

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 24, 1993

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 93-087
NAPS/JHL
Docket Nos. 50-338
50-329
License Nos. NPF-4
NPF-7

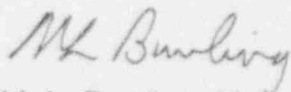
Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2
ANNUAL WHOLE BODY EXPOSURE REPORT

Pursuant to Technical Specification 6.9.1.4 and 6.9.1.5.a, enclosed is the Annual Whole Body Exposure Report for North Anna Power Station Units 1 and 2 for the reporting period of January 1, 1992 to December 31, 1992.

If you have any questions or require additional information, please contact us.

Very truly yours,



M. L. Bowling, Manager
Nuclear Licensing and Programs

Enclosure

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 2900
Atlanta, Georgia 30323

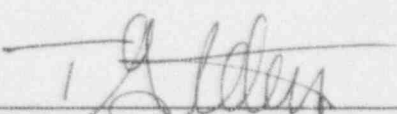
Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

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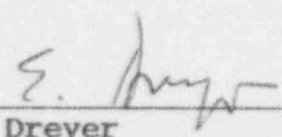
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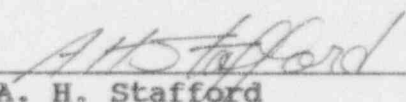
RECORDED ANNUAL WHOLE BODY EXPOSURE REPORT
FOR THE
NORTH ANNA POWER STATION
FOR THE PERIOD
JANUARY 1, 1992 - DECEMBER 31, 1992

Prepared By: 


T. G. Peters
Supervisor Health Physics
(Exposure Control)

Reviewed By: 

E. W. Dreyer
Supervisor Health Physics
(Technical Services)

Reviewed By: 

A. H. Stafford
Superintendent
Radiological Protection

Approved By: 

G. E. Kane
Station Manager

F O R W A R D

THIS REPORT IS SUBMITTED AS REQUIRED BY TECHNICAL SPECIFICATIONS 6.9.1.4 AND 6.9.1.5 FOR NORTH ANNA POWER STATION UNITS 1 AND 2, AND 10 CFR PART 20 SEC. 20.407 (a) (2).

VIRGINIA POWER
NORTH ANNA POWER STATION
LICENSE NOS. NPF-04 AND NPF-07
RECORDED ANNUAL WHOLE BODY EXPOSURES
CALENDAR YEAR 1992

<u>Dose Range</u> <u>(mrem)</u>	<u>Number</u> <u>Individuals</u>
No measurable exposure	<u>870</u>
1 - 99	<u>1,208</u>
100 - 249	<u>276</u>
250 - 499	<u>258</u>
500 - 749	<u>178</u>
750 - 999	<u>84</u>
1000 - 1999	<u>134</u>
2000 - 2999	<u>21</u>
3000 - 3999	<u> </u>
4000 - 4999	<u> </u>
5000 - 5999	<u> </u>
6000 - 6999	<u> </u>
7000 - 7999	<u> </u>
8000 - 8999	<u> </u>
9000 - 9999	<u> </u>
10000 - 10999	<u> </u>
11000 - 11999	<u> </u>
12000	<u> </u>
Total number of individuals reported	<u>3,029</u>
Total Station Man-Rem as determined by TLD	<u>575.649</u>

The above information is submitted for the total number of individuals for whom individual monitoring was provided during the calendar year.

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RECORD ANNUAL WHOLE BODY EXPOSURES
(BASED ON THERMOLUMINESCENT DOSIMETRY)
NORTH ANNA POWER STATION
LICENSE NO. NPF-4
LICENSE NO. NPF-7
CALENDAR YEAR 1992

POW-24-10-03

DOSE RANGE (MREM)

NUMBER OF INDIVIDUALS

NO MEASURABLE EXPOSURE

	870
1 - 99	1,208
100 - 249	276
250 - 499	258
500 - 749	178
750 - 999	84
1,000 - 1,999	134
2,000 - 2,999	21
3,000 - 3,999	
4,000 - 4,999	
5,000 - 5,999	
6,000 - 6,999	
7,000 - 7,999	
8,000 - 8,999	
9,000 - 9,999	
10,000 - 10,999	
11,000 - 11,999	
12,000 - PLUS	

TOTAL NO. OF INDIVIDUALS REPORTED

3,029

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION - LICENSE NOS. NPF-04 AND NPF-07
MAN-REM EXPOSURE-WORK JOB FUNCTION
JANUARY - DECEMBER

