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# Occupational Radiation Exposure at Commercial Nuclear Power Reactors 1980

## Annual Report

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B. G. Brooks

Licensee Operations Evaluation Branch  
Office of Management and Program Analysis  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



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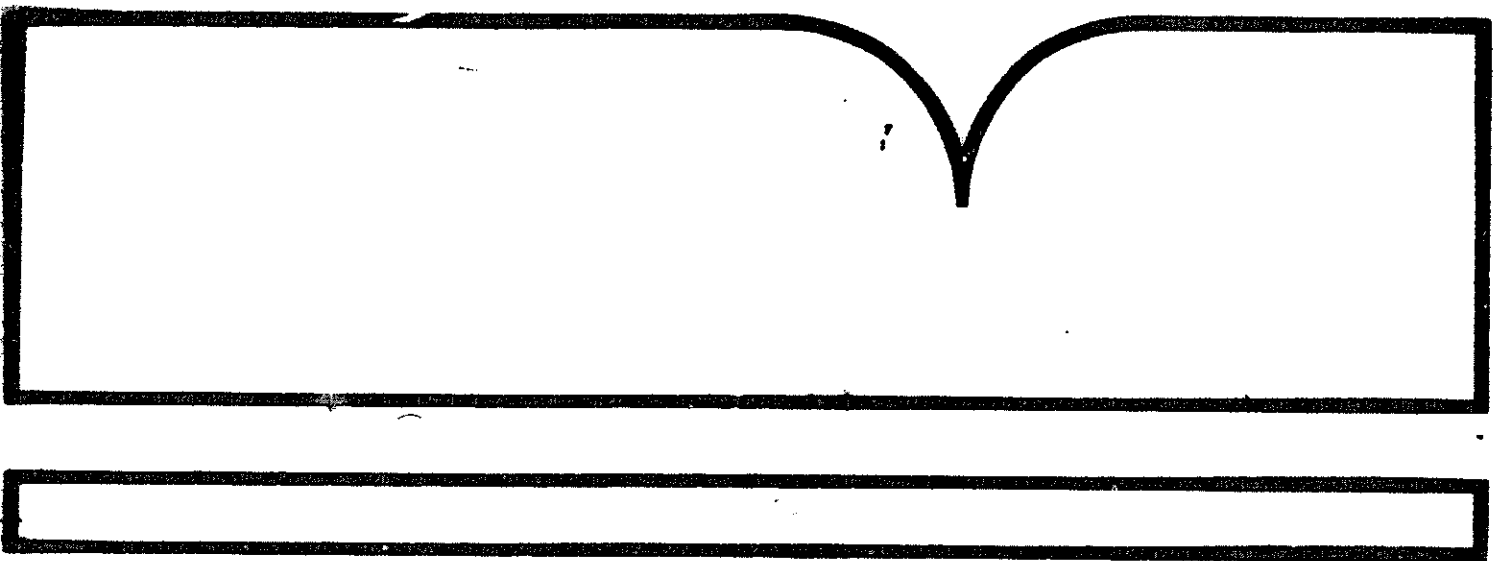
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Annual Report

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**U.S. Nuclear Regulatory  
Commission**

**Office of Management and Program Analysis**

B. G. Brooks

## PREVIOUS REPORTS IN SERIES

1. T. D. Murphy, "A Compilation of Occupational Radiation Exposure from Light Water Cooled Nuclear Power Plants, 1969-1973," USAEC Report WASH-1311, May 1974.
2. T. D. Murphy, C. S. Hinson, "Occupational Radiation Exposure at Light Water Cooled Power Reactors, 1969-1974," USNRC Report NUREG-75/032, June 1975.
3. T. D. Murphy, et al, "Occupational Radiation Exposure at Light Water Cooled Power Reactors, 1969-1975," USNRC Report NUREG-0109, August 1976.
4. L. A. Johnson, "Occupational Radiation Exposure at Light Water Cooled Power Reactors, 1969-1976," USNRC Report NUREG-0323, March 1978.
5. L. A. Johnson, "Occupational Radiation Exposure at Light Water Cooled Power Reactors, 1977," USNRC Report NUREG-0482, May 1979.
6. B. G. Brooks, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors, 1978," USNRC Report NUREG-0594, November 1979.
7. B. G. Brooks, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors, 1979," USNRC Report NUREG-0713, Vol. 1, March 1981.

## ABSTRACT

This report presents an updated compilation of occupational radiation exposures at commercial nuclear power reactors for the years 1969 through 1980. It is published annually and is available at all NRC Public Document Rooms, or may be purchased from either of the organizations identified on the inside of the front cover of this report. The bulk of the information contained in this document was derived from reports submitted to the United States Nuclear Regulatory Commission in accordance with requirements of individual plant technical specifications and in accordance with §20.407 of Title 10, Chapter 1, Code of Federal Regulations (10 CFR §20.407).

This report now contains data received from the 68 light water cooled reactors (LWRs) and one high temperature gas cooled reactor that had been declared to be in commercial operation for at least one full year as of December 31, 1979. This represents an increase of two reactors over the number contained in last year's report. Both the total number of personnel monitored at LWRs and the number of workers that received measurable doses during 1980 increased by about 25% to values of 133,878 and 80,331, respectively. The total collective dose at LWRs for 1980 is estimated to be 53,796 man-rems, which is a 35% increase over the 1979 value of 39,759. The result was that the average dose per worker increased slightly to 0.67 rems, while the average collective dose per reactor increased by approximately 33% to a value of 791 man-rems. The collective dose per megawatt-year of generated electricity by each reactor also increased to an average value of 1.8 man-rems per megawatt-year from last year's value of 1.3. A brief prospective on the health implications of these annual occupational doses is also provided for the first time. The staff found that should a worker receive 0.67 rems each year during his entire working career, his risk of dying from cancer would increase by about 2% of the normal risk.

The report also presents a summary and some analyses of the exposure data contained in the "termination reports" that have been submitted to the Commission pursuant to 10 CFR §20.408 by nuclear power licensees. As of December 31, 1980, personal identification and exposure information had been collected and computerized for some 170,000 of these terminating reactor personnel. Analysis of these data indicate that there are now about 1700 quarterly transient\* workers each year who incur an average dose of 0.44 rems and some 3,700 yearly transient\* workers who incur an average dose of 1.03 rems.

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\* Transient workers are those workers who begin and end their employment or work assignment at two or more different licensed facilities within one calendar quarter (quarterly transients) or one calendar year (yearly transients).





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OCCUPATIONAL RADIATION EXPOSURE AT  
COMMERCIAL NUCLEAR POWER REACTORS  
1980

1. INTRODUCTION

In 1974, the NRC staff began changing the technical specifications of operating nuclear power reactors to require the submittal of an annual report which indicated the number of individuals exposed and their cumulative annual doses, broken down by type of personnel, work function, and occupation. (The format for reporting is contained in Regulatory Guide 1.16, "Reporting of Operating Information - Appendix A Technical Specifications," and is similar to that shown in Appendix C of this report.) To obtain data for previous years, each reactor licensee was requested to provide similar information for each year since 1969 in which they had a unit in commercial operation. In every instance, an estimate of the total collective dose (man-rems) incurred by all individuals monitored during the year was provided; however, the number of workers who received measurable doses could not always be determined. The information given in Appendix A, therefore, is not complete for all plants for the years 1969 through 1972.

On February 4, 1974, 10 CFR §20.407 was amended to require licensed nuclear power utilities, among other licensees, to submit an annual statistical report indicating the distribution of the whole body doses of all individuals monitored at each facility. These reports (see Appendix B) allow an estimate to be made of the total collective dose, and of the number of workers receiving measurable doses. These values were used throughout this report (except for Tables 8, 9, 10 and Appendix C) for the years 1973 through 1980.

The plant operating data, such as plant capacity and megawatt-years of electricity generated, was obtained or derived from data included in various issues of the "Operating Units Status Report," (Ref. 1), and from the report "U. S. Central Station Nuclear Power Plants, 1976" (Ref. 2).

This report, and each of its predecessors, summarizes information reported during previous years. However, more plant specific data, such as the annual reports submitted by each plant pursuant to 10 CFR §20.407 and Regulatory Guide 1.16, may be found in those documents listed on the front cover of this report. Additional operating data and statistics for each year after 1972 may be found in a series of reports, "Nuclear Power Plant Operating Experience" (Refs. 3, 4, 5, 6, 7 and 8). The next report in this series (NUREG/CR-2378), which contains data for 1980, should be published in December 1981. These documents are available at all NRC public document rooms, or they may be purchased from the National Technical Information Service as shown in the Reference section.

## 2. SUMMARY OF OCCUPATIONAL MONITORING DATA AND POWER GENERATION

### 2.1 Definitions of Terms and Sources of Data

#### 2.1.1 Number of Reactors

Tables 1 through 3 provide summaries of the plant data given in Appendix A for boiling water reactors (BWRs), pressurized water reactors (PWRs), and all light water cooled reactors (LWRs), respectively. The number of reactors included each year (those without parentheses) are those reactors that had been in commercial operation for at least one full year as of December 31 of each of the indicated years. The figure shown in parentheses (for the years 1969-1972) is the number of reactors that provided both the number of individuals that received measurable doses (referred to as "workers") while visiting or working at the facility and the summation of the annual whole body doses (called man-rem) of all of these workers. The annual collective doses shown in parentheses and the other information marked with an asterisk are also based on the data submitted by the number of reactors shown in parentheses.

#### 2.1.2 Collective Dose

The collective doses (in man-rem) shown for 1969 through 1972 were obtained by special request made to the licensee or from monthly and semi-annual operating reports that had been previously submitted, pursuant to plant technical specifications. When possible, the number of workers receiving measurable doses was obtained in the same manner. Beginning with 1973, the collective dose and the number of workers receiving measurable doses were obtained from the annual reports submitted pursuant to 10 CFR §20.407. From these reports, the annual collective dose was calculated by summing the products obtained by multiplying the number of individuals shown in each of the dose ranges (shown in Table 7 and Appendix B) by the midpoint of each range. Past experience has shown that the actual mean dose of individuals reported in each dose range is less than the midpoint of the range. Thus the collective doses shown in this report may be about 10% too high.

#### 2.1.3 Breakdown of Collective Dose

In Appendix A, the collective dose that was calculated from the §20.407-type annual reports is broken down by work function (operations and maintenance) and by personnel type (contractor, and station and utility combined) for each plant site. The proportion of the collective dose shown for each type is the same as that reported in the plant's annual report required by its technical specifications (see Appendix C). This was done in the following way:

(1) The collective dose incurred by workers in the work function, "Reactor Operations and Surveillance" on each plant's annual report submitted pursuant to their technical specifications (the first number in the last columns in Appendix C) was determined. (2) The ratio of this dose to the total collective dose (the last number in the last columns in Appendix C) was calculated and multiplied by the total collective dose that had been estimated using the §20.407-type annual reports. This

**TABLE 1**  
**SUMMARY OF ANNUAL INFORMATION REPORTED BY**  
**COMMERCIAL BOILING WATER REACTORS**

1969 - 1980

Year	Number Of Reactors Included	Annual Collective Doses (Man-rams)	No. of Workers With Measurable Doses	Gross MW-Yrs Electric Generated	Average Dose Per Worker (Rems)	Average Collective Dose Per Reactor (Man-rams)	Average No. Personnel With Measurable Doses Per Reactor	Average Man-rams Per MW-Yr	Average MW-Yrs Generated Per Reactor	Average Rated Capacity (MW(e) Net)
1969	3 (2)	586 (300)	290*	192	1.03*	185	145*	3.1	64	112
1970	6 (4)	764 (610)	1,321*	912	0.39*	127	330*	0.8	162	267
1971	7 (6)	1,784 (1,069)	1,873*	1,268	0.57*	255	375*	1.4	187	339
1972	10 (7)	2,858 (2,130)	2,258*	3,058	0.94*	286	323*	0.9	306	434
1973	12	4,564	5,340	3,394	0.85	380	445	1.3	283	459
1974	14	7,095	8,769	4,089	0.81	607	628	1.7	290	613
1975	18	12,011	14,807	5,786	0.66	701	812	2.2	321	611
1976	23	12,626	17,559	8,586	0.71	549	776	1.5	373	647
1977	23	19,042	21,388	9,098	0.89	828	930	2.1	396	645
1978	25	15,096	20,278	11,774	0.74	604	811	1.3	471	668
1979	26	18,322	25,245	11,671	0.73	733	1,010	1.6	467	669
1980	26	29,530	34,084	10,968	0.87	1,138	1,311	2.7	418	664

\*During the years 1969 through 1972, all plants reported collective doses but a few did not submit the number of personnel that received measurable doses. The number of reactors that did report doses and number of workers is given in parentheses in the second column. The collective doses shown in parentheses in the third column, as well as the asterisked numbers in the remaining columns, are all based on the data submitted by the number of reactors shown in parentheses. This correction, and others, changed some of the values from those appearing in earlier NUREG documents.

**TABLE 2**  
**SUMMARY OF ANNUAL INFORMATION REPORTED BY**  
**COMMERCIAL PRESSURIZED WATER REACTORS**

1969 - 1980

Year	Number Of Reactors Included	Annual Collective Doses (Man-rem)	No. of Workers With Measurable Doses	Gross MW-Yrs Electric Generated	Average Dose Per Worker (Rems)	Average Collective Dose Per Reactor (Man-rem)	Average No. Personnel With Measurable Doses Per Reactor	Average Man-rem Per MW-Yr	Average MW-Yrs Generated Per Reactor	Average Rated Capacity (MWe) Net
1969	4 (3)	661 (363)	454*	1,097	0.80*	165	151*	0.6	274	349
1970	4 (3)	2,738 (1,099)	1,340*	979	0.82*	684	447*	2.8	245	349
1971	6 (4)	1,844 (912)	908*	1,912	1.01*	307	226*	1.0	319	399
1972	8 (6)	3,708 (2,083)	1,865*	2,544	1.11*	484	377*	1.5	318	446
1973	12	9,399	9,440	3,770	1.00	783	787	2.5	314	533
1974	20	6,627	9,697	6,924	0.68	331	485	1.0	341	619
1975	26	8,268	10,884	11,083	0.76	318	419	0.7	461	643
1976	30	13,807	17,588	13,325	0.79	460	586	1.0	444	675
1977	34	13,469	20,878	17,346	0.65	396	614	0.8	510	699
1978	39	16,713	25,720	19,840	0.65	429	659	0.8	509	723
1979	42	21,437	38,828	18,249	0.55	510	924	1.2	434	729
1980	42	24,266	46,237	18,287	0.52	578	1,101	1.3	435	721

\*During the years 1969 through 1972, all plants reported collective doses but a few did not submit the number of personnel that received measurable doses. The number of reactors that did report doses and number of workers is given in parentheses in the second column. The collective doses shown in parentheses in column 3, as well as the asterisked numbers in the remaining columns, are all based on the data submitted by the number of reactors shown in parentheses. This correction, and others, changed some of the values from those appearing in earlier NUREG documents.

**TABLE 3**  
**SUMMARY OF ANNUAL INFORMATION REPORTED**  
**BY COMMERCIAL LIGHT WATER COOLED REACTORS**

1969 - 1980

Year	Number Of Reactors Included	Annual Collective Doses (Man-rem)	No. of Workers With Measurable Doses	Gross MW-Yrs Electric Generated	Average Dose Per Worker (Rems)	Average Collective Dose Per Reactor (Man-rem)	Average No. Personnel With Measurable Doses Per Reactor	Average Man-rem Per MW-Yr	Average MW-Yrs Generated Per Reactor	Average Rated Capacity (MWe) Net
1969	7 (5)	1,247 (663)	744*	1,289	0.89*	178	149*	1.0	184	247
1970	10 (7)	3,502 (1,809)	2,661*	1,892	0.80*	350	380*	1.9	189	300
1971	13 (8)	3,628 (1,981)	2,778*	3,220	0.71*	280	309*	1.1	248	367
1972	18 (12)	6,566 (4,213)	4,143*	5,602	1.02*	365	345*	1.2	311	408
1973	24	13,963	14,780	7,164	0.94	582	616	1.9	299	496
1974	34	13,722	18,486	10,883	0.74	404	543	1.3	320	575
1975	44	20,879	26,491	17,760	0.82	475	579	1.2	404	630
1976	53	26,433	35,447	21,911	0.75	499	669	1.2	413	663
1977	57	32,511	42,266	26,444	0.77	570	742	1.2	484	677
1978	64	31,809	45,998	31,614	0.69	497	719	1.0	494	702
1979	67	39,759	64,073	29,920	0.62	593	956	1.3	447	705
1980	68	53,796	80,331	29,155	0.67	791	1,181	1.8	429	699

\*During the years 1969 through 1972, all plants reported collective doses but a few did not submit the number of personnel that received measurable doses. The number of reactors that did report doses and number of workers is given in parentheses in the second column. The collective doses shown in parentheses in the third column, as well as the asterisked numbers in the remaining columns, are all based on the data submitted by the number of reactors shown in parentheses. This correction, and others, changed some of the values from those appearing in earlier NUREG documents.

product is the number of man-remS shown in the column headed "Operations" in Appendix A. (3) The number of man-remS shown in the column headed "Maintenance and Others" in Appendix A was determined by first summing the collective doses incurred by workers in the five remaining functions, given in Appendix C, and then calculating the fraction that this dose is of the total collective dose. This fraction was multiplied by the total collective dose estimated from the \$20.407-type annual reports to yield the number of man-remS shown in this column of Appendix A. (4) A similar procedure was followed in determining the number of man-remS in the type of personnel columns "Contractor" and "Station & Utility" in Appendix A.

