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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT ONE \*  
 \* REPORT ON RADIOACTIVE GASEOUS EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-313 YEAR: 1980 \*  
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 REPORTING PARAMETERS / UNITS / JAN / FEB / MAR / YEARLY TOT /  
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1. GASES	CURIES	4.99E 03	1.52E 02	1.69E 03	6.04E 03
2. HALOGENS	CURIES	0.15	1.01E-03	1.10E-04	0.15
3. DELETED					
4. H-3	CURIES	0.10	0.17	0.50E-02	0.36
5. ALPHA	CURIES	0.00	0.00	0.00	0.00
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	4.73E 06	2.43E 02	1.48E 03	NA
7. % OF APPLICABLE LIMIT FOR:					
A. GASES	%			27.	NA
B. DELETED					
C. PART. + I-131	%			25.	NA
8. ISOTOPIIC CONC.	CURIES				
PARTICULATES:					
SR-09		1.41E-05	1.41E-05	1.41E-05	4.24E-05
SR-90		0.00	0.00	0.00	0.00
CS-134		1.61E-06	1.73E-06	0.00	3.35E-06
CS-137		5.96E-07	5.15E-06	2.14E-06	7.89E-06
BA-140		0.00	0.00	0.00	0.00
LA-140		0.00	0.00	0.00	0.00
HALOGENS:					
I-131		0.15	1.01E-03	1.10E-04	0.15
I-133		1.19E-03	8.59E-06	0.00	1.20E-03
I-135		0.00	0.00	0.00	0.00
GASES:					
AR-41		0.00	0.00	0.00	0.00
KR-05M		5.29E-04	4.1	0.00	4.1
KR-85		11.	0.72	2.8	14.
TR-07		0.00	0.00	0.00	0.00
KR-08		0.00	0.00	0.00	0.00
XE-133M		19.	0.00	3.7	23.
XE-133		4.95E 03	1.12E 02	1.68E 03	6.74E 03
XE-135		1.6	34.	4.8	41.
XE-138		0.00	0.00	0.00	0.00

OTHERS:

8009160

256

	9.9	0.18	0.13	10.
XE-131M	0.00	0.00	0.00	0.00
XE-135M	0.00	0.00	0.00	0.00
DE-7	0.00	0.00	0.00	0.00
HA-24	0.00	0.00	0.00	0.00
K-40	0.00	0.00	0.00	0.00
CR-51	0.00	0.00	0.00	0.00
HH-54	0.00	0.00	0.00	0.00
HN-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-50	4.94E-07	0.00	0.00	4.94E-07
CO-60	0.00	1.02E-06	1.50E-06	3.32E-06
HI-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
RR-84	0.00	0.00	0.00	0.00
RO-00	0.00	0.00	0.00	0.00
PO-09	0.00	0.00	0.00	0.00
SR-05	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-08	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
NB-94	0.00	0.00	0.00	0.00
NB-95	0.00	0.00	0.00	0.00
NB-97	0.00	0.00	0.00	0.00
HO-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
SH-113	0.00	0.00	0.00	0.00
SO-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	0.00
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-130	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
CF-144	0.00	0.00	0.00	0.00
CU-152	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00
IG-203	0.00	0.00	0.00	0.00
PA-214	0.00	0.00	0.00	0.00

BI-214  
RA-226  
TH-228  
U-233  
NP-239

0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

REMARKS:

0.00 = <1000

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 \* ARKANSAS NUCLEAR ONE, UNIT ONE \*  
 \* REPORT ON RADIOACTIVE GASEOUS EFFLUENTS \*  
 \* APPENDIX "a" DOCKET 50-313 YEAR: 1980 \*  
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-----  
 REPORTING PARAMETERS / UNITS / APR / MAY / JUN / YEARLY TOT/  
 -----

1. GASES	CURIES	5.30E 02	3.29E 03	1.71E 02	1.00E 04
2. HALOGENS	CURIES	3.08E-04	5.75E-03	7.75E-04	0.16
3. DELETED					
4. H-3	CURIES	0.11	0.05	9.04E-02	1.4
5. ALPHA	CURIES	0.00	0.00	0.00	0.00
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	1.70E 03	1.05E 06	2.01E 02	NA
7. % OF APPLICABLE LIMIT FOR:					
A. GASES	%			16.	NA
B. DELETED					
C. PART. + I-131	%			1.1	NA
8. ISOTOPIC CONC.	CURIES				
PARTICULATES:					
SR-90		0.39E-06	0.39E-06	0.39E-06	6.76E-05
SR-90		0.00	0.00	0.00	0.00
CS-134		1.11E-06	1.77E-07	4.03E-07	5.04E-06
CS-137		3.77E-06	0.00	1.02E-06	1.27E-05
BA-140		0.00	0.00	0.00	0.00
LA-140		0.00	0.00	0.00	0.00
HALOGENS:					
I-131		3.20E-04	5.77E-03	7.65E-04	0.16
I-133		6.01E-05	3.06E-05	1.05E-05	1.31E-03
I-135		0.00	0.00	0.00	0.00
GASES:					
AR-41		0.00	0.00	0.00	0.00
KR-05M		0.00	0.00	0.00	4.1
KR-05		6.0	56.	6.1	83.
TR-07		0.00	0.00	0.00	0.00
KR-00		0.00	0.00	0.00	0.00
XE-133M		0.00	22.	0.00	44.
XE-133		5.20E 02	3.10E 03	1.32E 02	1.06E 04
XE-135		9.5	6.7	32.	89.
XE-130		0.00	0.00	0.00	0.00
OTHERS:					

