.2	8.3	9.8	11.9	11.8	10.8	9.4	9.1
PERCENT	4.8	10.9	18.5	8.5	9.3	5.1	1.0	0.4

PERCENT CALM 1.2

## GAS WASTE SUMMARY FOR RELEASE NUMBER 545

RELEASE START	DATE	61781.	TIME	1859.
RELEASE COMPLETION	DATE	61881.	TIME	1345.

RELEASE DURATION 1126 MINUTES OR 18.77 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 60 PSIG

TANK TEMPERATURE 75 DEG-F

AVERAGE RELEASE RATE 14.84 CFM

TOTAL VOLUME OF GAS RELEASED 4.73E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 85 DEG-F FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS GRAB 18714. TRITIUM 18715.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY UCI/SCC	MPC(A) UCI/SCC	ACTIVITY/ TOTAL MPC(A) CURIES
*****			
3H	1.97E-04	2.00E-07	9.85E 02 9.32E-02
133XE	3.02E-06	3.00E-07	1.01E 01 1.43E-03

TOTAL CURIES OF NOBLE GAS RELEASED 1.43E-03

AVERAGE RELEASE RATE 5.04E-03 CI/HR OR 1.40E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.32E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	6.9	6.2	6.3	6.2	4.7	5.4	7.6	6.5
PERCENT	2.6	3.3	0.4	0.2	0.5	2.2	15.9	9.5

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	8.3	13.6	12.0	6.9	8.3	7.9	6.4	5.0
PERCENT	7.9	10.0	5.9	6.0	11.5	10.1	6.8	3.2

PERCENT CALM 4.0

## GAS WASTE SUMMARY FOR RELEASE NUMBER 546

RELEASE START	DATE	61981.	TIME	1255.
RELEASE COMPLETION	DATE	62081.	TIME	450.

RELEASE DURATION 955 MINUTES OR 15.92 HOURS

TANK PRESSURES INITIAL 390 PSIG FINAL 50 PSIG

TANK TEMPERATURE 78 DEG-F

AVERAGE RELEASE RATE 15.56 CFM

TOTAL VOLUME OF GAS RELEASED 4.21E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 93 DEG-F. FLOWRATE 31000. ACFM

STABILITY CATEGORY D

RC-NUMBERS GRAB 18733. TRITIUM 18732.

ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H	2.77E-04	2.00E-07	1.38E 03 1.17E-01
----	----------	----------	-------------------

TOTAL CURIES OF NOBLE GAS RELEASED 0.00E-01

AVERAGE RELEASE RATE 7.32E-03 CI/HR OR 2.03E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.39E-02 %

METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.4	6.5	5.2	5.6	6.0	6.1	6.8	2.6
PERCENT	0.8	2.8	1.8	3.5	0.8	0.5	0.6	0.2

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	9.7	9.6	10.9	10.0	8.7	8.2	8.9	7.6
PERCENT	2.0	18.9	10.6	11.2	9.4	13.2	13.2	1.6

PERCENT CALM 9.6

## GAS WASTE SUMMARY FOR RELEASE NUMBER 547

RELEASE START	DATE	62481.	TIME	2106.
RELEASE COMPLETION	DATE	62581.	TIME	1300.

RELEASE DURATION 954 MINUTES OR 15.90 HOURS

TANK PRESSURES INITIAL 440 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 17.81 CFM

TOTAL VOLUME OF GAS RELEASED 4.81E 08

REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 97 DEG-F FLOWRATE 32000. ACFM

STABILITY CATAGORY D

RC-NUMBERS CRAB 18740. TRITIUM 18741.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/	TOTAL
	UCI/SCC	UCI/SCC	MPC(A)	CURIES

\*\*\*\*\*

3H 2.69E-04 2.00E-07 1.34E 03 1.29E-01

133XE 2.24E-06 3.00E-07 7.47E 00 1.08E-03

TOTAL CURIES OF NOBLE GAS RELEASED 1.08E-03

AVERAGE RELEASE RATE 8.21E-03 CI/HR OR 2.28E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 3.79E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	0.0	3.4	0.0	7.0	11.4	13.7	10.0	5.8
PERCENT	0.0	0.2	0.0	0.1	0.7	10.6	16.1	11.8

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	6.5	6.8	6.8	6.8	10.5	4.3	7.0	3.6
PERCENT	15.3	17.2	9.1	4.4	0.1	6.3	0.4	0.1

PERCENT CALM 7.4



## GAS WASTE SUMMARY FOR RELEASE NUMBER 548

RELEASE START	DATE	62981.	TIME	1850.
RELEASE COMPLETION	DATE	63081.	TIME	1535.

RELEASE DURATION 1245 MINUTES OR 20.75 HOURS

TANK PRESSURES INITIAL 450 PSIG FINAL 50 PSIG

TANK TEMPERATURE 80 DEG-F

AVERAGE RELEASE RATE 13.99 CFM

TOTAL VOLUME OF GAS RELEASED 4.93E 08

## REACTOR BUILDING VENTILLATION SYSTEM:

EXHAUST TEMPERATURE 94 DEG-F. FLOWRATE 31000. ACFM

## STABILITY CATEGORY D

RC-NUMBERS GRAB 18771. TRITIUM 18770.