#### 2.1.4 Workers With Measurable Whole Body Doses

The number of workers with measurable doses, rather than the total number of individuals monitored, is shown in Tables 1 through 3 and Appendix A. These values were used to calculate the average annual dose per worker and the average number of personnel per reactor. This was done to delete those individuals, many of whom probably did not routinely work in radiation areas (and were monitored for convenience or for identification purposes), who may have received exposures too small to be detected by personnel monitoring devices.

#### 2.1.5 Megawatt-years of Electricity

The number of gross megawatt-years (MW-Yrs) of electric energy generated each year by each facility is shown in Appendix A. This number was obtained by dividing the gross megawatt-hours of electricity annually produced by each facility by 8,784, the number of hours in the year. The gross megawatt-years of generated electricity that are presented in Tables 1 through 3 are the sums of that produced by all of the reactors included each year. This sum is divided by the number of those reactors included each year to yield the average amount of electric energy generated (MW-Yrs) per reactor, which is also shown in Tables 1 through 3.

#### 2.1.6 Collective Dose per Megawatt-year

The number of megawatt-years generated was also used to determine average values of the annual collective dose per megawatt-year generated. This was calculated by dividing the total collective dose by the total gross megawatt-years generated to yield a quotient, having the units "man-remS per MW-Yr," that is used as a measure of the doses incurred by workers at power reactors in relation to the gross electric energy produced. This value was also calculated for each reactor site and is presented in Tables 4 through 6 and Appendix A.

#### 2.1.7 Average Rated Capacity

The average rated capacity, shown in Tables 1 through 3, was found by dividing the sum of the net maximum dependable capacities (Net MWe) of the reactors by the number of reactors included each year. The net maximum dependable capacity is defined to be the gross electrical output as measured at the output terminals of the turbine generator during the



most restrictive seasonal conditions, less the normal station service loads. This is the "capacity" shown for each plant in Appendix C.

## 2.2 Average Annual Occupational Doses

Some of the data presented in Tables 1 through 3 is graphically displayed in Figure 1 where one can see that the average collective dose and average number of workers per BWR has been higher than that for PWRs for the last six years and that the values of both parameters have, in general, continued to rise at both types of facilities. At BWRs in 1980, the average collective dose, average number of workers, and collective dose per megawatt-year (Tables 1-3) reached the all-time high values of 1,136, 1,311, and 2.7, respectively. Table 1 shows that the average dose per worker also rose from last year's value of 0.73 rems to 0.87 rems. At PWRs, the values of these three parameters increased to values (578 man-rems per reactors, 1,101 workers per reactor, and 1.3 man-rems per megawatt-year) higher than those reported for the previous six years, while the average dose per worker (Table 2) decreased slightly to 0.52 rems.

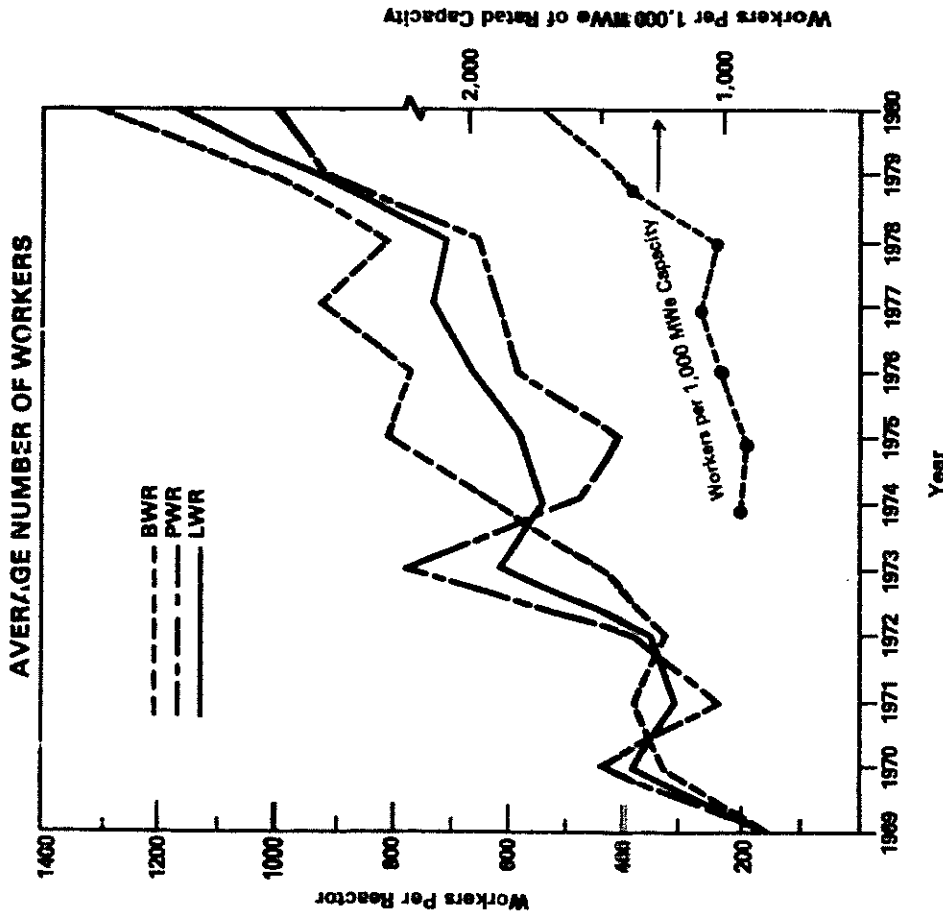
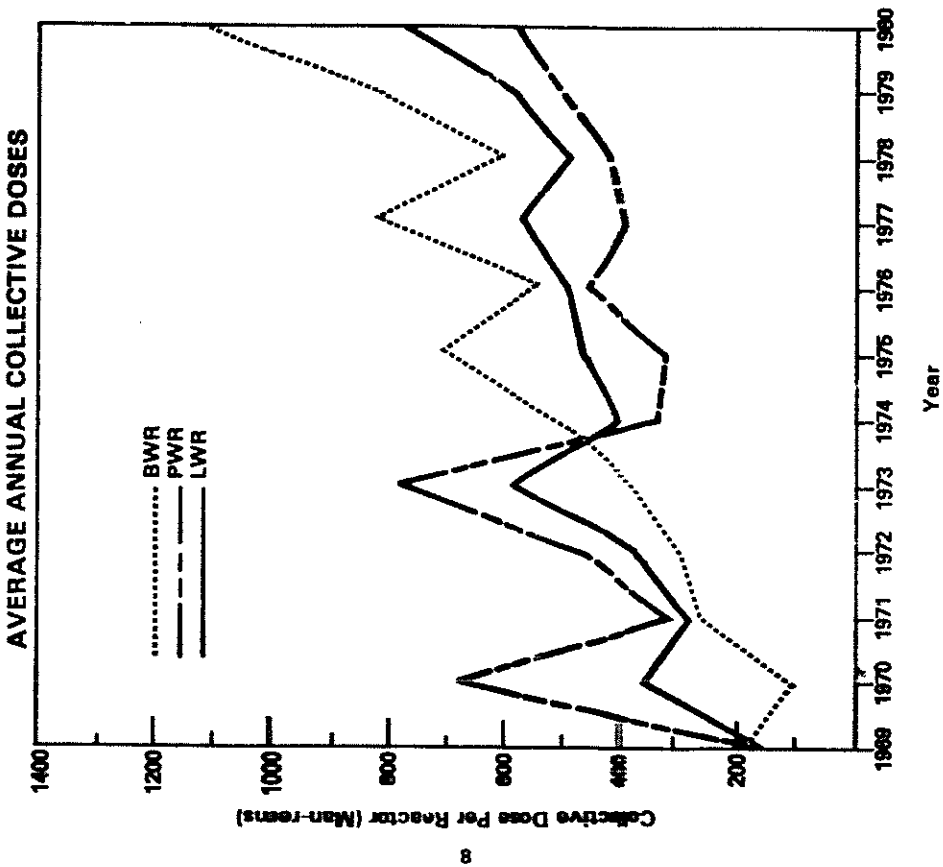
Also in Figure 1, a plot of the number of workers per 1,000 megawatts electric (rated capacity) installed is shown in order to examine the possibility that these parameters may be dependent on the installed power. One can see that for several years the ratios were relatively constant. However, the increase in the values for the last two years implies that other factors, such as the type of plant, the number of years that the plant has been in operation (Ref. 9), special inspections, repairs, and other activities deemed necessary by regulatory bodies and others affect these parameters as well.

To further assist in the identification of any trends that might exist in the two parameters - the average and the median collective dose per reactor - Figure 2 is presented. It displays the average and median\* values of the collective dose per reactor for BWRs and for PWRs for the years 1973 through 1980. The ranges of the values reported each year are shown by the vertical lines with a small bar at each end marking the two extreme values. The rectangles indicate the range of values of the collective dose exhibited by those plants ranked in the twenty-fifth through the seventy-fifth percentiles. One can see that the median values do not fluctuate as much from year to year as do the average values. The median collective dose for PWRs has slowly increased since 1975, and appears to have levelled off in 1980; while for BWRs, it levelled off at a higher value for 1977 through 1979 and increased in 1980. Furthermore, in all but one case the median collective dose is less than the average which indicates that the collective dose for most plants is less than the average collective dose per reactor (the value that is widely quoted).

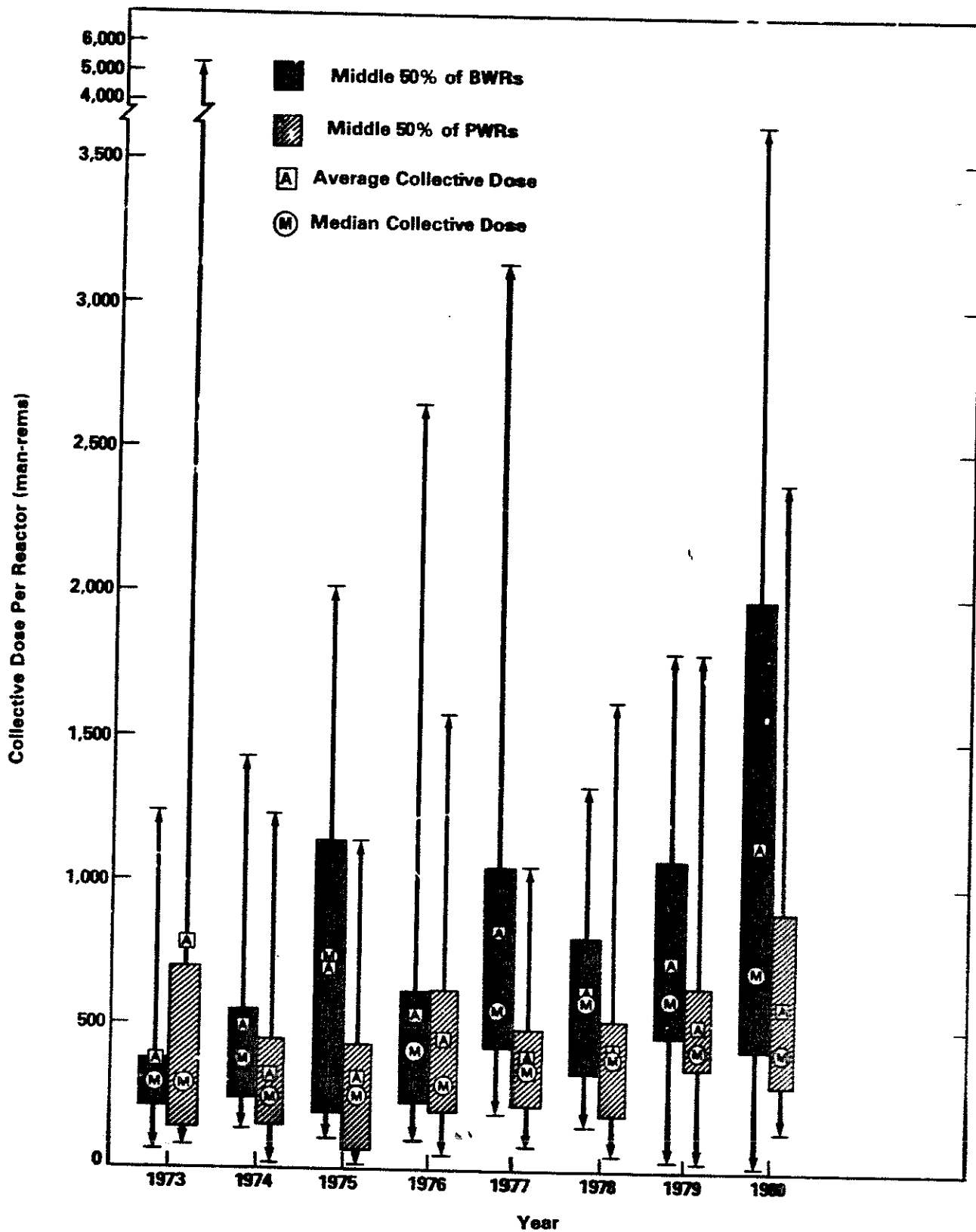
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\*The value at which 50% of the reactors reported greater collective doses and the other 50% reported smaller collective doses.

**FIGURE 1**  
**COMMERCIAL LIGHT WATER COOLED REACTORS**  
**1969-1980**



**FIGURE 2**  
**AVERAGE, MEDIAN AND EXTREME VALUES OF**  
**THE COLLECTIVE DOSE PER REACTOR**  
**1973-1980**



## 2.3 Plant Rankings by Collective Dose Per Reactor

The number of reactors from which data has been collected is still rather small, and the information reported by a few reactors where unusual conditions or problems may have occurred could have a large impact on some of the statistics presented in this report. In an effort to identify those plants, Tables 4 and 5 list the BWRs and PWRs in ascending order of man-rem per reactor for each of the years 1976 through 1980. Two other parameters, dose per worker and collective dose per megawatt-year, are also given for each plant and could have been used in ranking the plants as well. Table 6 ranks the plants that had been in commercial operation for at least five years as of December 31, 1980. At BWRs, the values of the average dose per worker and collective dose per megawatt-year increased somewhat over those that had been calculated for the five years ending in 1979. At PWRs, the average dose decreased slightly while the collective dose per megawatt-year showed a small increase over the same period. The five year averages for the collective dose per reactor and the number of workers per reactor increased by about 20% over the previous five years' values. It should be noted that there are significant differences in nuclear plant designs, even between plants of a given type. Therefore, one should be careful when attempting to draw conclusions from the data.

In general, one can see from the listings in Tables 4 through 6 that the plants having lower values of these three parameters each year are usually the newer plants. Some of the older, smaller plants also appear near the top of the listings since they report small collective doses; however, the ratio of their man-rem to the number of megawatt-years generated will be higher because of their limited power generation capacity. Usually, when a plant reports a large annual collective dose, and a large man-rem to megawatt-year ratio as well, it indicates that extensive maintenance or modifications were undertaken during the year. Also, several plants reported that part of the increase in their collective doses was due to activities, such as seismic hanger inspections and modifications, snubber corrections, masonry wall modifications, and other torus and drywell changes, that were directed by various NRC bulletins or recommended by their nuclear supplier.

