



**Entergy  
Operations**

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U. S. Nuclear Regulatory Commission  
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Subject: Arkansas Nuclear One - Units 1 and 2  
Docket Nos. 50-313 & 50-368  
License Nos. DPR-51 & NFP-6  
1991 Occupational Exposure Data Report

Gentlemen:

In accordance with ANO-1 Technical Specification 6.12.2.2, ANO-2  
Technical Specification 6.9.1.5.a, and 10CFR20.407, the 1991 Occupational  
Exposure Data Report is included in the following attachments.

- Attachment A - Personnel Exposure and Monitoring Report, 1991  
(Regulatory Guide 1.16)
- Attachment B - Description of Special Maintenance resulting in  
notable personnel exposure (Regulatory Guide 1.16)
- Attachment C - Annual Whole Body Exposure Statistics (10CFR20.407)

Please contact me (501-964-8601) if you have any questions regarding this  
submittal.

Very truly yours,

*James J. Fisicaro*  
James J. Fisicaro  
Director, Licensing

JJF/SAB/mmg  
attachments

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*YES*

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**ATTACHMENT A**  
**PERSONNEL EXPOSURE AND MONITORING REPORT, 1991**  
(Annual Operating Report Reg. Guide 1.16)

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 mrem)			TOTAL MAN-REM		
	STATION	UTILITY	CONTRACT	STATION	UTILITY	CONTRACT
	EMPLOYEES			EMPLOYEES		
Reactor Operation & Surv.						
Supervisory Personnel	1	0	0	.235	0	0
Health Physics Personnel	48	0	16	9.011	0	2.969
Operations Personnel	41	0	0	8.537	0	0
Maintenance Personnel	3	0	12	.954	0	2.377
Engineering Personnel	2	0	6	.671	0	1.397
Routine Maintenance						
Supervisory Personnel	0	0	0	0	0	0
Health Physics Personnel	19	0	56	3.040	0	12.419
Operations Personnel	11	0	0	1.791	0	0
Maintenance Personnel	78	0	167	14.245	0	34.107
Engineering Personnel	1	0	3	.112	0	.725
In-service Inspection						
Supervisory Personnel	0	0	1	0	0	.400
Health Physics Personnel	1	0	3	.105	0	.395
Operations Personnel	0	0	0	0	0	0
Maintenance Personnel	1	0	37	.165	0	8.618
Engineering Personnel	2	0	14	.433	0	6.470
Special Maintenance						
Supervisory Personnel	6	0	3	1.334	0	1.625
Health Physics Personnel	31	0	54	9.910	0	17.658
Operations Personnel	2	0	1	.275	0	.215
Maintenance Personnel	69	2	187	18.727	.385	55.542
Engineering Personnel	3	0	17	.420	0	3.939
Waste Processing						
Supervisory Personnel	0	0	0	0	0	0
Health Physics Personnel	18	0	18	5.410	0	3.292
Operations Personnel	0	0	0	0	0	0
Maintenance Personnel	0	0	1	0	0	.273
Engineering Personnel	0	0	0	0	0	0
Refueling						
Supervisory Personnel	1	0	2	.135	0	1.080
Health Physics Personnel	18	0	31	3.680	0	5.920
Operations Personnel	2	0	0	.290	0	0
Maintenance Personnel	9	0	71	1.954	0	21.299
Engineering Personnel	0	0	3	0	0	.905
TOTALS						
Supervisory Personnel	7	0	4	1.704	0	3.105
Health Physics Personnel	68	0	108	31.156	0	42.653
Operations Personnel	46	0	1	10.893	0	.215
Maintenance Personnel	114	2	362	36.045	.385	122.216
Engineering Personnel	6	0	34	1.636	0	13.436
GRAND TOTALS	241	2	509	81.434	.385	181.625

An individual and his exposure are included in only those categories in which he received more than 100 millirem. The total actual collective dose for personnel working at Arkansas Nuclear One during 1991 was 351.285 man-rem.

ATTACHMENT B

DESCRIPTION OF SPECIAL MAINTENANCE

PERSONNEL EXPOSURE AND MONITORING REPORT, 1991

(Annual Operating Report Reg. Guide 1.16)

Unit 1 special maintenance resulting in significant personnel exposure included:

- replacing make-up pump rotating assembly and mechanical seals,
- replacing ACW carbon steel piping with stainless,
- replacing valve RC-1002A,
- upgrading ICW hangers and supports,
- correcting ISO update discrepancies,
- installing service water drains on lube oil coolers, and
- installing new expansion loops and supports for H<sub>2</sub> purge system and replacing T-42 drain line.

Unit 2 special maintenance resulting in significant personnel exposure included:

- modifications to charging pumps,
- removing crud traps from valve 2SI-15A & C,
- repairs and replacements to valve,
- modifications to hanger,
- repairs to LPSI pumps,
- rebuild and replace reactor coolant pump seals,
- chemically clean and repair letdown heat exchanger,
- installing LPSI piping, valves and supports, and
- installing temperature elements, steam generator tube work, steam generator sludge lancing and excore detector replacement.

ATTACHMENT C  
ANNUAL WHOLE BODY EXPOSURE STATISTICS, 1991

ANNUAL DOSE RANGES  
(REM)

NUMBER OF INDIVIDUALS  
IN EACH RANGE

NO MEASURABLE EXPOSURE	1547	
MEASURABLE EXPOSURE LESS THAN .100		1164
.100 - .250	425	
.250 - .500	288	
.500 - .750	114	
.750 - 1.0	43	
1.0 - 2.0	30	
2.0 - 3.0	0	
3.0 - 4.0	0	
4.0 - 5.0	0	
5.0 - 6.0	0	
6.0 - 7.0	0	
7.0 - 8.0	0	
8.0 - 9.0	0	
9.0 - 10.0	0	
10.0 - 11.0	0	
11.0 - 12.0	0	
12.0 +	0	

NUMBER OF INDIVIDUALS REPORTED = 3611

The above information is submitted for the total number of individuals for whom  
personnel monitoring was (check one):

\_\_\_\_\_ Required under 10 CFR 20.202(a) or 10 CFR 34.33(a) during the calendar year.

  X   Provided during the calendar year.

\*Individual values exactly equal to the values separating exposure ranges are reported in  
the higher range.