XE-131M	0.00	22.	0.86	34.	0.00
XE-135M	0.00	0.00	0.00	0.00	0.00
BE-7	0.00	0.00	0.00	0.00	0.00
HA-24	0.00	0.00	0.00	0.00	0.00
K-40	0.00	0.00	0.00	0.00	0.00
CR-51	0.00	0.00	0.00	0.00	0.00
IH-54	0.00	0.00	0.00	0.00	0.00
NI-56	0.00	0.00	0.00	0.00	0.00
FE-59	0.00	0.00	0.00	0.00	0.00
CO-57	0.00	0.00	0.00	0.00	0.00
CO-58	0.00	0.00	1.40E-06	1.09E-06	0.00
CO-60	2.41E-06	8.90E-07	1.82E-06	8.45E-06	0.00
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	0.00
SE-75	0.00	0.00	0.00	0.00	0.00
BR-84	0.00	0.00	0.00	0.00	0.00
RD-00	0.00	0.00	0.00	0.00	0.00
RB-89	0.00	0.00	0.00	0.00	0.00
SR-05	0.00	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00	0.00
SR-92	0.00	0.00	0.00	0.00	0.00
Y-08	0.00	0.00	0.00	0.00	0.00
Y-91M	0.00	0.00	0.00	0.00	0.00
Y-92	0.00	0.00	0.00	0.00	0.00
ZR-95	0.00	0.00	0.00	0.00	0.00
ZR-97	0.00	0.00	0.00	0.00	0.00
NB-94	0.00	0.00	0.00	0.00	0.00
HO-95	0.00	0.00	0.00	0.00	0.00
NB-97	0.00	0.00	0.00	0.00	0.00
HO-99	0.00	0.00	0.00	0.00	0.00
TC-99M	0.00	1.40E-07	0.00	1.48E-07	0.00
RU-103	0.00	0.00	0.00	0.00	0.00
RU-106	0.00	0.00	0.00	0.00	0.00
AG-110M	0.00	0.00	0.00	0.00	0.00
CD-109	0.00	0.00	0.00	0.00	0.00
CD-113M	0.00	0.00	0.00	0.00	0.00
SH-113	0.00	0.00	0.00	0.00	0.00
SB-122	0.00	0.00	0.00	0.00	0.00
SB-124	0.00	0.00	0.00	0.00	0.00
SB-125	0.00	0.00	0.00	0.00	0.00
TE-132	0.00	0.00	0.00	0.00	0.00
I-132	0.00	0.00	0.00	0.00	0.00
I-134	0.00	0.00	0.00	0.00	0.00
CS-136	0.00	0.00	0.00	0.00	0.00
CS-138	0.00	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	0.00	0.00	0.00
RA-139	0.00	0.00	0.00	0.00	0.00
CE-144	0.00	0.00	0.00	0.00	0.00
CE-144	0.00	0.00	0.00	0.00	0.00
EU-152	0.00	0.00	0.00	0.00	0.00
W-187	0.00	0.00	0.00	0.00	0.00
HC-203	0.00	0.00	0.00	0.00	0.00
PB-214	0.00	0.00	0.00	0.00	0.00

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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR OHC, UNIT ONE \*  
 \* REPORT ON RADIOACTIVE LIQUID EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-313 YEAR: 1980 \*  
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-----  
 REPORTING PARAMETERS / UNITS / JAN / FEB / MAR / QTRLY TOT/SEMI TOT/  
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1. GROSS BETA + GAMMA  
 A. TOTAL RELEASED CURIES 0.27 0.41 0.16 0.84  
 B. AVE CON RELEASED UC1/ML 3.90E-09 4.64E-09 1.63E-09 1.0E-08  
 C. MAX CON RELEASED UC1/ML 1.86E-07 3.01E-07 3.51E 10 3.51E 10

2. TRITIUM  
 A. TOTAL RELEASED CURIES 6.5 7.60E-09 1.75E-09 6.5  
 B. AVE CON RELEASED UC1/ML 9.48E-08 8.68E-17 1.73E-17 9.48E-08