## 3. ANNUAL DOSE DISTRIBUTIONS

### 3.1 Annual Whole Body Dose Distributions

Table 7 summarizes the distribution of the annual whole body doses received by workers at commercial LWRs during each of the years 1969 through 1980. This distribution is the sum of the annual dose distributions reported by each licensed nuclear facility each year. The distribution reported by each facility for 1980 is shown in Appendix B. From Table 7, one can see that prior to 1973 the reports had a different format such that there were only two dose ranges, 0.0 to 1.25 rems and 1.25 to 2.0 rems, for doses less than two rems. This did not allow an estimate of the collective dose, as previously described, to be made for these years. For the years after 1972, the table indicates that the annual collective dose increased nearly every year, as did the number of monitored individuals. The data for 1980 is graphically displayed in

**TABLE 4**  
**BOILING WATER REACTORS**  
**LISTED IN ASCENDING ORDER OF MAN-REMS PER REACTOR**

1976	1977	1978	1979	1980
Site Name	Site Name	Site Name	Site Name	Site Name
Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.
1 Man-Rems per Site	1 Man-Rems per Site	1 Man-Rems per Site	1 Man-Rems per Site	1 Man-Rems per Site
Dose per Worker (Rems) MW-Yr.	Dose per Worker (Rems) MW-Yr.	Dose per Worker (Rems) MW-Yr.	Dose per Worker (Rems) MW-Yr.	Dose per Worker (Rems) MW-Yr.
Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.
Duane Arnold	Cooper Station	Cooper Station	Humboldt Bay	Humboldt Bay
110 0.93 6.23	188 0.63 0.37	159 0.53 0.27	31 0.23 0.02	22 0.15 0.01
La Crosse	La Crosse	La Crosse	Monticello	La Crosse
234 0.11 0.69	225 1.59 20.38	164 0.90 7.60	167 0.42 0.30	218 1.76 8.28
Brown Ferry 1&2	Vermont Yankee	Big Rock Point	La Crosse	Hatch 1,2
134 0.21 0.27	268 0.40 0.61	175 0.61 3.60	168 1.22 7.75	448 0.23 0.45
Hatch	Duane Arnold	Hatch 1	Cooper	Big Rock Point
202 0.34 0.41	269 0.56 0.94	249 0.18 0.48	221 0.52 0.37	364 0.69 7.24
Fitzpatrick	Big Rock Point	Nine Mile Point	Duane Arnold	Monticello
263 0.81 0.55	334 0.72 7.59	314 0.59 0.56	276 0.38 0.78	631 0.48 1.29
Monticello	Millstone Point 1	Humboldt Bay	Big Rock Point	Nine Mile Point
289 0.59 9.87	384 0.37 0.69	339 0.36 0.87	455 0.73 35.00	691 0.50 1.11
Big Rock Point	Brown Ferry 1&2	Vermont Yankee	Oyster Creek	Brown Ferry 1,2,3
289 0.59 9.87	893 0.48 0.69	378 0.38 0.82	487 0.88 0.86	1,828 0.87 0.84
Brunswick 2	Hatch 1	Monticello	Brown Ferry 1,2,3	Duane Arnold
328 0.28 1.10	465 0.36 1.04	1004 0.69 0.86	1,867 0.62 0.70	871 0.61 1.96
Cooper Station	Quad Cities 1&2	Dresden 1,2&3	Hatch	Dresden 1,2,3
350 0.46 0.81	1031 1.14 1.06	1529 0.79 1.23	562 0.27 1.45	2,106 0.77 1.96
Vermont Yankee	Dresden 1,2&3	Brown Ferry 1,2&3	Dresden 1,2,3	Cooper Station
411 0.50 1.08	1684 0.91 1.49	1792 0.75 0.90	1,800 0.76 1.78	859 1.09 1.82
Peach Bottom 2&3	Monticello	Peach Bottom 2&3	Peach Bottom 2,3	Peach Bottom 2,3
840 0.39 0.81	1000 1.16 2.34	1317 0.69 0.90	1,388 0.61 0.80	2,302 0.63 1.06
Nine Mile Point	Peach Bottom 2&3	Quad Cities 1&2	Fitzpatrick	Vermont Yankee
428 1.09 0.89	2036 0.72 1.84	1618 1.24 1.44	888 1.01 2.48	1,338 0.89 3.74
Dresden 1,2&3	Fitzpatrick	Fitzpatrick	Pilgrim	Oyster Creek
1680 0.99 3.95	1080 0.78 2.34	908 1.00 1.93	1,016 0.41 1.77	1,733 0.88 7.44
Humboldt Bay	Brunswick 2	Duane Arnold	Quad Cities 1,2	Brunswick 1,2
683 1.31 29.70	1120 0.74 3.66	974 0.88 6.63	2,166 1.28 2.01	3,870 1.02 5.63
Quad Cities 1&2	Nine Mile Point	Millstone 1	Vermont Yankee	Fitzpatrick
1851 1.35 1.74	1393 1.27 3.89	1239 0.89 2.23	1,170 0.69 2.96	2,040 0.99 4.00
Oyster Creek	Oyster Creek	Oyster Creek	Brunswick 1,2	Millstone Point 1
1076 0.88 2.37	1614 0.66 4.18	1279 0.91 2.86	2,803 0.90 3.21	2,166 0.71 6.32
Millstone 1	Humboldt Bay	Pilgrim	Nine Mile Point	Quad Cities 1,2
1184 0.87 2.66	905 1.79 -	1327 0.80 2.56	1,487 1.13 4.23	4,538 1.57 6.66
Pilgrim 1	Pilgrim 1	Averages per Reactor	Millstone Point 1	Pilgrim
2848 2.01 9.23	3142 1.67 9.91	804 0.74 1.36	1,793 1.01 3.65	3,626 1.02 10.06
Averages per Reactor	Averages per Reactor	Averages per Reactor	Averages per Reactor	Averages per Reactor
647 0.71 1.52	828 0.89 2.1	733 0.73 1.67	733 0.73 1.67	1,136 0.87 2.72

<sup>1</sup>For those sites with more than one operating reactor, the numbers of man-rem per reactor is obtained by dividing the number of man-rem reported by the site by the number of reactors.

**TABLE 5**  
**PRESSURIZED WATER REACTORS**  
**LISTED IN ASCENDING ORDER OF MAN-REMS PER REACTOR**

1976	1977	1978	1979	1980
Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.	Man-Rems per Worker (Rems) MW-Yr.
Site Name	Site Name	Site Name	Site Name	Site Name
Rancho Seco	Beaver Valley	Davis Base	Devis Base	Davis Base
Yankee Rowe	Palisades	Ferley 1	Prairie Island 1,2	Keweenaw
Calvert Cliffs 1	Keweenaw	Prairie Island 1&2	Fort Calhoun	Prairie Island 1,2
Maine Yankee	Prairie Island 1&2	Haddam Neck	Reneho See	Three Mile Island 1,2
Cook 1	St. Lucie	Salem 1	Keweenaw	Yankee Rowe
Millstone Point 2	Trojan	Keweenaw	Yankee Rowe	North Anna 1
Point Beach 1&2	Point Beach 1&2	Point Beach 1&2	Beaver Valley	Cook 1,2
Prairie Island 1&2	Millstone Point 2	Arkansas 1	San Onofre	Point Beach 1,2
Keweenaw	Maine Yankee	Beaver Valley	Maine Yankee	Indian Point 3
Zion 1&2	Arkansas 1	Calvert Cliffs 1 & 2	Trojan	Calvert Cliffs 1,2
Three Mile Island 1	Fort Calhoun	Yankee Rowe	Point Beach 1,2	Arkansas 1
Arkansas 1	Cook 1	Trojan	Oconee 1,2,3	Oconee 1,2,3
Fort Calhoun	Yankee Rowe	Crystal River	Cook 1,2	Rancho Seco
313	356	Rancho Seco	369	421
1028	1071	Indian Point 1,2&3	Arkansas	Trojan
Oconee 1,2&3	Indian Point 1,2&3	Cook 1	Arkansas	Palisades
Haddam Neck	Three Mile Island 1	St. Lucie	Calvert Cliffs 1,2	Ferley
449	360	San Onofre	St. Lucie	424
1184	391	Rancho Seco	Fort Calhoun	435
538	401	Ginna	North Anna	448
698	1328	Oconee 1,2&3	Fort Calhoun	820
715	465	Robinson 2	Millstone Point 2	482
880	1003	Zion 1&2	Crystal River	971
880	1036	Turkey Point 3&4	Salem	532
1850	1036	Turkey Point 3&4	Three Mile Island 1,2	563
3185	547	Calvert Cliffs 1	Ginna	626
Averages per Reactor	Harldem Neck	Zion 1 & 2	Indian Point 3	636
460	842	Turkey Point 3&4	Zion 1,2	668
0.79	847	San Onofre	Indian Point 1*2	708
0.99	2307	Surry 1&2	Ferley	1,651
	Averages per Reactor	Robinson 2	Turkey Point 3,4	1,383
	396	Millstone 2	Haddam Neck	1,852
	0.65	Averages per Reactor	Robinson 2	3,838
	0.78	428	Surry 1,2	2,387
		0.85	Averages per Reactor	Averages per Reactor
		0.84	510	578
		0.84	0.55	0.62
		1.17	1.17	1.33

\*Indian Point 1 was defueled in 1975.

†Per three sites with more than one operating reactor. The numbers of man-rem per reactor is obtained by dividing the number of man-rem by the number of reactors.

**TABLE 6**  
**LIGHT WATER COOLED REACTORS**  
**LISTED IN ASCENDING ORDER OF MAN-REMS PER REACTOR**

**FIVE YEAR TOTALS AND AVERAGES**  
**1976 - 1980**

BOILING WATER REACTORS					PRESSURIZED WATER REACTORS						
<sup>2</sup> Site Name	<sup>1</sup> Total Man-Rems per Site	Total Workers with Measurable Doses	Average Dose per Worker (Rems)	Total Mega-Watt Years	Average Man-Rems per MW-Yr.	<sup>2</sup> Site Name	<sup>1</sup> Total Man-Rems per Site	Total Workers with Measurable Doses	Average Dose per Worker (Rems)	Total Mega-Watt Years	Average Man-Rems per MW-Yr
La Crosse	903	718	1.28	104.5	8.6	Prairie Island 1,2	1,501	3,659	0.41	4,254.9	0.4
Big Rock Point	1,607	2,460	0.65	183.5	8.8	Kewaunee	855	1,772	0.48	2,143.3	0.4
Cooper Station	1,785	2,586	0.69	2,586.8	0.7	Yankee Rowe	1,037	2,385	0.43	606.4	1.7
Duane Arnold	2,324	3,865	0.60	1,499.1	1.6	Point Beach 1,2	2,361	2,237	1.06	4,180.8	0.6
Monticello	2,326	3,350	0.69	2,295.2	1.0	Rancho Seco	1,308	2,487	0.52	2,800.1	0.5
Drasden 1,2,3	8,807	10,678	0.82	5,589.7	1.6	Maine Yankee	1,366	2,518	0.54	3,036.5	0.4
Humboldt Bay	2,975	2,183	1.36	23.5	126.6	Arkansas 1	1,445	4,353	0.33	2,551.9	0.6
Vermont Yankee	3,516	5,053	0.70	1,972.4	1.8	Fort Calhoun	1,814	2,989	0.61	1,642.3	1.1
Peach Bottom 2,3	7,883	12,267	0.64	7,162.1	1.1	Oconee 1,2,3	5,803	8,670	0.67	8,448.5	0.7
Nine Mile Point	4,213	4,546	0.93	2,247.6	1.9	Zion 1,2	4,785	5,497	0.87	6,756.2	0.7
Fitzpatrick	5,090	5,790	0.88	2,305.0	2.2	Ginna	2,787	3,886	0.72	1,728.4	1.0
Quad Cities 1,2	11,296	8,116	1.39	4,987.7	2.3	Palladas	2,838	4,829	0.59	1,987.0	1.4
Oyster Creek	6,171	7,474	0.83	2,047.8	3.0	Millstone Point 2	3,139	4,358	0.72	2,700.3	1.2
Millstone Point 1	6,776	8,636	0.78	2,492.9	2.7	Turkey Point 3,4	6,583	8,107	0.81	4,755.5	1.4
Pilgrim	11,758	10,866	1.08	2,058.2	5.7	Haddam Neck	3,721	4,840	0.77	2,446.8	1.5
Grand Totals and Averages	77,430	88,578	0.87	37,567.1	2.1	San Onofre	4,654	6,663	0.70	1,400.6	3.3
	815/RxYr	932/RxYr	396/RxYr			Robinson 2	5,173	5,637	0.92	2,446.8	2.1
						Surry 1,2	14,729	17,198	0.86	4,191.5	3.5
						Grand Totals and Averages	65,900	92,103	0.72	58,075.8	1.1
							527/RxYr	737/RxYr	465/RxYr		

<sup>1</sup> For those sites with more than one operating reactor, the number of man-rem is obtained by dividing the number of man-rem by the number of reactors at the site.

<sup>2</sup> Multiple unit sites where all reactors had not completed one full year of commercial operation as of 12-31-76 are not included.

**TABLE 7 \***  
**SUMMARY DISTRIBUTION OF ANNUAL WHOLE BODY DOSES**  
**AT COMMERCIAL LIGHT WATER COOLED REACTORS**  
 1969 - 1980

Year	Number of Individuals with Whole Body Exposures in the Indicated Ranges (Rems)																	Total Number Monitored	Annual Collective Doses (Man-rem)													
	No Measurable Exposure	Measurable <0.10	0.10-0.25		0.25-0.50		0.50-0.75		0.75-1.0		1.0-2.0		2.0-3.0		3.0-4.0		4.0-5.0			5.0-6.0		6.0-7.0		7.0-8.0		8.0-9.0		9.0-10.0		10.0-11.0		
			0.0-1.25	1.25-2.0	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0	10.0-11.0															
1969		2,479					128			134	65	25	5	2																	2,838	
1970		6,839					146			166	163	88	98	8	1															7,509		
1971		8,586					410			315	137	105	17	11																9,581		
1972		14,095					688			532	199	111	46	21	9	6	6													15,713		
1973	19,043	5,494	1,698	1,214	740	652	2,468	1,584	422	251	125	71	38	16	7															33,823	13,963**	
1974	20,472	6,735	2,887	2,056	1,182	906	2,503	1,378	471	226	86	30	6																38,938	13,722**		
1975	18,854	6,841	3,674	2,750	1,685	1,339	3,948	1,872	691	423	189	60	24	12		1													44,343	20,879**		
1976	25,704	12,821	5,130	4,135	2,520	2,030	4,880	2,354	789	487	188	70	26	11	5	1													60,521	26,433**		
1977	24,868	13,970	6,534	5,050	3,258	2,486	6,162	2,837	1,130	577	141	66	36	21	6														67,134	32,511**		
1978	30,143	16,639	6,943	5,504	3,399	2,498	6,405	2,999	1,060	418	67	26	8			( <sup>&gt;</sup> 12) <sub>2</sub>													76,121	31,604**		
1979	45,087	24,301	9,846	8,159	5,189	3,479	7,934	3,307	1,251	477	86	28	13	2		(11-12) <sub>1</sub>												109,160	39,759**			
1980	53,547	29,638	11,750	9,820	6,082	4,518	11,474	4,515	1,537	686	192	98	18	3														133,878	53,796**			

\* Summary of reports submitted in accordance with 10 CFR 20.407 by plants that had been in commercial operation for at least one full year as of December 31 of each of the indicated years.



Figure 3 by plotting the log of the annual dose against the cumulative percent on a probability axis. If the data were log-normally distributed, as has found to be the case for certain dose ranges (Ref. 10), the data points would form a straight line. However, distributions in which there are annual doses that exceed 2 rems frequently depart from a straight line because of the licensees' efforts to meet various recommendations and limits.