Work & Job Function	Number of Personnel			Total Man-Rem		
	Station Employees	Utility Employees	Contract Employees	Station Employees	Utility Employees	Contract Employees
Reactor Operations and Surveillance	308	7	105	13.323	.003	2.457
Maintenance Personnel	128	0	77	3.307	.000	2.089
Operating Personnel	108	3	6	9.234	.003	.015
Health Physics Personnel	26	0	21	.322	.000	.350
Supervisory Personnel	33	4	0	.305	.000	.000
Engineering Personnel	13	0	1	.155	.000	.003
Routine Maintenance	825	137	1,272	139.088	.761	302.825
Maintenance Personnel	258	3	851	79.696	.007	221.589
Operating Personnel	228	17	45	20.225	.127	.785
Health Physics Personnel	112	22	286	29.744	.022	75.682
Supervisory Personnel	103	18	15	5.220	.079	.492
Engineering Personnel	124	77	75	4.203	.526	4.277
Inservice Inspection	62	0	226	5.830	.000	64.483
Maintenance Personnel	25	0	132	1.999	.000	48.484
Operating Personnel	12	0	2	1.705	.000	.042
Health Physics Personnel	10	0	75	.279	.000	6.444
Supervisory Personnel	1	0	0	.045	.000	.000
Engineering Personnel	14	0	17	1.802	.000	9.513
Special Maintenance	67	5	463	.857	.006	23.236
Maintenance Personnel	9	0	352	.082	.000	18.938
Operating Personnel	11	0	3	.127	.000	.289
Health Physics Personnel	23	0	89	.241	.000	1.585
Supervisory Personnel	4	0	2	.310	.000	.074
Engineering Personnel	20	5	17	.097	.006	2.350
Waste Processing	130	1	58	2.835	.001	.157
Maintenance Personnel	53	0	40	.251	.000	.034
Operating Personnel	26	0	2	.249	.000	.000
Health Physics Personnel	37	1	16	2.133	.001	.123
Supervisory Personnel	12	0	0	.200	.000	.000
Engineering Personnel	2	0	0	.002	.000	.000
Refueling	104	8	150	3.918	.322	30.075
Maintenance Personnel	42	0	68	1.685	.000	27.529
Operating Personnel	25	2	2	1.335	.050	.171
Health Physics Personnel	17	0	78	.316	.000	2.373
Supervisory Personnel	14	1	0	.418	.012	.000
Engineering Personnel	6	5	2	.164	.260	.002

(BASED ON SELF-READING DOSIMETRY)

NORTH ANNA POWER STATION - LICENSE NO. NPF-4

NPF-7

CALENDAR YEAR 1992

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
REACTOR OPERATIONS AND SURVEILLANCE							
TOTAL	308	7	105	13.323	.003	2.457	15.783
MAINTENANCE PERSONNEL	128	0	77	3.307	.000	2.089	5.396
OPERATING PERSONNEL	108	3	6	9.234	.003	.015	9.252
HEALTH PHYSICS PERSL	26	0	21	.322	.000	.350	.672
SUPERVISORY PERSONNEL	33	4	0	.305	.000	.000	.305
ENGINEERING PERSONNEL	13	0	1	.155	.000	.003	.158
OTHER	0	0	0	.000	.000	.000	.000

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
INSERVICE INSPECTION							
TOTAL	62	0	226	5.830	.000	64.483	70.313
MAINTENANCE PERSONNEL	25	0	132	1.999	.000	48.484	50.483
OPERATING PERSONNEL	12	0	2	1.705	.000	.042	1.747
HEALTH PHYSICS PERSL	10	0	75	.279	.000	6.444	6.723
SUPERVISORY PERSONNEL	1	0	0	.045	.000	.000	.045
ENGINEERING PERSONNEL	14	0	17	1.802	.000	9.513	11.315
OTHER	0	0	0	.000	.000	.000	.000

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
ROUTINE MAINTENANCE							
TOTAL	825	137	1,272	139.088	.761	302.825	442.674
MAINTENANCE PERSONNEL	258	3	851	79.696	.007	221.589	301.292
OPERATING PERSONNEL	228	17	45	20.225	.127	.785	21.137
HEALTH PHYSICS PERSL	112	22	286	29.744	.022	75.682	105.448
SUPERVISORY PERSONNEL	103	18	15	5.220	.079	.492	5.791
ENGINEERING PERSONNEL	124	77	75	4.203	.526	4.277	9.006
OTHER	0	0	0	.000	.000	.000	.000

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MAN-REM EXPOSURE-WORK/JOB FUNCTION
 (BASED ON SELF-READING DOSIMETRY)
 NORTH ANNA POWER STATION - LICENSE NO. NPF-4
 CALENDAR YEAR 1992