3. DISS NOBLE GASES  
 A. TOTAL RELEASED CURIES 5.7 5.9 1.03E 02 1.14E 02  
 B. AVE CON RELEASED UC1/ML 8.33E-08 6.63E-08 1.02E-06 1.17E-06

4. GROSS ALPHA  
 A. TOTAL RELEASED CURIES 0.00 0.00 0.00 0.00  
 B. AVE CON RELEASED UC1/ML 0.00 0.00 0.00 0.00

5. RADWASTE RELEASED LITERS 5.12E 05 2.00E-04 4.60E-05 5.12E 05  
 6. DILUTION WATER LITERS 6.81E 10 8.04E 10 1.01E 11 2.58E 11

7. ISOTOPE CONC.  
 KR-85M CURIES 0.00 2.00E-04 0.00 2.00E-04  
 KR-85 0.00 7.13E-02 7.33E-02 0.14  
 KR-87 0.00 0.00 0.00 0.00  
 KR-88 0.00 0.00 0.00 0.00  
 XE-131M 0.31 1.2 5.31E-02 1.6  
 XE-133M 2.03E-03 3.72E-02 0.23 0.27  
 XE-133 5.4 4.5 1.02E 02 1.12E 02  
 XE-135 3.74E-05 2.09E-02 4.32E-03 3.32E-02  
 BE-7 0.00 0.00 0.00 0.00  
 NA-24 3.46E-06 2.19E-05 0.00 2.54E-05  
 CR-51 1.12E-03 2.17E-02 5.43E-04 2.34E-02  
 MN-54 2.95E-03 3.30E-03 1.81E-03 8.06E-03  
 MN-56 0.00 0.00 0.00 0.00  
 FE-59 4.08E-04 2.57E-03 0.09 2.98E-03  
 CO-57 6.47E-05 3.19E-04 0.00 3.03E-04  
 CO-58 4.22E-02 0.21 3.73E-02 0.29  
 CO-60 6.20E-02 6.92E-02 5.08E-02 0.18  
 NI-65 0.00 0.00 0.00 0.00  
 CU-64 0.60 0.00 0.00 0.00  
 ZN-65 0.00 0.00 0.00 0.00

BI-214	0.00	0.00	0.00	0.00
RA-226	0.00	1.34E-06	0.00	1.34E-06
TH-228	0.00	0.00	1.31E-06	1.31E-06
U-235	0.00	0.00	0.00	0.00
HP-239	0.00	0.00	0.00	0.00

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REMARKS:

0.00 = <NDA

SE-75	0.00	0.07E-05	2.58E-06	9.13E-05
SR-89	0.00	0.00	2.04E-04	2.04E-04
SR-90	0.00	0.00	0.00	0.00
SR-91	0.00	2.13E-06	0.00	2.13E-06
SR-92	1.74E-04	6.07E-05	3.37E-05	2.68E-04
ZR-95	5.85E-04	2.38E-03	2.71E-0	2.99E-03
ZR-97	0.00	0.00	0.00	0.00
HB-95	1.55E-03	5.29E-03	1.37E-03	8.21E-03
HO-97	5.40E-04	1.18E-03	5.39E-05	1.77E-03
HO-99	0.00	0.00	0.00	0.00
RU-103	0.00	1.23E-03	0.00	1.23E-03
RU-106	0.00	4.60E-04	0.00	4.60E-04
AG-110M	2.14E-03	3.22E-03	8.20E-04	6.19E-03
I-131	0.12	302E-02	1.80E-02	0.16
I-132	0.00	0.00	1.53E-06	1.53E-06
I-133	2.50E-06	3.41E-06	7.63E-05	8.22E-05
I-134	0.00	0.00	0.00	0.00
I-135	0.00	0.00	0.00	0.00
CS-134	1.19E-02	1.84E-02	2.17E-02	5.20E-02
CS-136	2.44E-04	6.25E-04	6.34E-05	9.32E-04
CS-137	2.30E-02	3.39E-02	3.93E-02	9.62E-02
CS-138	4.97E-06	0.00	0.00	4.97E-06
BA-133	0.00	0.00	0.00	0.00
BA-140	0.00	0.00	0.00	0.00
LA-140	1.10E03	5.06E-03	7.92E-05	6.32E-03
CE-144	0.00	2.77E-04	0.00	2.92E-04
LU-152	0.00	0.00	0.00	0.00
W-197	0.00	1.92E-06	0.00	1.92E-06
NP-239	0.00	0.00	0.00	0.00

0. % OF LIMIT (BASED ON 10 CURIES/QTR.)      \*      2.7      4.1      1.6      8.4

REMARKS:      0.00 TO H.P.      SR-89 AND SR-90 VALUES FOR PURCHASER ANALYSIS.