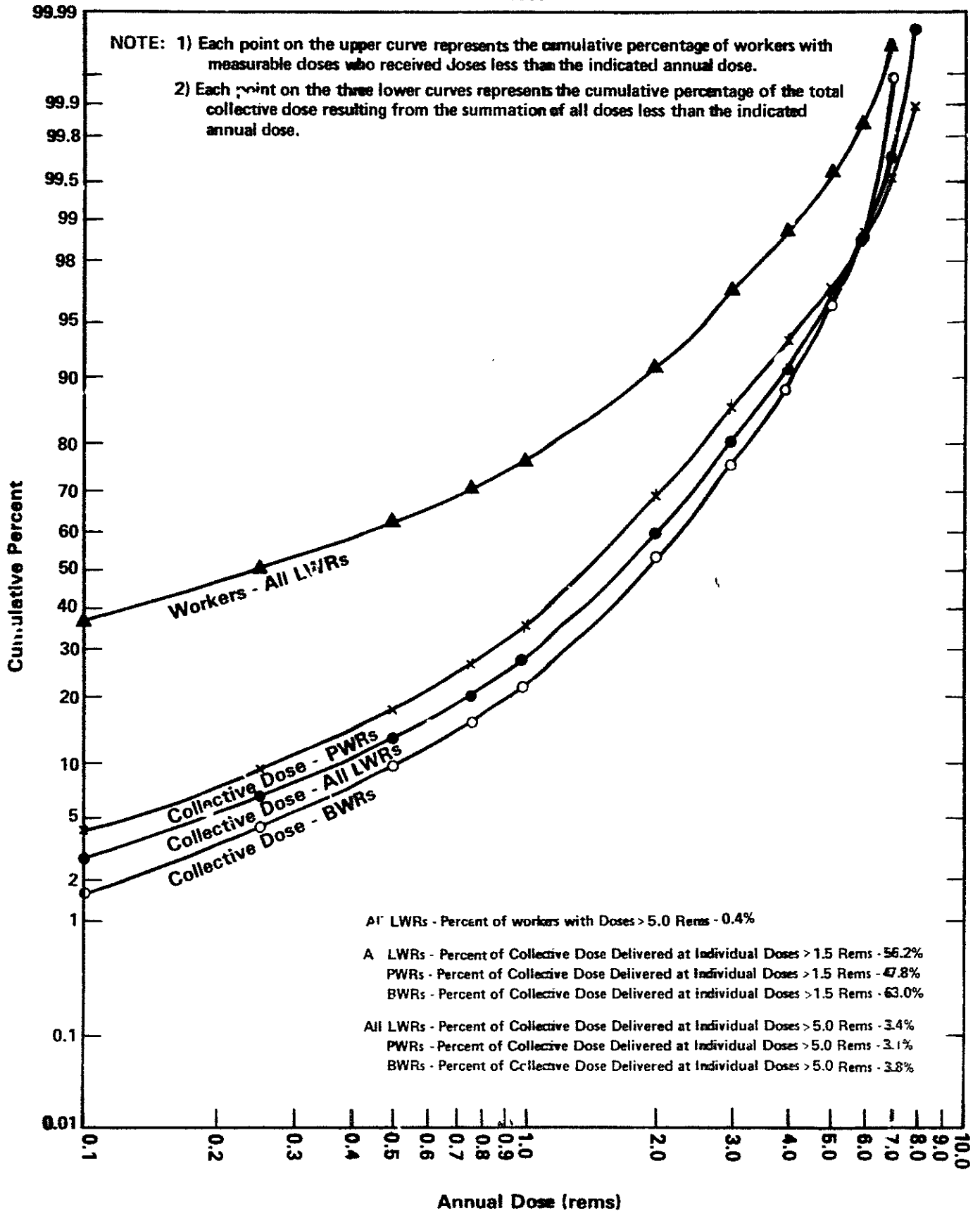
The top curve in Figure 3 shows the cumulative distribution of the number of workers receiving measurable doses that were reported in the dose ranges shown in Table 7 for 1980. From it one can quickly see that about 77% of the workers received annual doses less than one rem, and that about 99.6% of them received doses less than five rems. This is less than the portion of workers (99.8%) that had received such doses for the previous two years. The three lower curves indicate the cumulative distribution of the collective doses incurred by the workers at all LWRs, and at PWRs and BWRs during 1980. One can see that, at LWRs, those workers that received doses of less than one rem (77% of all workers) incurred only 28% of the collective dose, while those workers receiving doses greater than 5 rems (0.4% of all workers) received 3.5% of the collective dose. The position of the curve for PWRs (above that of the curve for BWRs) at doses less than six rems indicates that a larger portion of the collective dose was incurred by workers receiving lower individual doses than at BWRs. For doses greater than six rems, the situation reversed. Also in Figure 3, in the statements at the bottom, is the portion of the collective dose incurred by workers who received doses greater than 1.5 rems. These particular values are shown because the United Nations Scientific Committee on the Effects of Atomic Radiation recommended that this fraction should be one of the parameters used in the analyses and comparison of exposure data (Ref. 11). The Committee also advised that the normal range for this parameter should be from 3% to 60%. One can see that the values of the parameter are near the upper limit of this range with 56.2% at all LWRs, 47.8% at PWRs, and 63.0% at BWRs.

The compilation of the distribution data submitted by each facility into one report, however, introduces an additional source of error. Since individuals are not identified in the annual distribution reports, an individual who was monitored by five different reactor facilities would have been counted once on each facility's report. Therefore, when the data were summed to determine the total number of individuals monitored by all facilities, this person would have been counted as five individuals rather than as one. This could affect the distribution of doses as well as the number of individuals and their average dose, because the individual would have been counted five times in the lower dose ranges rather than one time in a higher range in which his actual accumulated dose (the sum of his doses incurred at each facility) would have placed him. Further discussion of this is provided in Section 4.3.

FIGURE 3

CUMULATIVE PERCENT OF ANNUAL INDIVIDUAL DOSES  
AND COLLECTIVE DOSES

1980



### 3.2 Dose Distributions by Work and Job Function

Tables 8, 9 and 10 summarize the annual data submitted in accordance with plant technical specifications in the format described in Regulatory Guide 1.16. The licensees are requested to record the collective doses received by station employees, utility employees, and contract workers among various prescribed work functions and occupations. The report submitted by each station for 1980 is contained in Appendix C. One should note that in some cases, the licensee data had to be modified slightly in order to fit into the prescribed categories.

Table 8 provides a detailed summary of the distribution of collective dose by work function and personnel types for BWRs, PWRs and all LWRs. It shows that contract workers performing special maintenance at LWRs incur the largest portion of the collective dose. Table 9 presents a more general summary of this data for the last five years, and one can see that workers involved in routine and special maintenance activities continue to incur most of the total cumulative dose. At BWRs (Table 8) workers involved in these activities received 80.8% of the cumulative dose for BWRs, an increase of about 10% from last year's value, while at PWRs these workers received 70.6% of the cumulative dose, an increase of only 3.6% over last year's value. The portions of the collective dose received by workers during inservice inspection and refueling at BWRs are 3.3% and 5.2%, respectively; at PWRs such workers received 8.2% and 7.1%, respectively, of the collective dose. Overall, contractor personnel received 68.4% of the collective dose (about 10% more than last year), and the station and utility employees received the remaining 31.6% at LWRs.

Table 10 presents the distribution of the collective dose at all LWRs among five occupations. As expected, maintenance personnel incurred the majority (75.3%) of the collective dose, with contractor maintenance personnel receiving about twice as much as the station and utility maintenance employees combined. Supervisory personnel received only 2.1% of the dose, while workers in the remaining three occupations - operations, health physics, and engineering - received 6.7%, 3.2%, and 7.7%, respectively, of the collective dose. The total collective dose, 46,224.5 man-rems, shown in Table 10 does not equal that shown in Table 8 because several sites did not provide the distribution of the collective dose by occupation. Also, the collective doses shown in Tables 8 and 10 do not equal those shown in other tables in the report because they are the sum of the doses taken from the type of annual reports shown in Appendix C rather than the collective dose that was calculated from the §20.407-type annual reports.

### 3.3 Health Implications of Average Annual Doses

If any biological effects are caused by exposures to radiation in the work place, the effects are likely to occur only after many years because the most important effects are cancer induction and genetic damage leading to the transmission of hereditary diseases. A vast amount of scientific information is available from which estimates of these risks can be made. Much of this information has been obtained from epidemiologic studies of human populations at levels of exposures considerably

TABLE 8  
ANNUAL COLLECTIVE DOSES  
BY WORK FUNCTION AND PERSONNEL TYPE

Work Function	1980				Contract Workers & Others		Total per Function	
	Station Employees		Utility Employees		MAN-REMS % OF TOTAL		MAN-REMS % OF TOTAL	
	MAN-REMS	% OF TOTAL	MAN-REMS	% OF TOTAL	MAN-REMS	% OF TOTAL	MAN-REMS	% OF TOTAL
<u>BOILING WATER REACTORS</u>								
REACTOR OPERATIONS & SURVEILLANCE	1615.1	5.8 %	82.1	0.3 %	421.0	1.5 %	2118.2	7.6 %
ROUTINE MAINTENANCE	2487.9	8.9 %	1428.2	5.2 %	7984.7	28.6 %	11920.8	42.8 %
SPECIAL MAINTENANCE	108.4	0.4 %	142.8	0.5 %	655.8	2.4 %	907.1	3.3 %
WASTE PROCESSING	745.2	2.7 %	606.4	2.2 %	9262.5	33.2 %	10614.1	38.1 %
REFUELING	524.2	1.9 %	12.7	0.0 %	343.7	1.2 %	880.6	3.1 %
	557.6	2.0 %	67.0	0.2 %	814.6	3.0 %	1439.2	5.2 %
TOTALS	6038.4	21.7 %	2359.3	8.4 %	19482.3	69.9 %	27880.0	100.0 %
<u>PRESSURIZED WATER REACTORS</u>								
REACTOR OPERATIONS & SURVEILLANCE	1784.0	7.6 %	95.2	0.4 %	822.6	3.5 %	2701.8	11.5 %
ROUTINE MAINTENANCE	1719.1	7.3 %	627.2	2.7 %	4003.6	17.0 %	6349.8	27.0 %
SPECIAL MAINTENANCE	158.8	0.7 %	126.8	0.5 %	1637.6	7.0 %	1923.1	8.2 %
WASTE PROCESSING	1019.6	4.3 %	1042.0	4.4 %	8215.6	34.9 %	10277.2	43.8 %
REFUELING	333.9	1.4 %	31.0	0.1 %	264.7	1.1 %	629.6	2.6 %
	603.3	2.6 %	319.4	1.4 %	731.5	3.1 %	1654.2	7.1 %
TOTALS	5620.5	23.9 %	2241.7	9.5 %	15675.5	66.6 %	23535.7	100.0 %
<u>ALL LIGHT WATER REACTORS</u>								
REACTOR OPERATIONS & SURVEILLANCE	3399.1	6.6 %	177.3	0.3 %	1243.6	2.4 %	4820.0	9.3 %
ROUTINE MAINTENANCE	4207.0	8.2 %	2075.4	4.0 %	11988.2	23.3 %	18270.6	35.5 %
SPECIAL MAINTENANCE	267.0	0.5 %	269.8	0.5 %	2293.4	4.5 %	2830.2	5.5 %
WASTE PROCESSING	1764.8	3.4 %	1648.4	3.2 %	17478.1	34.0 %	20891.3	40.6 %
REFUELING	858.1	1.7 %	43.7	0.1 %	603.4	1.2 %	1510.2	3.0 %
	1160.9	2.3 %	386.4	0.8 %	1546.1	3.0 %	3093.4	6.1 %
TOTALS	11658.9	22.7 %	4601.0	8.9 %	35157.8	68.4 %	51415.7	100.0 %

**TABLE 9**  
**PERCENTAGES OF ANNUAL COLLECTIVE DOSE**  
**AT LWRS BY WORK FUNCTION**

Work Function	Percent of Dose					
	1975	1976	1977	1978	1979	1980
Reactor Operations and Surveillance	10.8%	10.2%	10.5%	13.3%	12.2%	9.5%
Routine Maintenance	52.6%	31.0%	28.1%	31.5%	29.2%	35.5%
Inservice Inspection	3.0%	6.0%	6.4%	7.7%	9.0%	5.5%
Special Maintenance	19.0%	40.0%	42.5%	35.9%	39.4%	40.6%
Waste Processing	6.9%	5.0%	5.8%	5.0%	3.6%	3.0%
Refueling	7.7%	7.9%	6.7%	6.6%	6.6%	6.1%

TABLE 10  
ANNUAL COLLECTIVE DOSES  
BY OCCUPATION AND PERSONNEL TYPE

Occupation	Station Employees		Utility Employees		Contract Workers & Others		Total per Occupation	
	MAN-REMS	% OF TOTAL	MAN-REMS	% OF TOTAL	MAN-REMS	% OF TOTAL	MAN-REMS	% OF TOTAL
<u>BOILING WATER REACTORS</u>								
MAINTENANCE	2761.8	9.9 %	1962.7	7.0 %	17339.9	62.1 %	22064.4	79.0 %
OPERATIONS	1697.8	6.1 %	16.7	0.1 %	167.8	0.6 %	1882.5	6.8 %
HEALTH PHYSICS	636.1	2.3 %	24.2	0.1 %	1105.5	4.0 %	1765.8	6.4 %
SUPERVISORY	418.8	1.5 %	18.1	0.1 %	78.0	0.3 %	514.9	1.8 %
ENGINEERING	523.8	1.9 %	337.5	1.2 %	791.1	2.8 %	1652.4	5.9 %
TOTALS	6038.4	21.7 %	2359.2	8.5 %	19482.4	69.8 %	27880.0	100.0 %
<u>PRESSURIZED WATER REACTORS</u>								
MAINTENANCE	2422.0	13.2 %	1590.0	8.7 %	8750.8	47.7 %	12762.8	69.6 %
OPERATIONS	883.4	5.4 %	41.7	0.2 %	191.7	1.0 %	1216.8	6.6 %
HEALTH PHYSICS	611.9	3.3 %	77.5	0.4 %	1317.8	7.2 %	2007.3	10.9 %
SUPERVISORY	211.3	1.2 %	20.1	0.1 %	207.5	1.1 %	438.9	2.4 %
ENGINEERING	310.8	1.7 %	175.6	1.0 %	1432.6	7.8 %	1918.7	10.5 %
TOTALS	4538.2	24.8 %	1904.8	10.4 %	11900.5	64.8 %	18344.5 <sup>A</sup>	100.0 %
<u>ALL LIGHT WATER REACTORS</u>								
MAINTENANCE	5183.8	11.2 %	3552.7	7.7 %	26090.7	56.4 %	34827.2	75.3 %
OPERATIONS	2681.3	5.8 %	58.4	0.1 %	359.6	0.8 %	3099.3	6.7 %
HEALTH PHYSICS	248.0	2.7 %	101.7	0.2 %	2423.4	5.3 %	3773.1	8.2 %
SUPERVISORY	630.1	1.4 %	38.2	0.1 %	285.5	0.6 %	953.8	2.1 %
ENGINEERING	834.4	1.8 %	513.0	1.1 %	2223.7	4.8 %	3571.1	7.7 %
TOTALS	10577.6	22.9 %	4264.0	9.2 %	31382.9	67.9 %	46224.5 <sup>A</sup>	100.0 %

<sup>A</sup> The remaining 5,191.2 man-rems of the total doses shown in Table 8 were not categorized by personnel occupation by the Indian Point 1 & 2, Point Beach 1 & 2, and Surry 1 & 2 plants.

higher than those normally experienced in the work place. Complementary to this, information obtained from many animal and cell biology studies have greatly enhanced our knowledge and understanding of the biological effects of ionizing radiation. Although using this information to estimate risks in the work place introduces uncertainties, these uncertainties can be dealt with in such a manner that the risk is not likely to be underestimated. Thus, the discussion below is likely to overstate the health implications rather than understate them.

Cancer induction as a result of radiation exposure has been examined by many organizations having scientific and medical expertise in the subject. One of these, the National Academy of Sciences (NAS), completed a comprehensive review of the biological effects of ionizing radiation in 1980 and published its findings (Ref. 12). Based on this report, a large working population receiving one million man-rem might suffer an estimated 100 to 200 additional cancers over the remaining years of their lives. This risk estimate can be applied to the 53,796 man-rem shown in Table 7 and the 80,331 workers who received measurable exposures. The result is that for the total work force exposed at commercial LWRs in 1980, the number of additional cancer deaths would be less than ten. This addition is made to the 12,000 deaths or so that would occur in this approximately 80,000 workers normally without exposure to this amount of radiation. Perhaps more meaningful to the individual workers are the health implications to the worker receiving the average dose of 0.67 rems and the maximum dose of 9 rems or so during 1980. The estimated risk of dying of cancer during the remainder of life is one chance in 10,000 for the average dose and one chance in 1,000 for the highest dose. Should a worker receive 0.67 rems per year continuously during his entire working career his risk of dying from cancer will increase by about 2% of the normal risk. These risks can be compared to the American Cancer Society's estimates of one chance in four of having cancer and one chance in seven of dying of cancer.

The potential genetic effects from a worker population receiving about 50,000 man-rem is very small compared to genetic damages that normally occur spontaneously in this population. Based again on the 1980 NAS report, from zero to four serious genetic diseases could be induced in first generation children of the 80,000 exposed\* workers and from three to 60 in all future generations. This number is compared to the approximately 100,000 serious genetic defects that occur normally in one million live births.