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WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
WASTE PROCESSING							
TOTAL	130	1	58	2.835	.001	.157	2.993
MAINTENANCE PERSONNEL	53	0	40	.251	.000	.034	.285
OPERATING PERSONNEL	26	0	2	.249	.000	.000	.249
HEALTH PHYSICS PERSL	37	1	16	2.133	.001	.123	2.257
SUPERVISORY PERSONNEL	12	0	0	.200	.000	.000	.200
ENGINEERING PERSONNEL	2	0	0	.002	.000	.000	.002
OTHER	0	0	0	.000	.000	.000	.000

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
REFUELING							
TOTAL	104	8	150	3.918	.322	30.075	34.315
MAINTENANCE PERSONNEL	42	0	68	1.685	.000	27.529	29.214
OPERATING PERSONNEL	25	2	2	1.335	.050	.171	1.556
HEALTH PHYSICS PERSL	17	0	78	.316	.000	2.373	2.689
SUPERVISORY PERSONNEL	14	1	0	.418	.012	.000	.430
ENGINEERING PERSONNEL	6	5	2	.164	.260	.002	.426
OTHER	0	0	0	.000	.000	.000	.000

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
SPECIAL MAINTENANCE							
TOTAL	67	5	463	.857	.006	23.236	24.099
MAINTENANCE PERSONNEL	9	0	152	.082	.000	18.938	19.020
OPERATING PERSONNEL	11	0	3	.127	.000	.289	.416
HEALTH PHYSICS PERSL	23	0	89	.241	.000	1.585	1.826
SUPERVISORY PERSONNEL	4	0	2	.310	.000	.074	.384
ENGINEERING PERSONNEL	20	5	17	.097	.006	2.350	2.453
OTHER	0	0	0	.000	.000	.000	.000

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MAN-REM EXPOSURE-WORK/JOB FUNCTION
(BASED ON SELF-READING DOSIMETRY)
NORTH ANNA POWER STATION - LICENSE NO. NPF-4
CALENDAR YEAR 1992
NUMBER OF PERSONNEL
STATION UTILITY
EMPLOYEES EMPLOYED

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WORK AND JOB FUNCTION

ALL WORK FUNCTIONS
TOTAL

TOTAL

STANDARD YEAR 1992
NUMBER OF PERSONNEL
STATION UTILITY CONTRACT
EMPLOYEES EMPLOYEES WORKERS
1,495

STATION TOTAL MAN-REM
EMPLOYEES UTILITY
EMPLOYEES CONTRACT
WORKERS

TOTALS

MAINTENANCE PERSONNEL
OPERATING PERSONNEL
HEALTH PHYSICS PERSONL
SUPERVISORY PERSONNEL
ENGINEERING PERSONNEL
OTHER

1,496

158

2,274

165.851

1.093

423.233

590.177

INDIVIDUALS RECEIVED SIGNIFICANT DOSE IN MORE THAN 1 JOB FUNCTION	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT
87	850	165,851	
0			
565			
17			
112			
0			
32.875			
33.035			
6.498			
6.423			
.000			

87.020
32.875
33.035
6.498
6.423
.000

.007
.180
.023
.091
.792
.000

318.663
1.302
86.557
.566
16.145
.000

405.690
34.357
119.615
7.155
23.360
.000

TOTAL INDIV
TOTAL EXP

STATION
EMPLOYEES

850

165.851

UTILITY
EMPLOYEES

143

1.093

CONTRACT
WORKERS

1,377

423.233

TOTAL

2,370

590.177

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MAN-REM EXPOSURE-WORK/JOB FUNCTION

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(BASED ON SELF-READING DOSIMETRY)

NORTH ANNA POWER STATION - LICENSE NO. NPF-4 NPF-7

CALENDAR YEAR 1992

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL			TOTAL MAN-REM			TOTALS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	
ALL WORK FUNCTIONS							
TOTAL	1,496	158	2,274	165.851	1.093	423.233	590.177
MAINTENANCE PERSONNEL	515	3	1,520	87.020	.007	318.663	405.690
OPERATING PERSONNEL	410	22	60	32.875	.180	1.302	34.357
HEALTH PHYSICS PERSL	225	23	565	33.035	.023	86.557	119.615
SUPERVISORY PERSONNEL	167	23	17	6.498	.091	.566	7.155
ENGINEERING PERSONNEL	179	87	112	6.423	.792	16.145	23.360
OTHER	0	0	0	.000	.000	.000	.000

SOME INDIVIDUALS RECEIVED SIGNIFICANT DOSE IN MORE THAN 1 JOB FUNCTION

	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS	TOTAL
GRAND TOTAL INDIV	850	143	1,377	2,370
GRAND TOTAL EXP	165.851	1.093	423.233	590.177