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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT ONE \*  
 \* REPORT ON RADIOACTIVE LIQUID EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-313 YEAR: 1980 \*  
 \*\*\*\*\*

-----  
 REPORTING PARAMETERS /UNITS / APR / MAY / JUN /QTRLY TOT/SEMI TOTL/  
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1. GROSS BETA + GAMMA

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
A. TOTAL RELEASED	CURIES	5.57E-02	0.29	0.43	0.70	1.6
B. AVE CON RELEASED	UCI/ML	9.09E-10	3.71E-09	3.61E-09	0.22E-09	1.04E-08
C. MAX CON RELEASED	UCI/ML	5.05E-08	2.92E-07	2.15E-07	5.65E-07	3.51E 10

2. TRITIUM

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
A. TOTAL RELEASED	CURIES	25.	23.	12.	60.	67.
B. AVE CON RELEASED	UCI/ML	4.11E-07	2.97E-07	1.01E-07	0.09E-07	9.04E-07

3. DISS NOBLE GASES

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
A. TOTAL RELEASED	CURIES	90.	14.	1.06E 02	2.10E 02	3.24E 02
B. AVE CON RELEASED	UCI/ML	1.47E-06	1.03E-07	0.70E-07	2.53E-06	3.69E-06

4. GROSS ALPHA

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
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

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
	LITERS	6.44E 05	9.03E 05	1.29E 06	2.91E 06	3.43E 06

6. DILUTION WATER

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
	LITERS	6.13E 10	7.72E 10	1.21E 11	2.59E 11	5.17E 11

7. ISOTOPE CONC.

	UNITS	APR	MAY	JUN	QTRLY TOT	SEMI TOTL
KR-85M	CURIES	1.52E-05	0.00	7.37E-04	7.52E-04	1.04E-03
KR-85		0.22	0.29	0.26	0.77	0.91
KR-87		0.00	0.00	1.10E-05	1.10E-05	1.10E-05
KR-88		0.00	3.67E-06	9.90E-05	1.03E-04	1.03E-04
XE-131M		9.71E-02	0.62	0.30	1.0	2.6
XE-133M		0.29	3.03E-02	0.00	1.2	1.5
XE-133		09.	13.	1.04E 02	2.07E 02	3.19E 02
XE-135		4.09E-02	4.10E-02	0.25	0.34	0.37
BE-7		0.00	2.90E-04	3.73E-06	2.94E-04	2.94E-04
HA-24		0.00	6.93E-05	7.31E-07	7.00E-05	9.54E-05
CR-51		2.05E-05	1.26E-02	3.10E-02	4.36E-02	6.70E-02
MH-54		3.00E-05	1.21E-03	2.10E-03	3.42E-03	1.15E-02
MN-56		0.00	0.00	0.00	0.00	0.00
FE-59		1.79E-06	1.22E-03	1.64E-03	2.06E-03	5.04E-03
CO-57		0.00	2.60E-05	2.20E-04	2.46E-04	6.29E-04
CO-50		2.40E-03	7.70E-02	0.16	0.24	0.52
CO-60		0.20E-03	2.69E-02	4.92E-02	0.43E-02	0.27
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	4.47E-05	0.00	4.47E-05	4.47E-05

SE-75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.13E-05
SR-89	0.00	0.00	0.00	6.94E-03	6.94E-03	6.94E-03	6.94E-03	6.94E-03	7.14E-03
SR-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.13E-06
SR-92	0.00	0.00	1.22E-05	1.12E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	4.02E-04
ZR-95	6.00E-06	1.20E-03	3.40E-03	3.40E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	7.67E-03
ZR-97	0.00	7.76E-06	4.32E-05	4.32E-05	5.09E-05	5.09E-05	5.09E-05	5.09E-05	5.09E-05
HD-95	1.77E-05	3.02E-03	6.03E-03	6.03E-03	9.07E-03	9.07E-03	9.07E-03	9.07E-03	1.01E-02
HD-97	2.26E-04	3.44E-04	5.57E-03	5.57E-03	6.09E-03	6.09E-03	6.09E-03	6.09E-03	7.06E-03
HD-99	0.00	4.04E-04	4.36E-03	4.36E-03	4.77E-03	4.77E-03	4.77E-03	4.77E-03	4.77E-03
RU-103	0.00	1.07E-03	4.56E-03	4.56E-03	6.43E-03	6.43E-03	6.43E-03	6.43E-03	7.67E-03
RU-106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.60E-04
AG-110M	4.24E-04	2.11E-03	7.31E-03	7.31E-03	9.05E-03	9.05E-03	9.05E-03	9.05E-03	1.60E-02
I-131	4.11E-03	0.67E-02	5.02E-02	5.02E-02	0.14	0.14	0.14	0.14	0.30
I-132	0.00	5.06E-05	0.00	0.00	5.06E-05	5.06E-05	5.06E-05	5.06E-05	6.01E-05
I-133	2.09E-05	1.01E-05	1.66E-05	1.66E-05	6.36E-05	6.36E-05	6.36E-05	6.36E-05	1.46E-04
I-134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CS-134	1.41E-02	2.31E-02	3.33E-02	3.33E-02	7.05E-02	7.05E-02	7.05E-02	7.05E-02	0.12
CS-136	0.73E-05	4.54E-04	4.00E-04	4.00E-04	9.50E-04	9.50E-04	9.50E-04	9.50E-04	1.00E-03
CS-137	2.58E-02	4.19E-02	6.10E-02	6.10E-02	0.13	0.13	0.13	0.13	0.22
CS-138	0.00	0.00	2.09E-05	2.09E-05	2.09E-05	2.09E-05	2.09E-05	2.09E-05	2.59E-05
BA-133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BA-140	0.00	1.35E-04	9.42E-05	9.42E-05	2.29E-04	2.29E-04	2.29E-04	2.29E-04	2.29E-04
LA-140	1.55E-04	1.03E-02	5.86E-03	5.86E-03	1.63E-02	1.63E-02	1.63E-02	1.63E-02	2.26E-02
CE-141	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.92E-04
EU-152	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W-187	1.37E-04	0.00	0.00	0.00	1.57E-04	1.57E-04	1.57E-04	1.57E-04	1.59E-04
NP-239	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0. x OF LIMIT (BASED ON 10 CURIES/QTR.) \* 0.56 2.9 4.3 7.8