### 3.4 High Temperature Gas Cooled Reactor (HTGR)

The only HTGR operating in the United States is the Fort St. Vrain plant near Denver, Colorado. It is owned by the Public Service Company of Colorado who was licensed to operate the plant on December 21, 1973. The 330 MWe (net) rated plant achieved initial criticality on January 31, 1974, and began generating electricity in December 1976. However, the plant did not declare commercial operability until July 1, 1979 and it is still restricted to a 70% power level, except for testing.

\* Assuming that each of them will have one child in the future.

As shown in the Table 11, annual whole body doses incurred by workers at the plant have been minimal. No one has exceeded an annual dose of 0.25 rems, and the average dose per worker remains at about 0.05 rems. For the seven years ending on December 31, 1980, the total collective dose for workers at the site was 18.6 man-rems, and a total of 207.5 megawatt-years of electricity had been generated. This yields a seven-year average of about 0.1 man-rems per megawatt-year. The average value of this parameter for LWRs is eighteen times as much (Table 3).

TABLE 11  
ANNUAL DOSES AT FORT ST. VRAIN  
1974 - 1980

Year	No. of Individuals with Annual Doses in Ranges (Rems)			Total No. of Individuals Monitored	Annual Collective Dose (Man-Rems)	Gross MW-Yrs Generated	Average Measurable Dose Per Worker (Rems)
	No Measurable Dose	Measurable <0.10	0.10-0.25				
1974	1597	63	1	1,661	3.3	0.0	0.05
1975	1263	0	0	1,263	0.0	0.0	0.00
1976	1362	25	0	1,387	1.3	2.8	0.05
1977	946	55	1	1,002	2.9	29.8	0.05
1978	896	34	0	930	1.7	75.7	0.05
1979	1149	170	2	1,271	8.8	16.0	0.05
1980	902	57	1	960	3.0	83.2	0.05

4. TERMINATION DATA SUBMITTED PURSUANT TO 10 CFR §20.408

4.1 Termination Reports, 1969-1980

In 1969 the NRC (then the Atomic Energy Commission) began requiring operating nuclear power facilities and three other types of licensees\* to submit personnel identification and exposure information upon the termination of each monitored person's employment or work assignment in the licensee's facility. The appropriate information on each report is manually coded and entered into the Commission's computerized Radiation Exposure Information and Reporting System at Oak Ridge, Tennessee. The data are retrievable through numerous ways - social security number, name, facility, etc. - which allows statistical analysis of the data, as well as the tracing of individual dose histories. During the years that this information has been collected, some 630,000 termination records have been received for approximately 170,000 individuals who have been reported as having terminated their employment at nuclear power plants. The figures given for the number of reports and the number of individuals are different because numerous individuals have been terminated more than once over the years and because some individuals may have had external doses reported for more than one part of the body, as well as estimates of internal depositions of radioactive material, each of which is counted as one record. Table 12 provides a breakdown of this information for

\* Industrial radiographers; fuel processors, fabricators, and reprocessors; and manufacturers and distributors of specified quantities of byproduct material.



individuals terminating during each of the eleven years and shows that the number of such records continues to increase each year. This indicates a growing industry need for workers even though the number of operating reactors is increasing very slowly.

TABLE 12  
TERMINATION REPORTS FOR REACTOR PERSONNAL  
1969 - 1980

Year	Number of Termination Records	Number of Terminating Individuals
1969	790	730
1970	2,130	1,910
1971	2,350	2,200
1972	4,500	3,890
1973	11,530	9,070
1974	16,950	11,600
1975	38,380	22,630
1976	63,590	35,290
1977	80,400	36,550
1978	84,540	37,100
1979	111,030	47,080
*1980	130,910	57,710

#### 4.2 Transient Workers per Calendar Quarter

One use that is being made of the information contained in the termination reports is the examination of the doses being received by short-term workers. Since nearly half of the termination reports indicated periods of exposure that were less than 90 days, it is possible that several thousand individuals could have been employed by two or more licensees during the same calendar quarter. Thus, by defining a "transient" worker to be a radiation worker who began and terminated employment at two or more different licensed facilities within one calendar quarter, one could examine the doses of those workers most likely to approach the quarterly limits without their present employer's knowledge since they move so rapidly among facilities.

Table 13 displays some of the information gathered from these termination reports that were submitted by the licensed nuclear power facilities. The number of these workers has increased more than twentyfold during the five years 1972 through 1976, but now appears to be levelling off at about 1500. This reflects the rate of growth of the nuclear power industry and its need for short-term workers. One can see from the top part of the table that the average individual dose (which is close to being a quarterly dose for most of these workers) has shown a decreasing trend during this time and fell to its lowest value of 0.44 rems in 1980.

\* All of the termination data for individuals terminating during 1980 has not yet been entered into the REIR System.

TABLE 13

TRANSIENT WORKERS PER CALENDAR QUARTER  
AT NUCLEAR POWER FACILITIES

1972 - 1980\*

Year	No. of Commercial Reactors	No. of Workers Terminated by		Collective Dose (Man-rem)	Average Dose (Rems)
		Two or More Licensees	Four Licensees		
1972	18	57	57	57	1.00
1973	24	146	123	123	0.84
1974	34	285	157	157	0.56
1975	44	684	493	493	0.72
1976	53	1,257	889	889	0.71
1977	57	1,435	851	851	0.59
1978	64	1,500	680	680	0.45
1979	67	1,754	802	802	0.46
1980	69	1,706	743	743	0.44

Year	No. of Workers Terminated by Two Licensees	Collective Dose (Man-rem)	Average Dose (Rems)	No. of Workers Terminated by Three Licensees	Collective Dose (Man-rem)	Average Dose (Rems)	No. of Workers Terminated by Four Licensees	Collective Dose (Man-rem)	Average Dose (Rems)
1973	133	108	0.81	11	13	1.18	2	2	1.00
1974	255	132	0.52	28	24	0.86	2	1	0.50
1975	609	427	0.70	70	62	0.89	5	4	0.80
1976	1,095	720	0.66	145	146	1.01	17	23	1.35
1977	1,271	718	0.56	147	115	0.78	17	18	1.06
1978	1,303	590	0.45	165	75	0.45	32	15	0.47
1979	1,527	647	0.43	178	130	0.73	49	28	0.51
1980*	1,642	622	0.43	201	95	0.47	43	26	0.60

\* Data for 1980 may not be 100% complete.

The lower half of the table breaks down the information shown in the first part and presents the doses of the workers employed by two, three and four or more different reactor licensees. One can see that the majority of these workers were reported by two different licensees during a quarter, while the smaller number of those terminated by three or more licensees generally showed higher average doses. Examinations of these records have revealed that some individuals have worked for as many as five different NRC licensees during one calendar quarter. However, only one instance was found in 1980 in which a worker slightly exceeded his quarterly limit of three rems as a result of his working at two different licensed facilities within one calendar quarter. This was because the dose that he had received while employed by the first utility was revised upward later in the year. This resulted in his receiving a quarterly dose of 3.1 rems. That is not to say that no other workers' doses have exceeded the quarterly limit because the records of those who were employed by a second licensee for a period spanning the end of a calendar quarter could not be examined in this manner, and the records of those employed by other than the four categories of NRC licensees are not submitted to the NRC.

#### 4.3 Transient Workers per Calendar Year

Since the number of transient workers per calendar quarter comprise only a small percentage of the total number of individuals terminating each year, it was decided to change the criteria such that the records of more workers would be examined. This was done by selecting the records of all individuals who began and terminated two or more periods of employment with at least two different reactor facilities within one calendar year and by summing each worker's whole body doses. An examination of this data would allow one to determine the number and average dose for these "annual transients." Table 14 presents the number and doses of these "annual transients" that was found among the individuals terminating during each of the four years 1977 through 1980. In 1980 the number of these workers increased by about 600 workers over the 3,200 that was found in previous years. The average dose, however, remained at about one rem. The lower portion of the table shows the number and doses of workers that were terminated by two, three and four or more different reactor licensees during each year. One can see that the average dose of workers employed by two licensees increased to 0.89 rems, while the average dose of workers employed by four or more licensees has continued to decline to a value of 1.69 rems.

In order to determine the impact that the inclusion of these individuals in each of two or more licensee's annual reports had on the statistics obtained from the compilation of the annual reports into one annual summary (Table 7) for all nuclear power facilities, which was a problem mentioned in Section 3.1, Tables 15a and 15b are presented. Table 15a shows the actual distribution of these transient workers' doses as determined from the above-described termination reports and compares it with the distribution of the whole body doses as they would have appeared in a compilation of the annual statistical reports submitted by each of the nuclear power facilities. During the three years 1977-1979 there were about 3,200 workers each year, but because they worked at two or more nuclear power facilities during each year, they were counted as being some 8,000 workers. Some individuals were reported by as many as nine different facilities. In 1980, there were 3,748

TABLE 14  
 TRANSIENT WORKERS PER CALENDAR YEAR  
 AT NUCLEAR POWER FACILITIES

1977 - 1980

Year	No. of Commercial Reactors	No. of Workers Terminated by Two or More Licensees	Collective Dose (Man-rem)	Average Dose (Rems)
1977	57	3,161	3,776	1.29
1978	64	3,171	3,192	1.01
1979	67	3,190*	3,014*	0.94
1980	69	3,748*	3,877*	1.03

Year	No. of Workers Terminated by Two Licensees		No. of Workers Terminated by Three Licensees		No. of Workers Terminated by Four or More Licensees		Average Dose (Rems)
	No. of Workers Terminated by Two Licensees	Collective Dose (Man-rem)	No. of Workers Terminated by Three Licensees	Collective Dose (Man-rem)	No. of Workers Terminated by Four or More Licensees	Collective Dose (Man-rem)	
1977	2,166	1,987	572	842	423	947	2.24
1978	2,107	1,477	608	779	456	936	2.06
1979	2,286*	1,690*	565*	666*	339*	658*	1.94
1980	2,371*	2,373*	618*	730*	459*	774*	1.89

\*This data may be incomplete because all of the termination data for the years 1979 and 1980 may not have been computerized when this table was compiled.

**TABLE 15a**  
**ACTUAL AND COMPILED DOSE DISTRIBUTIONS OF**  
**TRANSIENT WORKERS PER CALENDAR YEAR AT LWRS**

Type of Distribution and Year	Number of Individuals with Whole Body Doses in the Ranges (Rems)																		Total Workers	Total Man-Rems	Avg. Dose (Rems)	Avg. Meas. Dose (Rems)															
	Less than Measurable	Measurable <0.10	0.10	0.25	0.50	0.75	1.00	1.00	1.00	2.00	2.00	3.00	3.00	4.00	4.00	5.00	5.00	6.00					6.00	7.00	7.00	8.00	8.00	9.00	9.00	10.00	10.00	11.00	11.00	12.00	>12.0		
	228	782	300	236	184	151	500	381	213	100	50	23	11	2	6.00	7.00	8.00	9.00					10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	
Actual Distribution of Transients - 1977	228	782	300	236	184	151	500	381	213	100	50	23	11	2	6.00	7.00	8.00	9.00	10.00	11.00	12.00													3,161	3,776	1.19	1.29
Compiled Distribution of Transients - 1977	1,684	2,357	804	788	552	417	1,019	982	55	5	5																						7,935	9,776	0.48	0.90	
Actual Distribution of Transients - 1978	302	869	316	288	186	144	482	293	159	106	46	15	2	1																			3,187	3,193	1.01	1.11	
Compiled Distribution of Transients - 1978	2,025	2,402	916	780	485	377	859	248	51	2																							8,164	3,193	0.39	0.62	
Actual Distribution of Transients - 1979	312	713	317	300	229	212	541	339	180	46	24	6	1																				3,190	3,014	0.94	1.06	
Compiled Distribution of Transients - 1979	1,832	2,171	1,020	846	678	375	814	225	35	2	1																						7,999	3,014	0.38	0.49	
Actual Distribution of Transients - 1980	435	829	387	301	234	184	603	402	223	108	22	11	4	3	1																		3,748	3,877	1.04	1.17	
Compiled Distribution of Transients - 1980	2,344	2,516	1,045	891	606	457	1,066	324	41	15	1	3	1																				9,340	3,877	0.42	0.56	

**TABLE 15b**  
**EFFECTS OF TRANSIENT WORKERS ON ANNUAL STATISTICAL COMPILATIONS**

Type of Distribution and Year	Number of Individuals with Whole Body Doses in the Ranges (Rems)																		Total Workers	Total Man-Rems	Avg. Dose (Rems)	Avg. Meas. Dose (Rems)															
	Less than Measurable	Measurable <0.10	0.10	0.25	0.50	0.75	1.00	1.00	1.00	2.00	2.00	3.00	3.00	4.00	4.00	5.00	5.00	6.00					6.00	7.00	7.00	8.00	8.00	9.00	9.00	10.00	10.00	11.00	11.00	12.00	>12.0		
Compiled Statistical Distribution - 1977	27,671	15,623	6,760	5,179	3,300	2,500	6,174	2,838	1,130	569	141	66	36	21	6																			71,804	32,731	0.46	0.74
Adjusted Statistical Distribution - 1977	26,305	13,048	6,246	4,647	2,932	2,234	5,661	2,857	1,288	661	186	89	47	23	6																			67,130	32,643	0.48	0.80
Compiled Statistical Distribution - 1978	30,278	17,785	7,002	5,537	3,410	2,507	6,415	2,989	1,079	418	67	28	8																				2	77,523	31,910	0.41	0.68
Adjusted Statistical Distribution - 1978	28,555	16,252	6,402	5,043	3,081	2,274	6,018	3,036	1,189	513	113	39	10	1																			2	72,528	31,823	0.44	0.72
Compiled Statistical Distribution - 1979	46,236	24,421	9,848	8,159	5,189	3,479	7,934	3,307	1,251	477	86	28	13	2																			110,431	39,785	0.36	0.62	
Adjusted Statistical Distribution - 1979	44,716	22,963	9,145	7,913	4,740	3,316	7,661	3,421	1,366	521	109	34	14	2																			106,022	39,591	0.38	0.65	
Compiled Statistical Distribution - 1980	64,449	29,606	11,761	9,820	6,082	4,518	11,474	4,516	1,837	686	192	98	15	3																			134,838	63,799	0.40	0.67	
Adjusted Statistical Distribution - 1980	52,540	28,008	11,093	9,230	5,710	4,245	10,981	4,593	1,719	780	213	106	21	6	1																		129,246	63,645	0.42	0.70	

<sup>a</sup>Based on data submitted by all reactors, although all of them may not have been in commercial operation for a full year.  
<sup>b</sup>Collective dose found by summing the actual doses reported for these workers on their termination reports.  
<sup>c</sup>Distribution found by subtracting the actual from the compiled distribution shown in Table 15a and then subtracting this difference from the compiled statistical distribution shown in Table 15b.

of these transients who were counted as 9,340 individuals. They incurred a collective dose of 3,877 man-rem which resulted in an average measurable dose of 1.17 rems.

Table 15b illustrates the impact that the multiple reporting of these transient workers had on the staff's compilations of the annual statistical reports for the last four years. Since each nuclear power facility reports the distribution of the doses received by workers while monitored by that particular facility during the year, one would expect that a compilation of these reports would result in individuals being counted several times in dose ranges lower than the range in which their total accumulated dose (the sum of the personnel monitoring results incurred at each facility during the year) would actually place them. Thus, while the total collective dose would remain about the same, the total number of workers and the average dose could be affected by this multiple reporting. This was found to be true.

In each of the four years shown, there were about 3,500 too many workers indicated as having received measurable doses, and too few of these workers were shown in the higher dose ranges. For example, in 1977 the compiled annual reports indicated that 270 individuals received doses greater than five rems, while the adjusted distribution indicated that there were at least 451 such workers. This resulted in an average measurable dose of 0.81 rems rather than the 0.74 rems obtained from the compiled reports. Although the number of these transient workers remained about the same during 1978 and 1979, the number of them with doses exceeding five rems decreased considerably during these two years. In 1979 the compiled annual reports indicated 130 workers with doses exceeding five rems, while the adjusted compilation indicated some 160 such workers. In 1980, however, the number of these workers increased such that 347 workers with doses greater than five rems were found in the adjusted compilation. But since the number of these transient workers receiving measurable doses is only about 5% of the total number receiving measurable doses during the year, their impact on most of the statistics derived from compilations of the annual summary reports is not very great.

