

1984  
ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT ONE  
REPORT ON RADIOACTIVE GASEOUS EFFLUENTS  
THIRD QUARTER

8503080338 841231  
PDR ADOCK 05000313  
R PDR

IE25  
1/1



FE-59	0.00	0.00	0.00	0.00
CO-57	0.00	0.00	0.00	0.00
CO-58	0.00	0.00	0.00	1.00E-04
CO-60	9.47E-07	8.39E-07	0.00	3.23E-05
NI-65	0.00	0.00	0.00	0.00
CU-64	0.00	0.00	0.00	0.00
ZN-65	0.00	0.00	0.00	0.00
SE-75	0.00	0.00	0.00	0.00
BR-84	0.00	0.00	0.00	0.00
RE-88	0.00	0.00	0.00	2.34E-04
RD-89	0.00	0.00	0.00	0.00
SR-85	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00
SR-92	0.00	0.00	0.00	0.00
Y-88	0.00	0.00	0.00	0.00
Y-91M	0.00	0.00	0.00	0.00
Y-92	0.00	0.00	0.00	0.00
ZR-95	0.00	0.00	0.00	1.11E-05
ZR-97	0.00	0.00	0.00	0.00
NB-94	0.00	0.00	0.00	0.00
NB-95	0.00	0.00	0.00	9.31E-06
NB-97	0.00	0.00	0.00	0.00
MO-99	0.00	0.00	0.00	0.00
TC-99M	0.00	0.00	0.00	0.00
RU-103	0.00	0.00	0.00	0.00
RU-106	0.00	0.00	0.00	0.00
AG-110M	0.00	0.00	0.00	1.36E-05
CD-109	0.00	0.00	0.00	0.00
CD-113M	0.00	0.00	0.00	0.00
SN-113	0.00	0.00	0.00	0.00
SB-122	0.00	0.00	0.00	0.00
SB-124	0.00	0.00	0.00	0.00
SB-125	0.00	0.00	0.00	2.22E-05
TE-132	0.00	0.00	0.00	0.00
I-132	0.00	0.00	0.00	0.00
I-134	0.00	0.00	0.00	0.00
CS-136	0.00	0.00	0.00	0.00
CS-138	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00
BA-139	0.00	0.00	0.00	0.00
CE-139	0.00	0.00	0.00	0.00
CE-144	0.00	0.00	0.00	0.00
EU-152	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00
HG-203	0.00	0.00	0.00	0.00
PB-214	0.00	0.00	0.00	0.00
BI-214	0.00	0.00	0.00	0.00
RA-226	0.00	0.00	0.00	0.00
TH-228	0.00	0.00	0.00	1.85E-06
U-235	0.00	0.00	0.00	0.00
NP-239	0.00	0.00	0.00	0.00

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REMARKS:

0.00 = <MDA

1984

ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT ONE  
REPORT ON RADIOACTIVE GASEOUS EFFLUENTS  
FOURTH QUARTER

\* \* \* \* \*  
 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT ONE \*  
 \* REPORT ON RADIOACTIVE GASEOUS EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-313 YEAR: 1984 \*  
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=====  
 REPORTING PARAMETERS / UNITS / OCT / NOV / DEC / YEARLY TOT /  
 =====

1. GASES	CURIES	7.82E 02	0.00	0.00	2.90E 03
2. HALOGENS	CURIES	3.73E-04	3.04E-04	7.72E-05	1.22E-03
3. DELETED					
4. H-3	CURIES	3.7	0.91	0.61	10.
5. ALPHA	CURIES	0.00	0.00	0.00	9.27E-07
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	1.41E 05	0.45	0.27	NA
7. % OF APPLICABLE LIMIT FOR:					
A. GASES					
1. GAMMA	%			0.74	NA
2. BETA	%			1.1	NA
B. DELETED					
C. PART. + I-131	%			0.12	NA
8. ISOTOPIC CONC.	CURIES				
PARTICULATES:					
SR-89		6.02E-07	6.02E-07	6.02E-07	1.60E-04
SR-90		9.27E-08	9.27E-08	9.27E-08	1.96E-04
CS-134		0.00	0.00	0.00	1.37E-06
CS-137		0.00	4.56E-06	3.49E-06	3.11E-05
BA-140		0.00	0.00	0.00	0.00
LA-140		0.00	0.00	0.00	0.00
HALOGENS:					
I-131		3.63E-04	2.98E-04	6.68E-05	1.17E-03
I-133		9.12E-06	6.08E-06	1.05E-05	4.81E-05
I-135		0.00	0.00	0.00	0.00
GASES:					
AR-41		0.00	0.00	0.00	0.00
KR-85M		1.91E-02	0.00	0.00	2.21E-02
KR-85		15.	0.00	0.00	25.
KR-87		0.00	0.00	0.00	4.7
KR-80		0.00	0.00	0.00	0.00
XE-133M		2.2	0.00	0.00	5.6
XE-133		7.45E 02	0.00	0.00	2.73E 03
XE-135		14.	0.00	0.00	1.25E 02
XE-138		0.00	0.00	0.00	0.00
OTHERS:					
XE-131M		5.7	0.00	0.00	10.
XE-135M		0.00	0.00	0.00	0.00
BE-7		0.00	0.00	0.00	0.00
NA-24		0.00	0.00	0.00	0.00
K-40		0.00	0.00	1.01E-05	6.05E-05
CR-51		0.00	0.00	0.00	0.00
MN-54		0.00	0.00	0.00	0.00
MN-56		0.00	0.00	0.00	0.00