NUMBERS: 0.00 = H.P. 5R-89 AND 5R-90 VALUES FOR QUARTLY CHANGES.

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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT TWO \*  
 \* REPORT ON RADIOACTIVE GASEOUS EFFLUENTS \*  
 \* APPENDIX "A" DCKET 50-360 YEAR: 1980 \*  
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-----  
 REPORTING PARAMETERS / UNITS / JAN / FEB / MAR / YEARLY TOT/  
 -----

1. GASES	CURIES	4.20E 02	1.01E 03	2.22E 02	1.65E 03
2. HALOGENS	CURIES	1.06E-03	4.51E-04	2.51E-05	1.53E-03
3. DELETED					
4. H-3	CURIES	6.10E-02	9.44E-02	9.56E-02	0.25
5. ALPHA	CURIES	0.00	0.00	0.00	0.00
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	4.28E 02	2.50E 05	3.32E 02	NA
7. % OF APPLICABLE LIMIT FOR:					
A. GASES	%			9.2	NA
B. DELETED					
C. PART. + I-131	%			0.23	NA
8. ISOTOPIC CONC.	CURIES				
PARTICULATES:					
SR-89		6.50E-07	6.50E-07	6.50E-07	1.98E-06
SR-90		0.00	0.00	0.00	0.00
CS-134		1.42E-05	1.64E-07	0.00	1.44E-05
CS-137		1.02E-07	6.50E-07	1.50E-06	2.26E-06
BA-140		0.00	0.00	0.00	0.00
LA-140		0.00	0.00	0.00	0.00
HALOGENS:					
I-131		0.72E-04	4.49E-04	2.51E-05	1.35E-03
I-133		1.85E-04	1.94E-06	0.00	1.07E-04
I-135		0.00	0.00	0.00	0.00
GASES:					
AR-41		0.00	0.00	34.	34.
KR-85M		0.00	4.94E-02	17.	17.
KR-85		0.00	3.9	0.00	3.9
KR-87		0.00	0.00	0.00	0.00
KR-00		0.00	0.00	20.	20.
XE-133M		0.00	6.7	0.00	6.7
XE-133		3.86E 02	9.06E 02	1.13E 02	1.40E 03
XE-135		34.	5.5	30.	70.
XE-130		0.00	0.00	0.00	0.00
OTHERS:					



BI-214  
RA-226  
TH-228  
U-235  
NP-239

0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

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REMARKS:

0.00 = <1000

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 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT TWO \*  
 \* REPORT ON RADIOACTIVE GASEOUS EFFLUENTS \*  
 \* APPENDIX "H" \*  
 \* BUCKET 50-360 YEAR: 1980 \*  
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 REPORTING PARAMETERS / UNITS / APR / MAY / JUN / YEARLY TOT /  
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1. GASES	CURIES	7.20E 02	1.05E 02	1.40E 03	3.96E 03
2. HALOGENS	CURIES	7.16E-04	9.72E-05	2.31E-03	4.66E-03
3. DELETED					
4. H-3	CURIES	0.13	0.16	0.52	1.1
5. ALPHA	CURIES	7.4	7.4	7.4	22.
6. MAXIMUM GAS RELEASE RATE	UCI/SEC	6.68E 04	94.	1.23E 05	NA

7. % OF AFFLICTABLE  
 LIMIT FOR:  
 A. GASES % 9.2 NA  
 B. DELETED  
 C. PART. + I-131 % 0.49 NA

8. ISOTOPIC CONC. CURIES

PARTICULATES:

SR-09	2.55E-05	2.55E-05	2.55E-05	7.86E-05
SR-90	3.59E-06	3.59E-06	3.59E-06	1.88E-05
CS-134	1.78E-07	5.83E-07	4.56E-08	1.52E-05
CS-137	5.11E-07	3.15E-07	2.93E-06	6.02E-06
DA-140	0.00	0.00	0.00	0.00
LA-140	0.00	0.00	0.00	0.00

HALOGENS:

I-131	6.44E-04	8.89E-05	2.21E-03	4.28E-03
I-133	7.29E-05	8.22E-06	1.02E-04	3.70E-04
I-135	0.00	0.00	1.91E-06	1.91E-06

GASES:

AR-41	0.00	0.00	0.00	34.
KR-85M	3.13E-03	0.00	5.09E-03	17.
KR-85	0.00	0.48	0.44	4.8
FP-07	0.00	0.00	0.00	0.00
KR-00	0.00	0.00	0.00	28.
XE-133M	0.95	0.00	1.3	9.8
XE-133	7.27E 02	1.85E 02	1.45E 03	3.78E 03
XE-135	0.41	0.00	6.3	85.
XE-130	0.00	0.00	0.00	0.00

OTHERS:

	0.00	1.13E-02	6.1	9.3
XE-131M	0.00	0.00	0.00	0.00
XE-135M	0.00	0.00	3.34E-05	3.34E-05
BE-7	0.00	0.00	0.00	0.00
HA-24	0.00	0.00	0.00	0.00
K-40	0.00	0.00	0.00	0.00
CR-51	0.00	0.00	0.00	0.00
IN-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-50	0.00	5.52E-07	2.36E-06	3.01E-06
CO-68	0.33E-07	8.11E-07	1.17E-08	2.41E-06
NI-63	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
RO-88	0.00	0.00	0.00	0.00
PB-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
NB-94	0.00	0.00	0.00	0.00
HB-95	0.00	0.00	0.00	0.00
NB-97	0.00	0.00	0.00	0.00
IO-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
SH-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	0.00
TE-132	0.00	0.00	0.00	0.00
I-132	0.00	0.00	0.00	0.00
I-134	0.6J	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  
RA-226  
TH-228  
U-235  
NP-239

0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	2.31E-07	2.60E-07	4.91E-07	
0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	

REMARKS: 0.00 = <1000



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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: 1980 \*  
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-----  
 REPORTING PARAMETERS /UNITS / JAN / FEB / MAR /QTRLY TOT/SEMI TOTL/  
 -----

1. GROSS BETA + GAMMA					
A. TOTAL RELEASED	CURIES	6.49E-02	0.14	0.39	0.60
B. AVE CON RELEASED	UCI/ML	9.53E-10	1.57E-09	3.89E-09	6.41E-09
C. MAX CON RELEASED	UCI/ML	2.90E-07	3.53E-07	1.66E-07	8.09E-07
2. TRITIUM					
A. TOTAL RELEASED	CURIES	79.	15.	6.6	1.01E 02
B. AVE CON RELEASED	UCI/ML	1.16E-06	1.73E-07	6.55E-08	1.40E-06
3. DISS NOBLE GASES					
A. TOTAL RELEASED	CURIES	2.5	1.29E-02	8.56E-02	2.6
B. AVE CON RELEASED	UCI/ML	3.67E-08	1.46E-10	8.48E-10	3.77E-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	1.00E 06	1.02E 06	7.12E 05	3.53E 06
6. DILUTION WATER	LITERS	6.81E 10	8.84E 10	1.01E 11	2.58E 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		0.00	0.00	0.00	0.00
KR-90		0.00	0.00	0.00	0.00
XE-131M		0.00	0.00	1.05E-03	1.05E-03
XE-133M		0.12E-03	0.00	1.08E-03	9.19E-03
XE-133		2.5	1.27E-02	8.09E-02	2.6
XE-135		8.25E-04	1.38E-04	2.63E-03	3.59E-03
BE-7		0.00	0.00	0.00	0.00
NA-24		0.00	3.30E-04	1.15E-03	1.40E-03
CR-51		0.00	4.31E-04	8.12E-03	8.55E-03
MN-54		5.85E-04	4.79E-03	5.94E-03	1.13E-02
MN-56		0.00	0.00	0.00	0.00
FE-59		1.19E-03	3.19E-03	1.35E-03	5.73E-03
CO-57		0.00	0.00	5.11E-05	5.11E-05
CO-58		1.20E-02	8.50E-02	0.14	0.23
CO-60		5.98E-04	2.42E-03	4.82E-03	7.84E-03
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	0.00	0.00	0.00
SR-09	0.00	0.00	4.27E-03	4.27E-03	4.27E-03	4.27E-03	4.27E-03
SR-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZR-95	0.00	0.00	5.12E-05	5.12E-05	5.12E-05	5.12E-05	5.12E-05
ZR-97	1.33E-05	0.00	0.00	0.00	1.33E-05	1.33E-05	1.33E-05
HB-95	3.55E-05	0.00	2.24E-04	2.24E-04	2.60E-04	2.60E-04	2.60E-04
HD-97	0.93E-05	0.00	0.00	0.00	0.93E-05	0.93E-05	0.93E-05
HD-99	0.00	0.00	5.45E-04	5.45E-04	5.45E-04	5.45E-04	5.45E-04
RU-103	0.00	0.00	2.49E-04	2.49E-04	2.49E-04	2.49E-04	2.49E-04
RU-106	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AG-110M	1.53E-04	0.00	2.75E-03	2.75E-03	2.90E-03	2.90E-03	2.90E-03
I-131	3.50E-02	3.79E-02	0.00	0.00	0.16	0.16	0.16
I-132	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-133	2.20E-04	3.51E-03	9.57E-03	9.57E-03	1.33E-02	1.33E-02	1.33E-02
I-134	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-135	0.00	0.00	1.66E-04	1.66E-04	1.66E-04	1.66E-04	1.66E-04
CS-134	0.82E-04	1.27E-05	2.51E-02	2.51E-02	2.60E-02	2.60E-02	2.60E-02
CS-136	0.00	0.00	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03
CS-137	1.33E-02	1.17E-04	0.10	0.10	0.12	0.12	0.12
CS-138	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
BA-140	0.00	0.00	1.74E-04	1.74E-04	1.74E-04	1.74E-04	1.74E-04
LA-140	4.93E-05	1.32E-04	1.68E-04	1.68E-04	3.49E-04	3.49E-04	3.49E-04
CE-144	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-152	0.00	0.00	0.00	0.00	0.00	0.00	0.00
U-187	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HP-239	0.00	0.00	0.00	0.00	0.00	0.00	0.00