## 5. PERSONNEL OVEREXPOSURES

Table 16 presents the number and types of personnel overexposures that have been reported by power reactors pursuant to 10 CFR §20.403 and §20.405 since 1971. In 1980, the number of overexposed individuals increased over last year's figure, but none of the whole body doses exceeded five rems. Most of the individuals overexposed in 1980 were involved in steam generator testing and repair work at Southern California Edison's San Onofre plant during the second and third quarters. The licensee failed to properly monitor the area of the body (the top of the head) most likely to receive the highest dose. Recalculation of the dose to account for this resulted in some 42 individuals possibly receiving doses between 3.2 and 4.4 rems during the second quarter and 24 individuals receiving doses between 3.2 and 4.9 rems during the third quarter.

TABLE 16  
**PERSONNEL OVEREXPOSURES AT POWER REACTORS**

1971 - 1980

Year	Number of Workers Overexposed to External Radiation	Sum of Whole Body Doses (Man-rams)	Maximum Whole Body Dose (Rems)	Number of Workers Exposed to Excessive Concentrations of Radioactive Material	Maximum Exposure
1971	2	4.5	3.1	21	6.1 rem (thyroid)
1972	16	49.7	5.1	2	2000 MPC-hrs
1973	19	61.2	4.0	0	—
1974	43	155.9	6.1	12	433 MPC-hrs
1975	14	44.2	3.8	7	13.5 rem (lung)
1976	20	74.3	10.1	1	248 MPC-hrs
1977	27	52.9	3.6	0	—
1978	9	71.1	27.3	0	—
1979	21	43.4	10.1	0	—
1980	73	266.2	4.9	0	—

## REFERENCES\*

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\* Report is available for purchase from the National Technical Information Service, Springfield, Virginia 22161, and/or the NRC/GPO Sales Program, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.



**APPENDIX A\***

**Personnel, Dose and Power Generation Summary**

**1969 - 1980**

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\*A discussion of the methods used to collect and calculate the information contained in this appendix is given in Section 2.1.

Appendix A  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-remc	Man-remc per Work Function		Man-remc per Contractor	Man-remc per Station & Utility	Average Dose per Worker (Rems)	Man-remc per MW-Yr
						Operations	Maint. & Others				
ARKANSAS 1 Docket 50-313; DPR-51 1st commercial operation 12/74 Type - PWR Capacity - 836 MWe	1975	588.0	76.5	147	21					0.14	0.0
	1976	464.6	56.6	476	289	27	262	100	189	0.61	0.6
	1977	610.3	76.8	601	256	28	228	111	145	0.43	0.4
	1978	627.2	77.5	722	189	32	157	109	80	0.26	0.3
	1979	397.0	55.3	1321	369	54	315	252	117	0.28	0.9
	1980	452.8	63.7	1233	342	81	261	213	129	0.28	0.8
BEAVER VALLEY 1 Docket 50-334; DPR-66 1st commercial operation 10/76 Type - PWR Capacity - 811 MWe	1977	355.6	57.0	331	87	8	79	58	29	0.26	0.2
	1978	304.2	40.8	646	190	11	179	152	38	0.29	0.6
	1979	221.0	40.0	704	132	22	110	67	65	0.19	0.6
	1980	39.8	6.8	1817	553	76	477	477	76	0.30	13.9
BIG ROCK POINT Docket 50-155, DPR-6 1st commercial operation 3/63 Type - BWR Capacity - 64 MWe	1969	48.1		165	136					0.82	2.8
	1970	43.5		290	194					0.67	4.5
	1971	44.4		260	184					0.71	4.1
	1972	43.5		195	181					0.93	4.2
	1973	50.9		241	285			119	166	1.18	5.6
	1974	40.7	70.3	281	276	54	222	42	234	0.98	6.8
	1975	35.1	59.8	300	180	58	122	20	160	0.60	5.1
	1976	29.5	50.1	488	289	82	207	105	184	0.59	9.8
	1977	43.6	73.4	465	334	94	240	60	274	0.72	7.7
	1978	48.5	77.9	285	175	93	82	9	166	0.61	3.6
	1979	13.0	23.5	623	455	89	366	102	353	0.73	35.0
	1980	48.9	79.0	599	354	16	538	91	263	0.59	7.2
BROWNS FERRY 1, 2, 3 Docket 50-259, 50-260, 50-296; DPR-33, -52, -68 1st commercial operation 8/74, 3/75, 3/77 Type - BWR Capacity - 1065, 1065, 1065 MWe	1975	161.7	17.8	2380	325					0.14	2.0
	1976	337.6	26.9	2207	234	60	803	249	614	0.11	0.7
	1977	1327.5	73.0	1858	863	4	1788	259	1533	0.46	0.6
	1978	1992.1	73.5	2376	1792	0	1667	289	1378	0.75	0.9
	1979	2393.0	79.1	2639	1667	4	1821	49	1776	0.62	0.7
	1980	2182.1	73.6	2712	1825					0.67	0.8

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rems	Man-rems per Work Function		Man-rems per Contractor	Man-rems per Personnel Type Station & Utility	Average Dose per Worker (Rems)	Man-rems per MW-Yr
						Operations	Maint. & Others				
BRUNSWICK 2, 1 Docket 50-324, 50-325; DPR-62, -71 1st commercial operation 11/75, 3/77 Type - BWR Capacity - 790, 790 MWe	1976	297.2	56.0	1265	326	15	311	222	104	0.26	1.1
	1977	291.1	55.7	1512	1119	48	1071	782	337	0.74	3.8
	1978	1173.1	83.7	1458	1004	99	905	695	309	0.69	0.8
	1979	810.0	60.1	2891	2602	97	2505	2074	528	0.90	3.2
	1980	687.2	52.2	3788	3870	111	3759	3098	772	1.02	5.6
CALVERT CLIFFS 1, 2 Docket 50-317, 50-318; DPR-53, -69 1st commercial operation 5/75, 4/77 Type - PWR Capacity - 810, 825 MWe	1976	753.4	95.2	507	74	28	46	8	66	0.15	0.1
	1977	583.0	72.1	2265	547	36	511	224	323	0.24	0.9
	1978	1188.5	75.8	1391	500	13	487	143	357	0.36	0.4
	1979	1161.0	74.0	1428	805	33	772	423	382	0.56	0.7
	1980	1309.9	84.1	1496	677	15	662	402	275	0.45	0.5
COOK 1, 2 Docket 50-315; DPR-58, -74 1st commercial operation 8/75, 7/78 Type - PWR Capacity - 1044 MWe 1032 MWe	1976	807.4	83.1	395	116	13	103	71	45	0.29	0.1
	1977	573.0	76.1	802	299	21	278	138	161	0.37	0.5
	1978	744.8	73.6	778	336	49	287	139	197	0.43	0.4
	1979	1373.0	65.3	1445	718	45	673	454	264	0.50	0.5
	1980	1552.4	74.1	1345	493	46	447	323	170	0.37	0.3
COOPER STATION Docket 50-298; DPR-46 1st commercial operation 7/74 Type - BWR Capacity - 764 MWe	1975	456.4	83.6	579	117	30	87	19	98	0.20	0.2
	1976	433.3	75.5	763	350	39	311	210	140	0.46	0.8
	1977	538.2	86.2	315	197	50	147	66	131	0.63	0.4
	1978	576.0	91.0	297	158	40	118	58	100	0.53	0.3
	1979	591.0	87.6	426	221	50	171	89	132	0.52	0.4
1980	448.3	71.2	785	859	70	789	644	215	1.09	1.9	
CRYSTAL RIVER 3 Docket 50-302; DPR-72 1st commercial operation 3/77 Type - PWR Capacity - 797 MWe	1978	311.5	41.4	643	321	8	313	244	77	0.50	1.0
	1979	453.0	58.9	1150	495	29	466	346	149	0.43	1.1
	1980	402.1	53.2	1053	625	24	601	382	243	0.59	1.6

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Personnel Type	Average Dose per Worker (Rems)	Man-rem per MW-Yr
						Operations	Maint. & Others			
DAVIS-BESSE 1 Docket 50-346; NPF-3 1st commercial operation 11/77; Type - PWR Capacity - 892 MWe	1978	326.4	48.7	421	48	13	35	14	34	0.11
	1979	381.0	67.0	304	30	8	22	5	25	0.10
	1980	256.4	36.2	1283	154	4	150	121	33	0.12
DRESDEN 1, 2, 3 Docket 50-010, 50-237, 50-249; DPR-2, -19, -25 1st commercial operation 7/60, 7/70, 11/71 Type - BWR Capacity - 197, 772, 773 MWe	1969	99.7			286					
	1970	163.1			143					2.9
	1971	394.5			715					0.9
	1972	1243.7			728					1.8
	1973	1112.2			939	143	796	344	595	0.6
	1974	842.5	54.9	1341	1662			57	1605	0.8
	1975	708.1	54.6	1594	3423	271	3152	2252	1171	2.0
	1976	1127.2	80.8	2310	1680	228	1452	749	931	4.8
	1977	1132.9	77.0	1746	1693	316	1377	693	1000	1.5
	1978	1242.2	79.5	1862	1529	204	1325	619	910	1.5
	1979	1013.0	74.7	1946	1800	191	1609	641	1159	1.2
	1980	1074.4	55.0	2407	2105	236	1869	1093	1012	1.8
				2717						
DUANE ARNOLD Docket 50-331; DPR-4q 1st commercial operation 2/75 Type - BWR Capacity - 515 MWe	1976	305.2	78.0	350	105	14	91	62	43	0.30
	1977	343.6	78.9	538	299	36	263	220	79	0.56
	1978	149.2	33.2	1112	974	59	915	932	42	0.88
	1979	352.0	78.0	757	275	35	240	219	56	6.5
	1980	339.1	73.3	1108	671	32	639	570	101	0.8
										2.0
FARLEY 1 Docket 50-348; NPF-2 1st commercial operation 12/77 Type - PWR Capacity - 814 MWe	1978	713.8	86.5	527	108	39	69	34	74	0.20
	1979	211.0	28.6	1227	643	108	535	460	183	0.52
	1980	557.3	69.3	1330	435	106	329	185	250	0.33

\* Dresden 1 is shutdown, but it is still included in the count of commercial reactors shown elsewhere in the report.

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rems	Man-rems per Work Operations	Man-rems per Function Maintenance & Others	Man-rems per Contractor	Man-rems per Personnel Type Station & Utility	Average Dose per Worker (Rems)	Man-rems per MW-Yr
FITZPATRICK Docket 50-333; DPR-59 1st commercial operation 7/75 Type - BWR Capacity - 802 MWe	1976	489.0	71.6	600	202	14	1066	937	143	0.34	0.4
	1977	460.5	68.4	1380	1080	166	743	597	312	0.78	2.3
	1978	497.0	72.1	904	909	169	690	538	321	1.00	1.8
	1979	349.0	50.8	850	859	118	1922	1808	232	1.01	2.5
1980	509.5	70.3	2056	2040					0.99	4.0	
FORT CALHOUN Docket 50-285; DPR-40 1st commercial operation 9/73 Type - PWR Capacity - 465 MWe	1974	294.0	83.5	327	71			24	47	0.22	0.2
	1975	252.3	67.4	469	294	28	285	92	202	0.63	1.2
	1976	265.9	69.5	516	313	33	264	38	275	0.61	1.2
	1977	351.8	79.4	535	297	59	351	72	225	0.56	0.8
	1978	342.3	75.1	596	410	19	107	151	259	0.59	1.2
	1979	440.0	95.7	451	126	38	630	47	79	0.28	0.3
	1980	242.3	60.4	891	668			426	242	0.75	2.8
	1971	327.8		340	430	69	361	108	322	1.26	1.3
1972	293.6		677	1032	71	961	278	754	1.52	3.5	
1973	409.5		319	224	55	169	84	140	0.70	0.5	
1974	253.7	62.4	884	1225					1.39	4.8	
1975	366.2	76.7	685	636	29	607	210	426	0.84	1.5	
1976	248.8	58.2	758	401	15	386	120	281	0.76	1.1	
1977	365.6	85.5	530	450	20	430	98	352	0.68	1.2	
1978	386.5	80.6	657	592	68	524	207	385	0.67	1.7	
1979	355.0	72.8	878	708	64	644	302	406	0.66	1.9	
1980	370.5	76.0	1073								
HADDAM NECK (CONN. YANKEE) Docket 50-213; DPR-61 1st commercial operation 1/68 Type - PWR Capacity - 550 MWe	1969	438.5		138	106			27	79	1.77	0.2
	1970	424.7		734	689			463	226	0.94	1.6
	1971	502.2		289	342			166	176	1.18	0.7
	1972	515.6		355	325			181	144	0.91	0.6
	1973	293.1		951	697			544	153	0.73	2.4
	1974	521.4	91.2	550	201					0.36	0.4
	1975	494.3	89.9	795	703	20	683	253	196	0.88	1.4
	1976	482.9	82.5	644	449	5	444	440	201	0.70	0.9
	1977	480.7	83.9	894	641	59	582	440	201	0.72	1.3
	1978	563.4	98.6	117	117	25	92	783	378	0.54	0.2
1979	493.0	87.5	1226	1161	73	1088	1076	277	0.95	2.4	
1980	426.8	75.0	1860	1353	175	1178			0.73	3.2	

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Personnel Type		Average Dose per Worker (Rems)	Man-rem per MW-Yr
						Operations	Maint. & Others	Contractor	Station & Utility		
HATCH 1,2 <sup>a</sup> Docket 50-321; DPR-57; NPF-05 1st commercial operation 12/75; 9/79 Type - BWR Capacity - 764, 767 MWe	1976	496.3	83.8	630	134	79	55	4	130	0.21	0.3
	1977	445.8	66.3	1303	465	96	369	220	245	0.36	1.0
	1978	513.0	72.8	1304	248	88	160	52	196	0.19	0.5
	1979	401.0	54.6	2131	582	85	497	382	200	0.27	1.5
	1980	1008.7	70.9	1930	449	143	306	163	286	0.23	0.4
HUMBOLDT BAY <sup>b</sup> Docket 50-133; DPR-7 1st commercial operation 8/63 Type - BWR Capacity - 63 MWe	1969	44.6		125	164	69	95	12	152	1.31	3.7
	1970	49.3		115	209	130	79	37	172	1.82	4.2
	1971	39.6		140	292	114	178	65	227	2.09	7.4
	1972	43.1		127	253	81	172	57	196	1.99	5.9
	1973	50.1		210	266	60	206			1.27	5.3
	1974	43.4	83.8	296	318	103	215			1.07	7.3
	1975	45.3	83.9	265	339	131	208			1.28	7.5
	1976	23.5	46.4	523	683	37	646			1.31	29.1
	1977	0	0	1063	1904	24	1880	112	227	1.79	-
	1978	0	0	320	335	13	322	50	633	1.05	-
	1979	0	0	135	31	11	20	145	190	0.23	-
	1980	0	0	142	22	10	12	2	19	0.15	-
	INDIAN POINT 1, 2, 3 <sup>**</sup> Docket 50-3, 50-247, 50-286; DPR-5, -26, -64 1st commercial operation 10/62, 8/73, 8/76 Type - PWR Capacity - 0, 859, 911 MWe	1969	206.2			298					
1970		43.3			1639						37.8
1971		154.0			768						6.0
1972		142.3			967						6.8
1973		0		2998	5262	709	4553	2847	2415	1.75	-
1974		556.1	59.4	1019	910	166	539	47	658	0.89	1.6
1975		584.4	74.8	891	705	154	1796	172	1778	0.79	1.2
1976		273.9	34.8	1590	1950	189	881	383	687	1.23	7.1
1977	1278.3	75.3	1391	1070	260	1746	759	1247	0.77	0.8	
1978	1172.3	67.8	1909	2006					1.05	1.7	

<sup>a</sup>Hatch 2 was counted for the first time in 1980.

<sup>b</sup>Humboldt Bay is shutdown indefinitely. It is still included in the count of commercial reactors.

\* Indian Point 1 was defueled in 1975. It had a capacity of 265 MWe. It is still included in the count of commercial reactors.

\*\* Indian Point 3 was purchased by a different utility and now reports separately.