FE-59	0.00	0.00	0.00	0.00
CO-57	0.00	0.00	0.00	0.00
CO-58	0.00	5.92E-07	2.73E-06	1.03E-04
CO-60	1.75E-06	0.00	1.89E-06	3.57E-05
NI-65	0.00	0.00	0.00	0.00
CU-64	0.00	0.00	0.00	0.00
ZN-65	0.00	0.00	0.00	0.00
SE-75	0.00	0.00	0.00	0.00
BR-84	0.00	0.00	0.00	0.00
RB-88	0.00	0.00	0.00	2.34E-04
RB-89	0.00	0.00	0.00	0.00
SR-85	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00
SR-92	0.00	0.00	0.00	0.00
Y-88	0.00	0.00	0.00	0.00
Y-91M	0.00	0.00	0.00	0.00
Y-92	0.00	0.00	0.00	0.00
ZR-95	0.00	0.00	0.00	1.11E-05
ZR-97	0.00	0.00	0.00	0.00
NE-94	0.00	0.00	0.00	0.00
ND-95	0.00	0.00	0.00	9.31E-06
NE-97	0.00	0.00	0.00	0.00
MO-99	0.00	0.00	0.00	0.00
TC-99M	0.00	0.00	0.00	0.00
RU-103	0.00	0.00	0.00	0.00
RU-106	0.00	0.00	0.00	0.00
AG-110M	0.00	0.00	0.00	1.36E-05
CD-109	0.00	0.00	0.00	0.00
CD-113M	0.00	0.00	0.00	0.00
SN-113	0.00	0.00	0.00	0.00
SB-122	0.00	0.00	0.00	0.00
SB-124	0.00	0.00	0.00	0.00
SB-125	0.00	0.00	0.00	2.22E-05
TE-132	0.00	0.00	0.00	0.00
I-132	0.00	0.00	0.00	0.00
I-134	0.00	0.00	0.00	0.00
CS-136	0.00	0.00	0.00	0.00
CS-138	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00
BA-139	0.00	0.00	0.00	0.00
CE-139	0.00	0.00	0.00	0.00
CE-144	0.00	0.00	0.00	0.00
EU-152	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00
HG-203	0.00	0.00	0.00	0.00
PE-214	0.00	0.00	0.00	0.00
BI-214	0.00	0.00	0.00	0.00
RA-226	0.00	0.00	0.00	0.00
TH-228	0.00	0.00	2.08E-06	4.23E-06
U-235	0.00	0.00	0.00	0.00
NP-239	0.00	0.00	0.00	0.00

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REMARKS:

0.00 = <MDA



1984  
ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT ONE  
REPORT ON RADIOACTIVE LIQUID EFFLUENTS  
THIRD QUARTER

=====  
 REPORTING PARAMETERS /UNITS / JUL / AUG / SEP /QTRLY TOT/SEMI TOTL  
 =====

1. GROSS BETA + GAMMA						
A. TOTAL RELEASED	CURIES	4.07E-02	0.13	0.17	0.34	
B. AVE CON RELEASED	UCI/ML	3.03E-10	9.70E-10	1.41E-09	8.96E-10	
C. MAX CON RELEASED	UCI/ML	9.20E-09	4.79E-08	4.38E-08	1.01E-07	
2. TRITIUM						
A. TOTAL RELEASED	CURIES	19.	32.	17.	68.	
B. AVE CON RELEASED	UCI/ML	1.39E-07	2.41E-07	1.48E-07	1.76E-07	
3. DISS NOBLE GASES						
A. TOTAL RELEASED	CURIES	11.	84.	0.51	96.	
B. AVE CON RELEASED	UCI/ML	8.38E-08	6.28E-07	4.35E-09	2.39E-07	
4. GROSS ALPHA						
A. TOTAL RELEASED	CURIES	0.00	0.00	0.00	0.00	
B. AVE CON RELEASED	UCI/ML	0.00	0.00	0.00	0.00	
5. RADWASTE RELEASED	LITERS	1.21E 07	1.31E 07	1.33E 07	3.85E 07	
6. DILUTION WATER	LITERS	1.34E 11	1.34E 11	1.17E 11	3.85E 11	
7. ISOTOPE CONC.	CURIES					
KR-85M		5.71E-05	2.18E-05	0.00	7.89E-05	
KR-85		2.92E-03	0.34	0.00	0.34	
KR-87		0.00	1.88E-05	0.00	1.88E-05	
KR-88		3.31E-05	1.02E-07	0.00	3.32E-05	
XE-131M		7.48E-02	0.14	8.27E-03	0.22	
XE-133M		5.44E-02	0.66	1.52E-03	0.72	
XE-133		11.	83.	0.50	94.	
XE-135		4.35E-03	0.18	1.47E-03	0.19	
BE-7		0.00	1.79E-04	0.00	1.79E-04	
NA-24		1.58E-03	1.69E-03	1.69E-03	4.96E-03	
CR-51		3.29E-04	1.63E-03	2.12E-03	4.08E-03	
MN-54		4.69E-05	7.22E-04	9.51E-04	1.72E-03	
MN-56		0.00	0.00	0.00	0.00	
FE-59		0.00	0.00	0.00	0.00	
CO-57		0.00	1.30E-04	2.33E-05	1.54E-04	
CO-58		1.23E-02	5.71E-02	3.03E-02	9.97E-02	
CO-60		3.05E-03	3.14E-02	3.34E-02	6.79E-02	
NI-65		0.00	0.00	0.00	0.00	
CU-64		0.00	0.00	0.00	0.00	
ZN-65		0.00	0.00	0.00	0.00	
SE-75		0.00	0.00	7.20E-06	7.20E-06	
SR-89		0.00	0.00	2.79E-02	2.79E-02	
SR-90		0.00	0.00	1.03E-03	1.03E-03	
SR-91		0.00	0.00	0.00	0.00	
SR-92		5.28E-05	5.17E-05	6.91E-05	1.74E-04	
ZR-95		4.53E-05	9.80E-04	6.57E-04	1.68E-03	
ZR-97		0.00	5.45E-06	5.54E-06	1.10E-05	
NB-95		2.30E-04	1.68E-03	1.48E-03	3.39E-03	
NB-97		1.87E-04	3.98E-04	1.41E-04	7.27E-04	
MO-99		0.00	0.00	0.00	0.00	
RU-103		1.07E-05	1.52E-04	6.23E-05	2.25E-04	