B. x OF LIMIT (BASED) x 0.65 1.4 3.9  
 B. x OF LIMIT (BASED) x 0.65 1.4 3.9  
 ON 10 CURIES/QTR.) 6.0

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

\*\*\*\*\*  
 \* ARKANSAS POWER AND LIGHT COMPANY \*  
 \* ARKANSAS NUCLEAR ONE, UNIT TWO \*  
 \* REPORT ON RADIOACTIVE LIQUID EFFLUENTS \*  
 \* APPENDIX "A" DOCKET 50-360 YEAR: 1980 \*  
 \*\*\*\*\*

-----  
 REPORTING PARAMETERS /UNITS / APR / MAY / JUN /QTRLY TOT/SEMI TOTL/  
 -----

1. GROSS BETA + GAMMA						
A. TOTAL RELEASED	CURIES	0.58	0.15	0.49	1.2	1.8
B. AVE CON RELEASED	UCI/ML	9.53E-09	1.94E-09	4.05E-09	1.55E-08	2.19E-08
C. MAX CON RELEASED	UCI/ML	2.05E-07	9.52E-08	2.08E-07	5.08E-07	1.32E-06
2. TRITIUM						
A. TOTAL RELEASED	CURIES	14.	11.	21.	46.	1.47E 02
B. AVE CON RELEASED	UCI/ML	2.33E-07	1.37E-07	1.75E-07	5.44E-07	1.95E-06
3. DISS NOBLE GASES						
A. TOTAL RELEASED	CURIES	4.3	1.8	25.	31.	34.
B. AVE CON RELEASED	UCI/ML	6.90E-08	2.37E-08	2.08E-07	3.01E-07	3.39E-07
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	1.02E 06	8.58E 05	1.01E 06	2.08E 06	6.41E 06
6. DILUTION WATER	LITERS	6.13E 10	7.72E 10	1.21E 11	2.59E 11	5.17E 11
7. ISOTOPE CONC.	CURIES					
KR-85M		0.00	0.15E-05	1.17E-04	1.99E-04	1.99E-04
KR-85		1.02E-02	1.76E-02	2.02E-02	4.00E-02	4.00E-02
KR-87		0.00	0.00	0.00	0.00	0.00
KR-88		0.00	0.00	0.00	0.00	0.00
XE-131M		2.44E-02	4.03E-02	5.46E-03	7.02E-02	7.13E-02
XE-133M		7.13E-03	2.94E-03	0.16	0.17	0.18
XE-133		4.2	1.8	25.	31.	33.
XE-135		1.05E-03	8.68E-04	6.32E-02	6.59E-02	6.95E-02
BE-7		0.00	0.00	0.00	0.00	0.00
NA-24		0.00	6.11E-05	7.04E-05	1.31E-04	1.61E-03
CR-51		1.52E-03	4.40E-04	1.71E-03	3.67E-03	1.22E-02
MN-54		9.96E-04	6.04E-05	1.42E-05	1.00E-03	1.24E-02
MN-56		0.00	0.00	0.00	0.00	0.00
FE-59		1.10E-03	1.43E-04	5.17E-05	1.29E-03	7.02E-03
CO-57		0.00	0.00	0.00	0.00	5.11E-05
CO-58		2.92E-02	4.01E-03	1.36E-03	3.53E-02	0.27
CO-60		1.45E-03	7.63E-04	3.93E-04	2.61E-03	1.04E-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		6.92E-06	0.00	0.00	6.92E-06	6.92E-06