## ACTIVITY RELEASED BY NUCLIDE

ISOTOPE	ACTIVITY	MPC(A)	ACTIVITY/ TOTAL
	UCI/SCC	UCI/SCC	MPC(A) CURIES

\*\*\*\*\*

3H	2.33E-04	2.00E-07	1.16E 03 1.15E-01
----	----------	----------	-------------------

TOTAL CURIES OF NOBLE GAS RELEASED 0.00E-01

AVERAGE RELEASE RATE 5.54E-03 CI/HR OR 1.54E 00 UCI/SEC

PERCENT OF TECH. SPEC. LIMIT 2.56E-02 %

## METEOROLOGICAL DATA COLLECTED DURING RELEASE:

DIRECTION	N	NNE	NE	ENE	E	ESE	SE	SSE
MPH	6.7	2.8	2.6	2.7	2.4	3.4	5.5	4.3
PERCENT	2.1	4.1	3.3	1.8	2.5	4.9	7.9	3.4

DIRECTION	S	SSW	SW	WSW	W	WNW	NW	NNW
MPH	2.8	6.5	6.3	4.8	4.1	5.0	7.0	6.8
PERCENT	2.1	4.7	9.4	1.7	4.8	8.3	10.5	9.5

PERCENT CALM 19.7

TABLE 4.1

RADIOCHEMISTRY SUMMARY FROM 40181. TO 63081.

SYSTEM	BETA/GAMMA	ALPHA	TRITIUM	
*****				
FARM POND (EFFLUENT)				
	3.11E-08	2.27E-08	1.33E-04	MAXIMUM
	7.81E-09	3.99E-09	3.74E-07	MINIMUM
	2.00E-08(13)	1.12E-08(13)	2.77E-05(13)	AVERAGE
.....				
COOLING TOWER BLOWDOWN				
	1.65E-07	7.98E-08	3.55E-03	MAXIMUM
	7.16E-09	6.78E-10	3.69E-07	MINIMUM
	2.57E-08(98)	1.32E-08(98)	4.98E-04(**)	AVERAGE
.....				
REACTOR BUILDING SUMP (EFFLUENT)				
	2.49E-08	9.31E-09	8.84E-03	MAXIMUM
	6.07E-09	1.30E-09	2.04E-05	MINIMUM
	1.05E-08(45)	2.73E-09(45)	7.86E-04(45)	AVERAGE
.....				
TURBINE BUILDING SUMP (EFFLUENT)				
	2.15E-08	1.80E-08	2.76E-04	MAXIMUM
	6.08E-09	1.68E-09	1.25E-06	MINIMUM
	9.43E-09(37)	4.07E-09(37)	5.40E-05(37)	AVERAGE
.....				
SYSTEM 21				
	3.58E-08	4.56E-09	3.34E-04	MAXIMUM
	6.42E-09	9.80E-10	3.55E-05	MINIMUM
	1.19E-08(16)	2.30E-09(16)	1.74E-04(16)	AVERAGE
.....				
SYSTEM 31				
	5.04E-08	1.33E-08	3.64E-04	MAXIMUM
	6.59E-09	1.29E-09	1.3E-05	MINIMUM
	1.67E-08(16)	3.32E-09(16)	2.1E-04(16)	AVERAGE
.....				
SYSTEM 41				
	3.19E-08	1.79E-08	6.08E-07	MAXIMUM
	1.53E-08	4.20E-09	3.77E-07	MINIMUM
	2.30E-08( 3)	1.07E-08( 3)	4.63E-07( 3)	AVERAGE
.....				
SYSTEM 42				
	5.03E-08	8.88E-09	4.04E-07	MAXIMUM
	1.35E-08	1.00E-09	3.77E-07	MINIMUM
	2.66E-08( 3)	4.92E-09( 3)	3.95E-07( 3)	AVERAGE
.....				
SYSTEM 46				
	2.49E-08	4.43E-09	3.00E-04	MAXIMUM
	6.42E-09	1.27E-09	2.49E-04	MINIMUM
	1.21E-08(16)	2.39E-09(16)	2.69E-04(16)	AVERAGE
.....				
SYSTEM 47				
	1.30E-08	5.13E-09	3.13E-04	MAXIMUM
	6.82E-09	9.61E-10	2.41E-04	MINIMUM
	8.47E-09(16)	2.43E-09(16)	2.82E-04(16)	AVERAGE

## NOTES:

1. ALL ACTIVITIES EXPRESSED IN UNITS OF UCI/ML.
2. ( ) REPRESENTS THE NUMBER OF SAMPLES REPRESENTED BY THE AVERAGE VALUE.

TABLE 5.1 - SOLID WASTE (LOW LEVEL) FOR 1981

[illegible]

Note: 1.5E+09 means  $1.5 \times 10^{+9}$ ; Similarly, 2.7E-07 means  $2.7 \times 10^{-7}$