RU-106	0.00	6.02E-04	0.00	6.02E-04
AG-110M	6.57E-04	2.65E-03	3.66E-03	6.96E-03
I-131	1.28E-04	2.19E-03	3.32E-02	3.55E-02
I-132	0.00	0.00	0.00	0.00
I-133	5.86E-06	0.00	0.00	5.86E-06
I-134	0.00	0.00	0.00	0.00
I-135	0.00	0.00	0.00	0.00
CS-134	5.46E-03	7.29E-03	7.58E-03	2.03E-02
CS-136	0.00	0.00	0.00	0.00
CS-137	1.64E-02	2.10E-02	2.12E-02	5.86E-02
CS-138	0.00	0.00	0.00	0.00
BA-133	0.00	4.19E-06	0.00	4.19E-06
BA-140	0.00	0.00	0.00	0.00
LA-140	0.00	1.50E-05	6.59E-06	2.16E-05
CE-144	2.08E-04	0.00	1.13E-04	3.21E-04
EU-152	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00
NP-239	0.00	0.00	0.00	0.00

8. % OF LIMIT (BASED ON 10 CURIES/QTR.)      %      0.41      1.3      1.7      3.4

REMARKS:      0.00 = N.D.  
SR-89 AND SR-90 VALUES FOR QUARTERLY ANALYSIS.

1984  
ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT ONE  
REPORT ON RADIOACTIVE LIQUID EFFLUENTS  
FOURTH QUARTER

\*  
 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT ONE \*  
 \* REPORT ON RADIOACTIVE LIQUID EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-313 YEAR: 1984 \*  
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REPORTING PARAMETERS	/UNITS /	OCT	NOV	DEC	QTRLY TOT	SEMI TOTL
1. GROSS BETA + GAMMA						
A. TOTAL RELEASED	CURIES	0.25	0.34	0.43	1.0	1.4
B. AVE CON RELEASED	UCI/ML	3.15E-09	5.39E-09	6.40E-09	4.98E-09	2.4
C. MAX CON RELEASED	UCI/ML	2.66E-07	1.51E-07	2.60E-07	6.77E-07	7.78E-07
2. TRITIUM						
A. TOTAL RELEASED	CURIES	15.	12.	2.6	30.	98.
B. AVE CON RELEASED	UCI/ML	1.84E-07	1.94E-07	3.90E-08	1.39E-07	2.47E 02
3. DISS NOBLE GASES						
A. TOTAL RELEASED	CURIES	74.	0.14	1.65E-03	74.	1.70E 02
B. AVE CON RELEASED	UCI/ML	9.10E-07	2.23E-09	2.43E-11	3.04E-07	7.3
4. GROSS ALPHA						
A. TOTAL RELEASED	CURIES	0.00	2.41E-03	0.00	2.41E-03	2.41E-03
B. AVE CON RELEASED	UCI/ML	0.00	3.86E-11	0.00	1.29E-11	6.44E-12
5. RADWASTE RELEASED	LITERS	7.25E 06	1.74E 06	4.07E 06	1.31E 07	5.15E 07
6. DILUTION WATER	LITERS	8.09E 10	6.23E 10	6.77E 10	2.11E 11	4.79E 11
7. ISOTOPE CONC.	CURIES					
KR-85M		2.36E-03	0.00	0.00	2.36E-03	2.44E-03
KR-85		3.13E-02	0.00	0.00	3.13E-02	0.37
KR-87		0.00	1.80E-04	0.00	1.80E-04	1.99E-04
KR-88		0.00	0.00	4.37E-06	4.37E-06	3.76E-05
XE-131M		0.30	9.17E-03	5.63E-05	0.31	0.53
XE-133M		0.63	0.00	0.00	0.63	1.3
XL-133		72.	0.13	1.58E-03	72.	1.67E 02
XE-135		0.40	0.00	3.59E-06	0.40	0.59
BE-7		0.00	4.41E-04	0.00	4.41E-04	6.20E-04
NA-24		7.83E-04	3.32E-05	5.43E-05	8.70E-04	5.83E-03
CR-51		1.01E-02	3.62E-03	3.26E-03	1.70E-02	2.10E-02
MN-54		6.11E-04	1.22E-03	1.28E-03	3.11E-03	4.83E-03
MN-56		0.00	0.00	0.00	0.00	0.00
FE-59		1.43E-03	4.40E-04	1.67E-04	2.04E-03	2.04E-03
CO-57		1.71E-04	3.93E-04	3.06E-04	8.70E-04	1.02E-03
CO-58		0.12	0.13	0.14	0.39	0.49
CO-60		1.99E-02	4.43E-02	3.21E-02	9.63E-02	0.16
NI-65		1.66E-04	0.00	0.00	1.66E-04	1.66E-04
CU-64		0.00	0.00	0.00	0.00	0.00
ZN-65		0.00	0.00	0.00	0.00	0.00
SE-75		2.02E-05	5.11E-04	4.08E-05	5.72E-04	5.79E-04
SR-89		0.00	0.00	7.12E-03	7.12E-03	3.50E-02
SR-90		0.00	0.00	0.00	0.00	1.03E-03
SR-91		0.00	0.00	0.00	0.00	0.00
SR-92		3.30E-06	5.95E-05	1.90E-05	8.18E-05	2.55E-04
ZR-95		1.63E-03	6.12E-04	6.30E-04	2.87E-03	4.56E-03
Zr-97		7.17E-06	1.05E-05	1.39E-05	3.17E-05	4.26E-05
NB-95		3.20E-03	1.08E-03	1.30E-03	5.57E-03	8.95E-03
NB-97		4.36E-04	7.32E-04	2.33E-04	1.40E-03	2.13E-03
MO-99		0.00	0.00	0.00	0.00	0.00
RU-103		8.32E-04	2.55E-04	1.89E-04	1.28E-03	1.50E-03