SE-75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-89	0.00	0.00	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.57E-02
SR-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-92	7.67E-06	0.00	0.00	7.67E-06	7.67E-06	7.67E-06	7.67E-06	7.67E-06	7.67E-06
ZR-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.12E-05
ZR-97	2.40E-05	0.00	0.00	2.40E-05	2.40E-05	2.40E-05	2.40E-05	2.40E-05	3.72E-05
NB-95	1.05E-04	0.00	0.00	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.05E-04	3.65E-04
NB-97	0.00	4.99E-05	3.97E-05	0.96E-05	0.96E-05	0.96E-05	0.96E-05	0.96E-05	1.79E-04
HO-99	1.54E-03	0.00	0.00	1.54E-03	1.54E-03	1.54E-03	1.54E-03	1.54E-03	2.08E-03
RU-103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49E-04
RU-106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AG-118M	1.02E-03	1.32E-04	3.54E-05	1.99E-03	1.99E-03	1.99E-03	1.99E-03	1.99E-03	4.09E-03
I-131	0.29	9.36E-02	0.38	0.76	0.76	0.76	0.76	0.76	0.92
I-132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-133	0.97E-04	1.12E-03	6.26E-03	0.27E-03	0.27E-03	0.27E-03	0.27E-03	0.27E-03	2.16E-02
I-134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-135	0.00	0.00	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	2.97E-04
CS-134	3.96E-02	1.04E-02	1.52E-02	6.52E-02	6.52E-02	6.52E-02	6.52E-02	6.52E-02	9.12E-02
CS-136	3.23E-03	5.59E-04	1.50E-03	5.29E-03	5.29E-03	5.29E-03	5.29E-03	5.29E-03	7.04E-03
CS-137	0.21	3.78E-02	6.57E-02	0.32	0.32	0.32	0.32	0.32	0.44
CS-138	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BA-133	0.00	0.00	1.20E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	1.42E-04
BA-140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74E-04
LA-140	1.32E-03	4.91E-05	3.29E-14	1.60E-03	1.60E-03	1.60E-03	1.60E-03	1.60E-03	1.95E-03
CE-144	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-152	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W-107	0.00	0.00	2.06E-05	2.06E-05	2.06E-05	2.06E-05	2.06E-05	2.06E-05	2.06E-05
NP-239	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

B. X OF LIMIT (BASED ON 10 CURIES/QTR.) X 5.8 1.5 4.9 12.

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

SE-75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-89	0.00	0.00	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.57E-02
SR-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-92	7.67E-06	0.00	0.00	0.00	7.67E-06	7.67E-06	7.67E-06	7.67E-06
ZR-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.12E-05
ZR-97	2.40E-05	0.00	0.00	0.00	2.40E-05	2.40E-05	2.40E-05	3.72E-05
NB-95	1.05E-04	0.00	0.00	0.00	1.05E-04	1.05E-04	1.05E-04	3.65E-04
NB-97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79E-04
MO-99	1.54E-03	4.99E-05	3.97E-05	0.00	1.54E-03	1.54E-03	1.54E-03	2.08E-03
RU-103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49E-04
RU-106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AG-110M	1.82E-03	1.32E-04	3.54E-05	1.99E-03	1.99E-03	1.99E-03	1.99E-03	4.89E-03
I-131	0.29	9.36E-02	0.38	0.76	0.76	0.76	0.76	0.92
I-132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-133	0.97E-04	1.12E-03	6.26E-03	8.27E-03	8.27E-03	8.27E-03	8.27E-03	2.16E-02
I-134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CS-134	3.96E-02	1.04E-02	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	2.97E-04
CS-136	3.23E-03	5.59E-04	1.50E-03	6.52E-02	6.52E-02	6.52E-02	6.52E-02	9.12E-02
CS-137	0.21	3.78E-02	6.57E-02	0.32	0.32	0.32	0.32	7.04E-03
CS-138	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
BA-133	0.00	0.00	1.20E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	0.00
BA-140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42E-04
LA-140	1.22E-03	4.91E-05	3.29E-04	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.74E-04
CE-144	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95E-03
EU-152	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W-107	0.00	0.00	2.06E-05	2.06E-05	2.06E-05	2.06E-05	2.06E-05	0.00
NP-239	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.06E-05
								0.00

θ, X OF LIMIT (BASED ON 10 CURIES/QTR.) \* 5.8 1.5 4.9 12.

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