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Personnel Type		Average Dose per Worker (Rems)	Man-rem per MW-Yr
						Operations	Maint. & Others	Contractor	Station & Utility		
INDIAN POINT 1,* 2 Docket 50-3; 50-247, DPR-5, -26 1st commercial operation 10/62, 8/73 Type - PWR Capacity - 0,856 MWe	1979	574.0	35.7	1349	1279	209	1070	612	667	0.95	2.2
	1980	510.8	32.3	1577	971	181	790	398	573	0.62	1.9
INDIAN POINT 3** Docket 50-286; DPR-64 1st commercial operation 8/76 Type - PWR Capacity - 965 MWe	1979	568.0	66.5	808	636	63	573	482	154	0.79	1.1
	1980	367.3	53.2	977	308	47	261	210	98	0.32	0.8
KEWAUNEE Docket 50-305; DPR-43 1st commercial operation 6/74 Type - PWR Capacity - 522 MWe	1975	401.9	88.2	104	28	1	27	12	15	0.27	0.1
	1976	405.9	78.9	381	270	16	254	193	77	0.71	0.7
	1977	425.0	79.9	312	139	8	131	76	63	0.44	0.3
	1978	466.6	89.5	335	154	11	143	89	65	0.46	0.3
	1979	412.0	79.0	343	127	6	121	79	48	0.37	0.3
	1980	433.8	82.1	401	165	7	158	103	62	0.41	0.4
LACROSSE Docket 50-409; DPR-45 1st commercial operation 11/69 Type - BWR Capacity - 48 MWe	1970	15.3			111			40	71	0.72	7.2
	1971	33.1		218	158					1.14	4.8
	1972	29.2		151	172					1.41	5.9
	1973	24.4		157	221					1.21	9.1
	1974	37.9	81.0	115	139	89	50	6	133	1.42	3.7
	1975	32.0	69.6	165	234	40	71	6	105	0.94	7.3
	1976	21.2	47.6	118	111	40	164	8	216	1.59	5.2
	1977	11.3	33.7	141	224	60	95	6	158	0.90	19.8
	1978	21.6	62.0	182	164	69	121	21	165	1.22	7.6
	1979	24.0	71.8	153	186	65	155	11	207	1.76	7.7
1980	26.4	68.5	124	218	63					8.3	

\*INDIAN POINT 1 was defueled in 1975. It had a capacity of 265 MWe.

\*\*INDIAN POINT 3 was purchased by a different utility and now reports separately.

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Personnel Type		Average Dose per Worker (Rems)	Man-rem per MW-Yr	
						Operations	Maint. & Others	Contractor	Station & Utility			
MAINE YANKEE Docket 50-309; DPR-36 1st commercial operation 12/72 Type - PWR Capacity - 810 MWe	1973	408.7	78.7	782	117			59	58	0.15	0.3	
	1974	432.6	68.7	619	420	64	356	188	232	0.68	1.0	
	1975	542.9	79.9	440	319	15	304	181	138	0.72	0.6	
	1976	712.2	35.0	244	85	27	58	26	59	0.35	0.1	
	1977	617.6	82.2	508	245	46	199	112	133	0.48	0.4	
	1978	642.7	84.1	638	420	54	366	262	158	0.66	0.6	
	1979	537.0	68.4	393	154	70	84	26	128	0.39	0.3	
	1980	527.0	72.2	735	462	117	345	277	185	0.63	0.9	
	MILLSTONE POINT 1 Docket 50-245; DPR-21 1st commercial operation 3/71 Type - BWR Capacity - 654 MWe	1972	377.6		612	596	50	546	340	256	0.97	1.6
		1973	225.1		1184	663	125	538	422	241	0.56	2.9
1974		430.3	79.1	2477	1430					0.58	3.3	
1975		465.4	75.6	2987	2022					0.78	4.3	
1976		449.8	76.1	1377	1194	54	1140	955	239	0.87	2.6	
1977		575.7	89.6	1075	392	118	274	159	233	0.36	0.7	
1978		556.6	87.6	1391	1239	140	1099	907	332	0.89	2.2	
1979		505.0	77.3	1769	1793	198	1595	1326	467	1.01	3.6	
1980		405.8	69.0	3024	2158	100	2058	1864	294	0.71	5.3	
MILLSTONE POINT 2 Docket 50-336; DPR-65 1st commercial operation 12/75 Type - PWR Capacity - 864 MWe		1976	545.7	78.7	620	168	26	142	73	95	0.27	0.3
	1977	518.7	65.7	667	242	38	204	153	89	0.36	0.5	
	1978	536.6	67.3	1420	1621	72	1549	1534	87	1.14	3.0	
	1979	520.0	62.8	757	472	81	391	305	167	0.62	0.9	
	1980	579.3	69.2	892	636	76	560	514	122	0.71	1.1	
	1972	424.4		99	61	40	21	1	60	0.62	0.1	
	1973	389.5		401	176	48	128	67	109	0.44	0.4	
	1974	349.3	74.9	842	349			91	258	0.41	1.0	
MONTICELLO Docket 50-203; DPR-22 1st commercial operation 6/71 Type - BWR Capacity - 536 MWe	1975	344.8	72.2	1353	1353	89	204	51	212	1.00	3.9	
	1976	476.4	91.5	326	1000	135	865	661	339	0.81	0.5	
	1977	425.6	79.9	860	375	62	313	165	210	1.16	2.3	
	1978	459.4	87.2	679	375	62	313	165	210	0.55	0.8	
	1979	522.0	97.6	372	157	62	95	51	106	0.42	0.3	
	1980	411.8	78.2	1114	531	82	449	248	283	0.48	1.3	



Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-REMs	Man-REMs per Work Function		Man-REMs per Personnel Type		Average Dose per Worker (REMs)	Man-REMs per MW-Yr
						Operations	Maint. & Others	Contractor	Utility		
NINE MILE POINT 1 Docket 50-220; DPR-63 1st commercial operation 12/69 Type - BWR Capacity - 610 MWe	1970	227.0		821	44	12	32	17	27	0.05	0.2
	1971	346.5		1006	195	43	152	63	132	0.19	0.6
	1972	381.8		735	285	59	226	28	257	0.39	0.7
	1973	411.0		550	567	139	428	118	449	1.03	1.4
	1974	385.9	70.5	740	824	42	782	279	545	1.11	2.1
	1975	359.0	72.1	649	681	68	613	203	478	1.05	1.9
	1976	484.6	88.2	392	428	52	376	229	199	1.09	0.9
	1977	347.4	59.2	1093	1383	41	1342	883	500	1.26	4.0
	1978	527.7	95.1	561	147	59	255	26	288	0.56	0.6
	1979	354.0	66.1	1326	1497	106	1391	940	557	1.13	4.2
	1980	533.9	92.3	1174	591	75	516	251	340	0.50	1.1
NORTH ANNA 1 Docket 50-338; HPI-04 1st commercial operation 6/78 Type - PWR Capacity - 878 MWe	1979	507.0	61.7	2025	449	78	371	190	259	0.22	0.9
	1980	681.8	86.5	2086	218	128	90	85	133	0.10	0.3
OCONEE 1, 2, 3 Docket 50-269, 50-270, 50-287; DPR-38, -47, -55 1st commercial operation 7/73 9/74, 12/74 Type - PWR Capacity - 860, 860, 860 MWe	1974	650.6	60.1	844	517	18	499	144	373	0.61	0.8
	1975	1838.3	75.5	829	497	72	425	90	407	0.60	0.3
	1976	1561.4	63.0	1215	1026	65	961	219	807	0.84	0.6
	1977	1566.4	65.9	1595	1328	244	1084	294	1034	0.83	0.8
	1978	1909.0	75.8	1636	1393	179	1214	340	1053	0.85	0.7
	1979	1708.0	67.7	2100	1001	123	878	181	820	0.48	0.6
	1980	1703.7	70.1	2124	1055	117	938	162	893	0.50	0.6
	1970	413.6		95	63	21	42	11	52	0.66	0.1
	1971	448.9		249	240	50	190	92	148	0.96	0.5
	1972	515.0		339	582	150	432	167	415	1.72	1.1
1973	424.6		782	1236	195	1041	683	553	1.58	2.9	
1974	434.5	70.4	935	984	166	818	162	822	1.05	2.3	
1975	373.6	73.3	1210	1140	169	971	271	869	0.94	3.0	
1976	456.5	79.3	1582	1078	70	1008	587	566	0.68	2.4	
1977	385.7	70.1	1673	1614	76	1538	1048	566	0.96	4.2	
1978	431.8	74.3	1411	1279	134	1145	696	583	0.91	3.0	
1979	541.0	85.9	1842	467	95	372	135	332	0.55	0.9	
1980	232.9	41.4	1966	1733	97	1636	1182	661	0.88	7.4	

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Personnel Type	Average Dose per Worker (Rems)	Man-rem per MWhr
						Operations	Maint. & Others			
PALISADES Docket 50-255; DPR-20 1st commercial operation 12/71 Type - PWR Capacity - 635 MWe	1972	216.8		975	78	16	1117	472	1.16	0.4
	1973	286.8		774	1133				0.81	3.9
	1974	10.7	5.5	495	627				0.62	58.6
	1975	302.0	64.5	742	306	23	673	587	0.94	1.0
	1976	346.9	55.2	332	100	13	87	77	0.30	2.0
	1977	616.6	91.4	849	764	52	712	591	0.90	0.2
	1978	320.2	49.7	1599	854	99	755	494	0.53	2.4
	1979	415.0	59.9	1307	424	191	233	112	0.32	2.1
	1980	288.3	42.9							1.5
	1975	1234.3	80.9	971	228	180	660	406	0.23	0.2
1976	1379.2	73.0	2136	840	223	1813	662	0.39	0.6	
1977	1052.4	58.7	2827	2036	162	1155	608	0.72	1.9	
1978	1636.3	84.0	2244	1317	245	1143	671	0.59	0.8	
1979	1740.0	84.5	2276	1388	311	1991	706	0.61	0.8	
1980	1374.2	66.3	2774	2302				0.83	1.7	
PILGRIM 1 Docket 50-293; DPR-35 1st commercial operation 12/72 Type - BWR Capacity - 669 MWe	1973	484.0		230	126	49	77		0.55	0.3
	1974	234.1	39.2	454	415				0.91	1.8
	1975	308.1	71.3	473	798	142	656	386	1.69	2.6
	1976	287.8	60.7	1317	2648	66	2582	378	2.01	9.2
	1977	316.6	61.4	1875	3142	146	2996	966	1.68	9.9
	1978	519.5	83.1	1667	1327	157	1170	432	0.80	2.5
	1979	574.0	89.4	2458	1015	131	884	499	0.41	1.8
	1980	360.3	56.2	3549	3626	207	3419	550	1.02	10.1

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Contractor	Man-rem per Station & Utility	Average Dose per Worker (Rems)	Man-rem per MW-Yr
						Operations	Maint. & Others				
POINT BEACH 1, 2 Docket 50-266, 50-301; DPR-24, -27 1st commercial operation 12/70, 10/72 Type - PWR Capacity - 495, 495 MWe	1971	393.4			164						0.4
	1972	378.3		501	580	72	516			1.17	1.5
	1973	693.7		400	588	70	225	81	214	0.74	0.8
	1974	760.2	81.3	339	459	58	312	107	263	1.35	0.4
	1975	801.2	82.9	417	370	63	366	212	217	1.18	0.4
	1976	857.3	86.7	336	429	71	249	111	209	1.03	0.5
	1977	873.9	87.3	610	320	65	579	449	195	0.95	0.3
	1978	914.4	90.9	561	644	60	538	420	178	1.06	0.8
	1979	808.0	80.8		598					1.07	0.8
	1980	727.2	82.5								
PRAIRIE ISLAND 1, 2 Docket 50-282, 50-306; DPR-42, -60 1st commercial operation 12/73, 12/74 Type - PWR Capacity - 503, 500 MWe	1974	181.9	43.9	150	18			5	13	0.12	0.1
	1975	836.0	83.3	477	123	68	379	235	212	0.26	0.1
	1976	725.2	76.6	718	447	73	227	60	240	0.55	0.6
	1977	922.9	87.2	546	300	43	178	48	173	0.42	0.3
	1978	941.1	92.2	594	221	29	151	49	131	0.40	0.2
	1979	865.0	86.0	983	180	40	313	141	212	0.30	0.2
	1980	800.7	79.9		353					0.36	0.4
	1974	958.1	72.3	678	482	114	1504	36	446	0.71	0.5
	1975	833.6	68.4	1083	1618	269	1382	692	926	1.49	1.9
	1976	951.2	73.1	1225	1651	108	923	648	1003	1.35	1.7
1977	970.1	84.0	907	1031	156	1462	373	658	1.14	1.1	
1978	1124.5	88.6	1207	1618	215	1943	722	896	1.34	1.4	
1979	1075.0	84.6	1688	2158	291	4547	1250	908	1.28	2.0	
1980	866.9	64.4	3089	4838			3657	1181	1.57	5.6	
RANCHO SECO Docket 50-312; DPR-54 1st commercial operation 4/75 Type - PWR Capacity - 873 MWe	1976	268.1	30.4	297	58	6	52	17	41	0.19	0.2
	1977	706.4	77.1	515	390	61	329	248	142	0.76	0.5
	1978	607.7	80.5	508	323	76	247	176	147	0.64	0.5
	1979	687.0	91.1	287	126	27	99	64	62	0.44	0.2
	1980	530.9	60.4	890	412	110	302	281	131	0.46	0.8

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Contractor	Man-rem per Personnel Type Station & Utility	Average Dose per Worker (Rems)	Man-rem per MW-Yr
						Operations	Maint. & Others				
ROBINSON 2 Docket 50-261; DPR-23 1st commercial operation 3/71 Type - PWR Capacity - 665 MWe	1972	580.0		245	215	42	173	137	78	0.88	0.4
	1973	455.1		631	695	185	487			0.84	1.5
	1974	578.1	83.3	853	672					0.79	1.2
	1975	501.8	72.7	849	1142					1.34	2.3
	1976	585.5	84.7	597	715	30	685	457	758	1.20	1.2
	1977	511.5	85.2	634	455	52	403	529	232	0.72	0.9
	1978	480.5	72.0	943	963	63	900	794	434	1.02	2.0
	1979	482.0	70.8	1454	1188	60	1128	1379	394	0.82	2.5
	1980	387.3	62.2	2009	1852	79	1773		473	0.92	4.8
	SALEM 1 Docket 50-272; DPR-70 1st commercial operation 6/77 Type - PWR Capacity - 1079 MWe	1978	546.4	55.6	574	122	28	94	32	90	0.21
1979	250.0	25.5	1488	584	100	484	359	225	0.39	2.3	
1980	680.6	69.2	1704	449	55	394	281	168	0.26	0.7	
SAN ONOFRE 1 Docket 50-206; DPR-13 1st commercial operation 1/68 Type - PWR Capacity - 436 MWe	1969	314.1		123	42	10	32	5	37	0.34	0.1
	1970	365.9		251	155	13	174	59	96	0.62	0.4
	1971	362.1		121	50	12	38	3	47	0.41	0.1
	1972	338.6		326	256	29	227	117	139	0.78	0.8
	1973	273.7		570	353	40	313	168	185	0.62	1.3
	1974	377.8	86.1	219	71					0.32	0.2
	1975	389.0	87.4	424	292					0.69	0.7
	1976	297.9	70.2	1330	880	147	733	629	251	0.66	2.9
	1977	281.2	63.7	985	847	77	770	451	396	0.86	3.0
	1978	323.2	80.2	764	401	25	376	234	167	0.52	1.2
1979	401.0	90.2	521	139	23	116	65	74	0.27	0.3	
1980	97.3	22.3	3063	2387	219	2163	2018	369	0.78	24.5	
ST. LUCIE 1 Docket 50-335; DPR-67 1st commercial operation 12/76 Type - PWR Capacity - 777 MWe	1977	649.1	84.7	445	152	26	126	92	60	0.34	0.2
	1978	605.4	76.5	797	337	15	322	140	197	0.42	0.6
	1979	592.0	74.0	907	438	25	413	209	229	0.48	0.7
	1980	627.9	77.5	1074	532	82	450	195	337	0.50	0.8

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-rem	Man-rem per Work Function		Man-rem per Contractor	Man-rem per Station & Utility	Average Dose per Worker (Rems)	Man-rem per MW-Yr	
						Operations	Maint. & Others					
SURRY 1, 2 Docket 50-280, 50-281; DPR-32, -37 1st commercial operation 12/72, 5/73 Type - PWR Capacity - 775, 775 MWe	1973	420.6		936	152	72	812			0.16	0.4	
	1974	717.4	49.8	1715	884	27	1622	106.3	584	0.51	1.2	
	1975	1079.0	70.8	1948	1649	444	2721	1873	1292	0.85	1.5	
	1976	930.7	60.4	2753	3165	348	1959	1380	927	1.15	3.4	
	1977	1139.0	72.2	1860	2307	726	1111	1029	808	1.24	2.0	
	1978	1210.6	77.2	2203	1837	173	3411	2975	609	0.83	1.5	
	1979	343.0	42.3	5065	3584	353	3483	3117	719	C.71	10.4	
	1980	568.2	40.3	5317	3836					0.72	6.6	
THREE MILE ISLAND 1, 2 Docket 50-289; DPR-50, -73 1st commercial operation-9/74, 12/78 Type - PWR Capacity - 776 MWe	1975	675.9	82.2	131	73	23	263	18	55	0.56	0.1	
	1976	530.0	65.4	819	286	15	344	128	217	0.35	0.5	
	1977	664.5	80.9	1122	359	23	481	235	231	0.32	0.5	
	1978	690.0	85.1	1929	504	166	1004	762	408	0.26	0.7	
	1979	266.0	21.9	3975	1170	29	365	234	160	0.29	4.4	
	1980	0.0	0.0	2328	394					0.17	-	
TROJAN Docket 50-344; NPF-1 1st commercial operation 5/76 Type - PWR Capacity - 1080 MWe	1977	792.0	92.6	591	174	30	144	105	69	0.29	0.2	
	1978	205.5	20.6	711	319	81	238	124	195	0.45	1.5	
	1979	631.0	58.1	736	257	74	183	113	144	0.35	0.4	
	1980	727.5	72.5	1159	421	77	344	305	116	0.36	0.6	
TURKEY POINT 3, 4 Docket 50-250, 50-251; DPR-31, -41 1st commercial operation 12/72, 9/73 Type - PWR Capacity - 657, 657 MWe	1973	401.9		444	78	88	366	202	252	0.18	0.2	
	1974	953.6		794	454	270	606	559	317	0.57	0.5	
	1975	1003.7	74.9	1176	876	89	1095	868	316	0.74	0.9	
	1976	974.2	71.2	1647	1184	94	942	522	514	0.72	1.2	
	1977	979.5	72.1	1319	1036	90	942	546	486	0.78	1.1	
	1978	1000.2	78.8	1336	1032	299	1381	997	683	0.77	1.0	
	1979	811.0	62.4	2002	1680	232	1419	1218	433	0.84	2.1	
	1980	990.6	73.6	1803	1651					0.92	1.7	

\* Three Mile Island 1 and 2 are shutdown. They are still included in the count of commercial reactors.