RU-106	0.00	3.41E-04	0.00	3.41E-04	9.43E-04
AG-110M	3.48E-03	2.21E-03	1.62E-03	7.31E-03	1.43E-02
I-131	2.46E-02	1.76E-02	5.29E-03	4.75E-02	8.30E-02
I-132	0.00	0.00	0.00	0.00	0.00
I-133	0.00	0.00	0.00	0.00	5.86E-06
I-134	0.00	0.00	0.00	0.00	0.00
I-135	0.00	0.00	0.00	0.00	0.00
CS-134	6.56E-03	3.40E-02	6.76E-02	0.11	0.13
CS-136	0.00	0.00	0.00	0.00	0.00
CS-137	1.76E-02	9.26E-02	0.17	0.28	0.34
CS-138	0.00	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00	4.19E-06
BA-140	0.00	0.00	0.00	0.00	0.00
LA-140	4.40E-02	9.38E-04	1.18E-04	4.51E-02	4.51E-02
CE-144	0.00	0.00	0.00	0.00	3.21E-04
EU-152	0.00	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00	0.00
NP-239	0.00	1.50E-06	0.00	1.50E-06	1.50E-06

8. % OF LIMIT (BASED ON 10 CURIES/QTR.)      %      2.5      3.4      4.3      10.

REMARKS:      0.00 = N.D.  
SR-89 AND SR-90 VALUES FOR QUARTERLY ANALYSIS.

1984  
ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT TWO  
REPORT ON RADIOACTIVE GASEOUS EFFLUENTS  
THIRD QUARTER

\*  
 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT TWO \*  
 \* REPORT ON RADIOACTIVE GASEOUS EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-368 YEAR: 1984 \*  
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=====  
 REPORTING PARAMETERS / UNITS / JUL / AUG / SEP / YEARLY TOT /  
 =====

1. GASES	CURIES	5.28E 02	6.70E 02	1.54E 02	2.54E 03
2. HALOGENS	CURIES	2.00E-05	7.01E-06	3.59E-05	1.84E-04
3. DELETED					
4. H-3	CURIES	0.37	0.14	3.08E-02	2.0
5. ALPHA	CURIES	0.00	0.00	0.00	2.71E-06
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	3.42E 02	6.58E 04	1.12E 04	NA

7. % OF APPLICABLE  
LIMIT FOR:

A. GASES

1. GAMMA	%			1.5	NA
2. BETA	%			1.9	NA

B. DELETED

C. PART. + I-131	%			1.15E-02	NA
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8. ISOTOPIC CONC. CURIES

PARTICULATES:

SR-89	4.73E-07	4.73E-07	4.73E-07	1.42E-06
SR-90	0.00	0.00	0.00	0.00
CS-134	0.00	0.00	0.00	3.08E-07
CS-137	7.27E-07	2.66E-07	4.74E-07	1.44E-05
BA-140	0.00	0.00	0.00	0.00
LA-140	0.00	0.00	0.00	0.00

HALOGENS:

I-131	1.94E-05	7.01E-06	3.59E-05	1.60E-04
I-133	5.98E-07	0.00	0.00	2.41E-05
I-135	0.00	0.00	0.00	0.00

GASES:

AR-41	0.00	0.00	0.00	0.00
KR-85M	0.00	0.00	0.00	0.00
KR-85	0.00	0.00	0.24	0.24
KR-87	0.00	0.00	0.00	0.00
KR-88	0.00	0.00	0.00	0.00
XE-133M	0.00	1.4	0.00	8.6
XE-133	4.93E 02	6.21E 02	1.51E 02	2.32E 03
XE-135	34.	46.	2.9	2.11E 02
XE-138	0.00	0.00	0.00	0.00

OTHERS:

XE-131M	0.00	2.1	9.90E-02	2.2
XE-135M	0.00	0.00	0.00	0.00
BE-7	0.00	0.00	0.00	0.00
NA-24	0.00	0.00	0.00	0.00
K-40	0.00	0.00	5.20E-06	3.04E-05
CR-51	0.00	0.00	0.00	0.00
MN-54	0.00	0.00	0.00	0.00
MN-56	0.00	0.00	0.00	0.00



FE-57	0.00	0.00	0.00	0.00
CO-57	0.00	0.00	0.00	0.00
CO-58	0.00	0.00	0.00	1.99E-05
CO-60	0.00	0.00	0.00	1.84E-06
NI-65	0.00	0.00	0.00	0.00
CU-64	0.00	0.00	0.00	0.00
ZN-65	0.00	0.00	0.00	0.00
SE-75	0.00	0.00	0.00	0.00
BR-84	0.00	0.00	0.00	0.00
RE-88	0.00	0.00	0.00	0.00
RB-89	0.00	0.00	0.00	0.00
SR-85	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00
SR-92	0.00	0.00	0.00	0.00
Y-88	0.00	0.00	0.00	0.00
Y-91M	0.00	0.00	0.00	0.00
Y-92	0.00	0.00	0.00	0.00
ZR-95	0.00	0.00	0.00	0.00
ZR-97	0.00	0.00	0.00	0.00
NE-94	0.00	0.00	0.00	0.00
NE-95	0.00	0.00	0.00	5.72E-07
NE-97	0.00	0.00	0.00	0.00
MO-99	0.00	0.00	0.00	0.00
TC-99M	0.00	0.00	0.00	0.00
RU-103	0.00	0.00	0.00	0.00
RU-106	0.00	0.00	0.00	0.00
AG-110M	0.00	0.00	0.00	0.00
CD-109	0.00	0.00	0.00	0.00
CD-113M	0.00	0.00	0.00	0.00
SN-113	0.00	0.00	0.00	0.00
SB-122	0.00	0.00	0.00	0.00
SE-124	0.00	0.00	0.00	0.00
SB-125	0.00	0.00	0.00	0.00
TE-132	0.00	0.00	0.00	0.00
I-132	0.00	0.00	0.00	1.28E-06
I-134	0.00	0.00	0.00	4.79E-07
CS-136	0.00	0.00	0.00	0.00
CS-138	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00
BA-139	0.00	0.00	0.00	0.00
CE-139	0.00	0.00	0.00	0.00
CE-144	0.00	0.00	0.00	0.00
EU-152	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00
HG-203	0.00	0.00	0.00	0.00
PE-214	0.00	0.00	0.00	0.00
BI-214	0.00	0.00	0.00	0.00
RA-226	0.00	0.00	0.00	0.00
TH-228	1.77E-07	0.00	4.73E-07	3.43E-06
U-235	0.00	0.00	0.00	0.00
NP-239	0.00	0.00	0.00	0.00

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REMARKS:

0.00 = <MDA

1984  
ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT TWO  
REPORT ON RADIOACTIVE GASEOUS EFFLUENTS  
FOURTH QUARTER

=====  
 REPORTING PARAMETERS / UNITS / OCT / NOV / DEC / YEARLY TOT /  
 =====

1. GASES	CURIES	4.10E 02	42.	2.67E 02	3.26E 03
2. HALOGENS	CURIES	2.30E-05	2.91E-05	1.77E-05	2.54E-04
3. DELETED					
4. H-3	CURIES	2.0	7.23E-02	4.01E-02	4.1
5. ALPHA	CURIES	0.00	0.00	0.00	2.71E-06
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	1.10E 05	25.	2.05E 02	NA
7. % OF APPLICABLE LIMIT FOR:					
A. GASES					
1. G/YMA	%			0.79	NA
2. BETA	%			1.0	NA
B. DELETED					
C. PART. + I-131	%			1.23E-02	NA
8. ISOTOPIC CONC.	CURIES				
PARTICULATES:					
SR-89		2.10E-07	2.10E-07	2.10E-07	2.05E-06
SR-90		1.87E-08	1.87E-08	1.87E-08	5.60E-08
CS-134		0.00	0.00	0.00	3.08E-07
CS-137		2.84E-07	1.00E-06	0.00	1.57E-05
BA-140		0.00	0.00	0.00	0.00
LA-140		0.00	0.00	0.00	0.00
HALOGENS:					
I-131		1.99E-05	2.91E-05	1.64E-05	2.25E-04
I-133		3.09E-06	0.00	1.33E-06	2.86E-05
I-135		0.00	0.00	0.00	0.00
GASES:					
AR-41		2.44E-03	0.00	0.00	2.44E-03
KR-85M		4.02E-02	0.00	0.00	4.02E-02
KR-85		0.10	0.00	0.00	0.34
KR-87		0.00	0.00	0.00	0.00
KR-88		6.96E-03	0.00	0.00	6.96E-03
XE-133M		1.9	0.00	0.00	1.0
XE-133		3.93E 02	39.	2.42E 02	2.99E 03
XE-135		9.9	3.7	25.	2.47E 02
XE-138		0.00	0.00	0.00	0.00
OTHERS:					
XE-131M		5.0	0.00	0.00	7.2
XE-135M		0.00	0.00	0.00	0.00
BE-7		0.00	0.00	0.00	0.00
NA-24		0.00	0.00	0.00	0.00
K-40		6.79E-06	1.04E-06	0.00	3.82E-05
CR-51		0.00	0.00	0.00	0.00
MN-54		0.00	0.00	0.00	0.00



1984  
ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT TWO  
REPORT ON RADIOACTIVE LIQUID EFFLUENTS  
THIRD QUARTER

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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT TWO \*  
 \* REPORT ON RADIOACTIVE LIQUID EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-368 YEAR: 1984 \*  
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REPORTING PARAMETERS	/UNITS /	JUL	AUG	SEP	/QTRLY TOT/SEMI TOTL/
1. GROSS BETA + GAMMA					
A. TOTAL RELEASED	CURIES	0.24	0.32	0.44	1.0
B. AVE CON RELEASED	UCI/ML	1.80E-09	2.38E-09	3.73E-09	2.64E-09
C. MAX CON RELEASED	UCI/ML	1.11E-07	1.28E-07	8.80E-08	3.28E-07
2. TRITIUM					
A. TOTAL RELEASED	CURIES	33.	71.	63.	1.67E 02
B. AVE CON RELEASED	UCI/ML	2.47E-07	5.29E-07	5.38E-07	4.38E-07
3. DISS NOBLE GASES					
A. TOTAL RELEASED	CURIES	0.85	8.02E-02	3.2	4.1
B. AVE CON RELEASED	UCI/ML	6.38E-09	5.99E-10	2.72E-08	1.14E-08
4. GROSS ALPHA					
A. TOTAL RELEASED	CURIES	0.00	0.00	0.00	0.00
B. AVE CON RELEASED	UCI/ML	0.00	0.00	0.00	0.00
5. RADWASTE RELEASED	LITERS	2.37E 05	5.48E 05	7.59E 05	1.54E 06
6. DILUTION WATER	LITERS	1.34E 11	1.34E 11	1.17E 11	3.85E 11
7. ISOTOPE CONC. CURIES					
KR-85M		0.00	0.00	0.00	0.00
KR-85		0.00	0.00	0.00	0.00
KR-87		5.07E-05	6.20E-05	0.00	1.13E-04
KR-88		0.00	0.00	2.33E-04	2.33E-04
XE-131M		4.84E-03	7.74E-04	2.28E-02	2.84E-02
XE-133M		9.83E-03	1.49E-04	1.30E-02	2.30E-02
XE-133		0.83	7.60E-02	3.1	4.1
XE-135		5.64E-03	3.29E-03	2.60E-03	1.15E-02
BE-7		0.00	0.00	0.00	0.00
NA-24		5.10E-03	5.45E-04	1.23E-04	5.77E-03
CR-51		8.19E-03	4.08E-02	7.48E-02	0.12
MN-54		2.98E-04	7.42E-04	1.77E-03	2.81E-03
MN-56		0.00	0.00	0.00	0.00
FE-59		1.55E-03	1.30E-03	3.49E-03	6.34E-03
CO-57		0.00	5.99E-05	0.00	5.99E-05
CO-58		2.21E-02	9.47E-02	0.13	0.25
CO-60		3.60E-03	8.20E-03	1.85E-02	3.03E-02
NI-65		0.00	0.00	0.00	0.00
CU-64		0.00	0.00	0.00	0.00
ZN-65		0.00	5.56E-05	0.00	5.56E-05
SE-75		0.00	0.00	0.00	0.00
SR-89		0.00	0.00	2.91E-04	2.91E-04
SR-90		0.00	0.00	4.97E-05	4.97E-05
SR-91		0.00	0.00	0.00	0.00
SR-92		1.17E-05	3.80E-05	4.80E-05	9.77E-05
ZR-95		1.25E-03	4.78E-03	1.02E-02	1.62E-02
ZR-97		5.03E-06	8.74E-06	3.68E-05	5.06E-05
NB-95		1.94E-03	6.02E-03	1.33E-02	2.12E-02
NB-97		3.96E-04	5.18E-04	3.76E-04	1.29E-03
MO-99		7.54E-03	0.00	3.11E-03	1.07E-02
RU-103		5.90E-04	2.14E-03	3.96E-03	6.69E-03



RU-106	0.00	0.00	2.10E-04	2.10E-04
AG-110M	1.13E-03	5.02E-03	5.85E-03	1.20E-02
I-131	7.88E-02	0.10	0.13	0.31
I-132	0.00	5.89E-05	8.12E-05	1.40E-04
I-133	6.07E-03	1.52E-03	2.00E-03	9.59E-03
I-134	0.00	0.00	0.00	0.00
I-135	2.87E-04	1.11E-04	0.00	3.98E-04
CS-134	2.66E-02	1.38E-02	7.98E-03	4.84E-02
CS-136	9.20E-04	6.74E-04	0.00	1.59E-03
CS-137	7.16E-02	3.72E-02	2.26E-02	0.13
CS-138	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00
BA-140	0.00	0.00	0.00	0.00
LA-140	2.90E-03	1.46E-04	3.39E-03	6.44E-03
CE-144	0.00	1.51E-04	1.35E-04	2.85E-04
EU-152	0.00	0.00	0.00	0.00
W-187	0.00	0.00	2.79E-04	2.79E-04
NP-239	1.88E-04	0.00	3.39E-04	5.26E-04

8. % OF LIMIT (BASED ON 10 CURIES/QTR.)	%	2.4	3.2	4.4	10.
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REMARKS: 0.00 = N.D.  
SR-89 AND SR-90 VALUES FOR QUARTERLY ANALYSIS.

1984

ARKANSAS POWER AND LIGHT COMPANY  
ARKANSAS NUCLEAR ONE, UNIT TWO  
REPORT ON RADIOACTIVE LIQUID EFFLUENTS  
FOURTH QUARTER

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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT TWO \*  
 \* REPORT ON RADIOACTIVE LIQUID EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-368 YEAR: 1984 \*  
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REPORTING PARAMETERS	/UNITS /	OCT	NOV	DEC	/QTRLY TOT/SEMI TOTL/
1. GROSS BETA + GAMMA					
A. TOTAL RELEASED	CURIES	0.19	0.47	0.15	0.81 1.8
B. AVE CON RELEASED	UCI/ML	2.35E-09	7.54E-09	2.19E-09	4.03E-09 3.33E-09
C. MAX CON RELEASED	UCI/ML	1.18E-07	2.31E-07	1.60E-07	5.09E-07 8.37E-07
2. TRITIUM					
A. TOTAL RELEASED	CURIES	13.	31.	4.2	48. 2.15E 02
B. AVE CON RELEASED	UCI/ML	1.56E-07	5.00E-07	6.24E-08	2.39E-07 3.39E-07
3. DISS NOBLE GASES					
A. TOTAL RELEASED	CURIES	1.8	3.2	0.82	5.8 10.
B. AVE CON RELEASED	UCI/ML	2.21E-08	5.17E-08	1.22E-08	2.87E-08 2.00E-08
4. GROSS ALPHA					
A. TOTAL RELEASED	CURIES	0.00	0.00	0.00	0.00 0.00
B. AVE CON RELEASED	UCI/ML	0.00	0.00	0.00	0.00 0.00
5. RADWASTE RELEASED	LITERS	5.31E 05	6.88E 05	2.97E 05	1.52E 06 3.06E 06
6. DILUTION WATER	LITERS	8.09E 10	6.23E 10	6.77E 10	2.11E 11 5.96E 11
7. ISOTOPE CONC. CURIES					
KR-85M		1.02E-04	8.41E-05	4.50E-05	2.31E-04 2.31E-04
KR-85		0.00	0.00	0.00	0.00 0.00
KR-87		0.00	4.01E-05	0.00	4.01E-05 1.53E-04
KR-88		0.00	0.00	0.00	0.00 2.33E-04
XE-131M		7.97E-03	3.49E-02	4.16E-03	4.70E-02 7.54E-02
XE-133M		1.34E-02	1.43E-02	5.34E-03	3.30E-02 5.59E-02
XE-133		1.8	3.2	0.81	5.7 9.8
XE-135		1.36E-02	1.29E-02	8.44E-03	3.50E-02 4.65E-02
BE-7		0.00	9.66E-04	0.00	9.66E-04 9.66E-04
NA-24		9.60E-06	1.47E-04	4.27E-04	5.84E-04 6.35E-03
CR-51		5.01E-03	9.58E-03	3.06E-04	1.49E-02 0.14
MN-54		3.77E-04	6.38E-04	1.52E-04	1.17E-03 3.97E-03
MN-56		0.00	0.00	0.00	0.00 0.00
FE-59		2.22E-04	4.73E-04	3.26E-05	7.28E-04 7.07E-03
CO-57		2.43E-05	3.49E-04	3.03E-05	4.04E-04 4.64E-04
CO-58		2.02E-02	0.24	5.91E-03	0.26 0.51
CO-60		4.07E-03	1.84E-02	8.75E-04	2.33E-02 5.36E-02
NI-65		0.00	0.00	0.00	0.00 0.00
CU-64		0.00	0.00	0.00	0.00 0.00
ZN-65		0.00	0.00	0.00	0.00 5.56E-05
SE-75		0.00	8.86E-05	0.00	8.86E-05 8.86E-05
SR-89		0.00	0.00	7.94E-05	7.94E-05 3.71E-04
SR-90		0.00	0.00	2.05E-05	2.05E-05 7.02E-05
SR-91		0.00	0.00	0.00	0.00 0.00
SR-92		2.38E-05	5.29E-06	2.56E-05	5.47E-05 1.52E-04
ZR-95		7.70E-04	1.40E-03	9.67E-05	2.27E-03 1.85E-02
ZR-97		0.00	0.00	0.00	0.00 5.06E-05
NB-95		1.27E-03	2.09E-03	1.92E-04	3.55E-03 2.48E-02
NB-97		2.80E-04	2.07E-04	1.22E-04	6.09E-04 1.90E-03
MO-99		0.00	0.00	0.00	0.00 1.07E-02
RU-103		3.61E-04	8.27E-04	5.72E-05	1.25E-03 7.93E-03

RU-106	0.00	0.00	0.00	0.00	2.10E-04
AG-110M	6.54E-04	1.55E-03	2.16E-04	2.42E-03	1.44E-02
I-131	5.98E-02	8.45E-02	6.27E-02	0.21	0.52
I-132	0.00	0.00	0.00	0.00	1.40E-04
I-133	1.59E-03	2.54E-03	3.59E-03	7.72E-03	1.73E-02
I-134	0.00	0.00	0.00	0.00	0.00
I-135	0.00	2.61E-05	3.87E-04	4.13E-04	8.11E-04
CS-134	2.56E-02	2.97E-02	2.05E-02	7.59E-02	0.12
CS-136	3.07E-04	6.26E-04	2.47E-04	1.18E-03	2.77E-03
CS-137	6.90E-02	7.81E-02	5.26E-02	0.20	0.33
CS-138	0.00	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00	0.00
BA-140	0.00	0.00	0.00	0.00	0.00
LA-140	1.32E-04	8.48E-04	1.89E-05	9.99E-04	7.44E-03
CE-144	0.00	0.00	0.00	0.00	2.85E-04
EU-152	0.00	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00	2.79E-04
NP-239	0.00	0.00	0.00	0.00	5.26E-04

8. % OF LIMIT (BASED ON 10 CURIES/QTR.)      %      1.9      4.7      1.5      8.1

REMARKS:      0.00 = N.D.  
SR-89 AND SR-90 VALUES FOR QUARTERLY ANALYSIS.

SOLID WASTE REPORT

SOLID WASTE REPORT  
(R. G. 1.21)

ARKANSAS NUCLEAR ONE

Effluent and Waste Disposal Report  
Report Period: 07/01/84 - 12/31/84  
Report Generation Date: 01/02/85

Solid Waste and Irradiated Fuel Shipment

A. Solid Waste Shipped Offsite for Burial or Disposal (Not Irradiated Fuel)

1. TYPE OF WASTE	UNIT	6 MONTH PERIOD
A. Spent Resins, Filter Sludges, Evaporator Bottom, etc.	M <sup>3</sup> CI	37.06 573.90
B. Dry Compressible Waste, Contaminated Equip., etc.	M <sup>3</sup> CI	211.81 23.1
C. Irradiated Components, Control Rods, etc.	M <sup>3</sup> CI	2.07E-01 5.26E-02
D. Other - Absorbed Oil	M <sup>3</sup> CI	10.34 0.29
Scintillation Vials	M <sup>3</sup> CI	0.41 0.01



2. Estimate of Major Nuclide Composition (By Type of Waste)

A.	CO <sup>58</sup>	- 31.2%
	CO <sup>60</sup>	- 11.4%
	CS <sup>134</sup>	- 13.2%
	CS <sup>137</sup>	- 29.7%
	FE <sup>55</sup>	- 5.47%
	SR <sup>90</sup>	- 1.19%
	NI <sup>63</sup>	- 7.06%
		<hr/>
		99.22%
B.	C <sup>14</sup>	- 0.852%
	CO <sup>58</sup>	- 7.53%
	CO <sup>60</sup>	- 3.16%
	CS <sup>134</sup>	- 5.01%
	CS <sup>137</sup>	- 15.5%
	FE <sup>55</sup>	- 64.9%
	NI <sup>63</sup>	- 1.96%
	SR <sup>90</sup>	- 0.621%
		<hr/>
		99.533%
C.	AG <sup>110</sup>	- 5.1%
	CO <sup>58</sup>	- 4.79%
	CO <sup>60</sup>	- 3.76%
	CS <sup>134</sup>	- 0.979%
	CS <sup>137</sup>	- 2.01%
	FE <sup>55</sup>	- 78.9%
	NI <sup>63</sup>	- 2.33%
	ZR <sup>97</sup>	- 1.13%
		<hr/>
		99.0%

D.	C <sup>14</sup>	-	.97%
	CO <sup>58</sup>	-	8.37%
	CO <sup>60</sup>	-	2.92%
	CS <sup>134</sup>	-	4.74%
	CS <sup>137</sup>	-	16.9%
	FE <sup>55</sup>	-	61.2%
	H <sup>3</sup>	-	2.07%
	NI <sup>63</sup>	-	1.81%
	SR <sup>90</sup>	-	0.677%
			99.66%

3. Solid Waste Disposition

Shipments	Mode of Transportation	Destination
11	Unshielded Van/Truck	Hanford
15	Cask Shipment (Type A)	Hanford

B. Irradiated Fuel shipments (Disposition)

Shipments	Mode of Transportation	Destination
None		



ARKANSAS POWER & LIGHT COMPANY

POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

March 1, 1985

ØCANØ385Ø1

Mr. Richard C. DeYoung  
Office of Inspection and Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

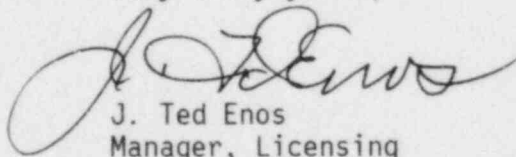
SUBJECT: Arkansas Nuclear One - Units 1 & 2  
Docket Nos. 50-313 and 50-368  
License Nos. DPR-51 and NPF-6  
Semi-Annual Radioactive Effluent  
Report and Waste Disposal Report

Gentlemen:

In accordance with 10CFR 50.36 a(a)(2), attached is the subject report for the third and fourth quarters of 1984.

Information on the solid waste shipped offsite for burial or disposal is included in the Solid Waste Report.

Very truly yours,



J. Ted Enos  
Manager, Licensing

JTE:RJS:ds

Attachment

cc: U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

JTE:RJS  
1/1