Appendix A (Continued)  
Personnel, Dose and Power Generation Summary

Reporting Organization	Year	Mega-watt-Year (MW-Yr)	Unit Availability Factor	Total Personnel With Measurable Doses	Total Man-REMs	Man-REMs per Work Function Operations	Man-REMs per Contractor	Man-REMs per Station & Utility	Average Dose per Worker (REMs)	Man-REMs per MW-Yr
VERMONT YANKEE Docket 50-271; DPR-28 1st commercial operation 11/72 Type - BWR Capacity - 504 MWe	1973	222.1		244	85		103	113	0.35	0.4
	1974	303.5		357	216	24	63	90	0.60	0.7
	1975	429.0	87.8	282	153	70	246	165	0.54	0.4
	1976	389.6	77.1	815	411	36	175	90	0.50	1.0
	1977	423.5	85.1	641	258	83	175	168	0.40	0.6
	1978	387.5	75.9	934	339	78	158	181	0.36	0.9
	1979	414.0	82.1	1220	1170	546	642	528	0.96	2.8
	1980	357.8	71.5	1443	1338	141	925	412	0.93	3.7
YANKEE ROWE Docket 50-29; DPR-3 1st commercial operation 7/61 Type - PWR Capacity - 1175 MWe	1969	138.3		193	215	83	78	133	1.11	1.5
	1970	146.1		355	255	90	158	97	0.72	1.7
	1971	173.5		155	90	46	19	71	0.88	0.8
	1972	78.7		282	255	63	146	109	0.90	3.2
	1973	127.1		133	99		47	52	0.74	0.8
	1974	111.3		243	205		99	106	0.84	1.8
	1975	145.1	82.4	249	116	52	66	50	0.47	0.8
	1976	152.2	89.8	152	59	17	4	55	0.39	0.4
	1977	124.6	73.9	725	356	28	174	182	0.49	2.9
	1978	145.0	81.0	565	282	26	95	187	0.50	1.9
	1979	149.0	81.6	441	127	16	52	75	0.29	0.9
	1980	35.6	22.0	502	213	6	90	123	0.42	6.0
	ZION 1, 2 Docket 50-295, 50-304; DPR-39, -48 1st commercial operation 12/73, 9/74 Type - PWR Capacity - 1040, 1040 MWe	1974	425.3	71.1	306	56	17	13	43	0.18
1975		1181.5	74.9	436	127	64	49	78	0.29	0.1
1976		1134.9	61.9	774	571	43	257	314	0.74	0.5
1977		1358.6	75.0	784	1003	43	561	442	1.28	0.7
1978		1613.5	80.2	1104	1017	150	418	599	0.92	0.6
1979		1238.0	67.6	1472	1274	168	747	527	0.87	1.0
1980		1411.2	74.1	1363	920	97	560	360	0.67	0.7

**APPENDIX B**  
**Annual Whole Body Doses at**  
**Licensed Nuclear Power Facilities**  
**1980**

Appendix B

ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES -1980

Plant Name, Type	No. Meas-urable Exposure	Meas-urable <0.10	Number of Individuals with Whole Body Doses in the Following Ranges (Rems)													Total Number Moni-tored	Number with Meas-urable Exposure	* Total Man-Rem		
			0.10-0.25	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0					
Arkansas 1, PWR	298	688	201	139	71	48	81	5										1,531	1,233	342
Beaver Valley, PWR	660	875	348	251	141	72	122	8										2,477	1,817	553
Big Rock Point, BWR	49	324	54	44	36	27	54	38	12	7	3							648	599	354
Browns Ferry 1, 2, 3, BWRs	9,112	674	401	450	305	246	468	143	25									11,824	2,712	1,825
Brunswick 1, 2, BWRs	1,611	1,084	471	418	287	229	173	329	274	124								5,399	3,788	3,870
Calvert Cliffs 1, 2, PWRs	648	477	296	266	155	124	156	15	7									2,144	1,496	677
Cook 1, 2, PWRs	584	510	269	257	124	73	98	13	1									1,929	1,345	493
Cooper Station, BWR	869	225	74	47	49	47	160	136	46	1								1,654	785	859
Crystal River, PWR	672	321	157	187	98	74	161	51	3	0	1							1,725	1,053	625

\* This item was not reported by the facility; it was calculated by the NRC staff using the method described in this document.



Appendix B

ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES- 1980

Plant Name, Type	Number of Individuals with Whole Body Doses in the Following Ranges (Rems)													Total Number Monitored	Number with Measurable Exposure	* Total Man-Rems			
	No. Meas. Individuals Exposure <0.10	0.10-0.25	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-7.0	7.0-10.0	10.0-15.0	15.0-20.0						
Davis-Besse 1, PWR	1,150	922	261	63	21	6	8	1	0	0	1	0	0	0	0	0	2,433	1,283	154
Dresden 1, 2, 3, BWRs	678	920	417	316	205	123	338	312	52	25	8	1	0	0	0	0	3,395	2,717	2,105
Duane Arnold, BWR	822	339	172	184	119	73	158	45	15	2	1	0	0	0	0	0	1,930	1,108	671
Farley 1, PWR	824	635	241	191	92	64	93	13	1	0	0	0	0	0	0	0	2,154	1,330	435
Fitzpatrick, BWR	527	612	260	199	175	116	321	185	127	49	9	3	0	0	0	0	2,583	2,056	2,040
Fort Calhoun, PWR	164	354	88	86	63	55	136	76	27	6	0	0	0	0	0	0	1,055	891	668
Ginna, PWR	184	388	133	117	92	65	201	65	11	1	0	0	0	0	0	0	1,257	1,073	708
Haddam Neck, PWR	255	469	282	226	192	178	395	89	26	3	0	0	0	0	0	0	2,115	1,860	1,353
Hatch 1, 2**, BWRs	1,286	1,039	396	258	98	73	61	4	0	1	0	0	0	0	0	0	3,216	1,930	449

\* This item was not reported by the facility; it was calculated by the NRC staff using the method described in this document.  
 \*\* Hatch 2 was counted for the first time in 1980.

Appendix B

ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES - 1980

Plant Name, Type	Number of Individuals with Whole Body Doses in the Following Ranges (Rems)														Total Number Monitored	Number with Measurable Exposure	* Total Man-Rems
	No. Measurable Exposure < 0.10	0.10-0.25	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0			
Humboldt Bay, BWR	53	17	20	1	3	2									195	142	22
Indian Point 1, 2, PWRs	380	269	237	142	106	227	95	12	2						1,957	1,577	971
Indian Point 3, PWR	440	228	147	82	48	38	7	3	3						1,417	977	308
Kewaunee, PWR	133	63	59	36	38	44	1								534	401	165
LaCrosse, BWR	68	10	7	3	5	23	15	12	7	5	5				192	124	218
Maine Yankee, PWR	218	112	87	52	42	144	28	12							983	738	462
Millstone 1, BWR	715	407	447	336	249	645	157	20	5						3,739	3,024	2,158
Millstone 2, PWR	210	120	132	99	74	192	46	6	1						1,103	892	636
Monticello, BWR	790	244	152	113	75	125	20	11							1,904	1,114	531

\* This item was not reported by the facility; it was calculated by the NRC staff using the method described in this document.

Appendix B

ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES - 1980

Plant Name, Type	Number of Individuals with Whole Body Doses in the Following Ranges (Rems)														Total Number Monitored	Number with Measurable Exposure	* Total Man-Rems	
	No. Measurable Exposure	Meas-urable <0.10	0.10-0.25	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0				9.0-10.0
Nine Mile Point, BWR	290	521	199	127	54	57	149	59	8							1,464	1,174	591
North Anna 1, PWR	443	1,782	160	69	41	17	12	3	1	0	1					2,529	2,086	218
Oconee 1, 2, 3, PWRs	843	815	362	289	190	113	265	88	2							2,967	2,124	1,055
Oyster Creek, BWR	272	463	303	230	135	120	476	173	62	4						2,238	1,966	1,733
Palisades, PWR	78	776	156	124	76	50	97	23	5							1,385	1,307	424
Peach Bottom 2, 3, BWRs	1,831	638	283	459	322	202	582	232	39	14	2	1				4,605	2,774	2,302
Pilgrim, BWR	0	720	453	500	269	216	786	398	139	68						3,549	3,549	3,626
Point Beach 1, 2, PWRs	158	97	40	60	60	49	175	65	10	4	1					719	561	598
Prairie Island 1, 2, PWRs	418	452	176	157	58	30	97	13								1,401	983	363

\* This item was not reported by the facility; it was calculated by the NRC staff using the method described in this document.

ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES - 1980

Plant Name, Type	Number of Individuals with Whole Body Doses in the Following Ranges (Rems)														Total Number Monitored	Number with Measurable Exposure	* Total Man-Rems	
	No Measurable Exposure	Measurable < 0.10	0.10-0.25	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0				9.0-10.0
Quad Cities 1, 2, BWRs	569	584	292	214	183	158	753	394	195	164	100	50	2			3,658	3,089	4,838
Rancho Seco, PWR	243	368	136	99	78	75	117	17								1,133	890	412
Robinson 2, PWR	751	633	218	201	135	142	373	181	81	45						2,760	2,009	1,852
Salem 1, PWR	1,014	929	354	174	89	55	87	15	1							2,718	1,704	449
San Onofre, PWR	712	1,149	376	312	196	194	532	175	56	29	14	13	14	3		3,775	3,063	2,387
St. Lucie 1, PWR	687	356	207	177	114	67	102	50	1							1,761	1,074	532
Surry 1, 2, PWRs	8,900	2,351	576	470	320	243	860	239	120	67	44	25	2			14,217	5,317	3,836
Three Mile Island 1, 2, PWRs	8,433	1,356	539	304	62	35	31	1								10,761	2,328	394
Trojan, PWR	576	472	228	178	100	82	91	8								1,135	1,159	421

\* This item was not reported by the facility; it was calculated by the NRC staff using the method described in this document.

Appendix B

ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES - 1980

Plant Name, Type	Number of Individuals with Whole Body Doses in the Following Ranges (Rems)													Total Number Monitored	Number with Measurable Exposure	* Total Man-Rem		
	No. Measurable Exposure	Measurable < 0.10	0.10-0.25	0.25-0.50	0.50-0.75	0.75-1.0	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0				8.0-9.0	9.0-10.0
Turkey Point 3, 4, PWRs	1,353	328	268	282	172	112	407	168	52	13	1					3,156	1,803	1,651
Vermont Yankee, BWR	599	359	218	211	113	71	210	192	36	32	1					2,042	1,443	1,338
Yankee Rowe, PWR	1,462	273	58	57	32	18	38	18	6	2						1,964	502	213
Zion 1, 2, PWRs	515	548	157	139	96	79	210	107	20	7						1,878	1,363	920
Fort St. Vrain HTGR	902	57	1													960	58	3

\* This item was not reported by the facility; it was calculated by the NRC staff using the method described in this document.  
 \*\* Fort St. Vrain was counted for the first time in 1980.



**APPENDIX C**

**Number of Personnel and Man-rem  
by Work and Job Function  
1980**

**Note: A '+' preceding a plant name indicates that the licensee's input was recategorized by NRC staff.**

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT	ARKANSAS	(PMR)	NUMBER OF PERSONNEL (>100 M-REM) 1980										
			STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS
REACTOR OPERATIONS & SURV.			16	1	7	131	6,766	0,777	3,252	6,766	0,777	3,252	62,600
MAINTENANCE PERSONNEL			28	0	0		17,017	0.0	0.0	17,017	0.0	0.0	
OPERATING PERSONNEL			15	0	51		6,953	0.0	24,736	6,953	0.0	24,736	
HEALTH PHYSICS PERSONNEL			12	0	0		2,987	0.0	0.0	2,987	0.0	0.0	
SUPERVISORY PERSONNEL			1	0	0		0.112	0.0	0.0	0.112	0.0	0.0	
ENGINEERING PERSONNEL			72	1	58	131	33,835	0,777	27,988	33,835	0,777	27,988	62,600
TOTAL			68	0	81	131	20,445	0.0	25,984	20,445	0.0	25,984	62,600
MAINTENANCE PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL			0	0	4		0.0	0.0	0.745	0.0	0.0	0.745	
HEALTH PHYSICS PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL			68	0	81	131	20,445	0.0	26,729	20,445	0.0	26,729	47,174
TOTAL			68	0	81	131	20,445	0.0	26,729	20,445	0.0	26,729	47,174
IN-SERVICE INSPECTION			0	1	8		0.0	1,943	2,070	0.0	1,943	2,070	
MAINTENANCE PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL			0	1	2	11	0.0	0.0	0.509	0.0	0.0	0.509	
TOTAL			0	1	10	11	0.0	1,943	2,579	0.0	1,943	2,579	4,522
SPECIAL MAINTENANCE			56	1	219		30,877	0,108	99,270	30,877	0,108	99,270	
MAINTENANCE PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL			1	0	13		0,247	0.0	2,436	0,247	0.0	2,436	
HEALTH PHYSICS PERSONNEL			3	0	0		0,885	0.0	0.0	0,885	0.0	0.0	
SUPERVISORY PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL			60	1	242	303	32,009	0,108	105,578	32,009	0,108	105,578	137,695
TOTAL			60	1	242	303	32,009	0,108	105,578	32,009	0,108	105,578	137,695
WASTE PROCESSING			36	0	2		8,767	0.0	0,492	8,767	0.0	0,492	
MAINTENANCE PERSONNEL			4	0	0		1,268	0.0	0.0	1,268	0.0	0.0	
OPERATING PERSONNEL			0	0	1		0.0	0.0	0,169	0.0	0.0	0,169	
HEALTH PHYSICS PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL			2	0	0		0,236	0.0	0.0	0,236	0.0	0.0	
ENGINEERING PERSONNEL			42	0	0	45	10,271	0.0	0,661	10,271	0.0	0,661	10,932
TOTAL			42	0	0	45	10,271	0.0	0,661	10,271	0.0	0,661	10,932
REBUILDING			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
MAINTENANCE PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL			0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL			0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL BY JOB FUNCTION			176	3	317	496	66,855	2,828	131,068	66,855	2,828	131,068	200,751
MAINTENANCE PERSONNEL			32	0	69	85	18,285	0.0	0.0	18,285	0.0	0.0	18,285
OPERATING PERSONNEL			16	0	0	17	7,200	0.0	28,086	7,200	0.0	28,086	35,286
HEALTH PHYSICS PERSONNEL			17	0	0	17	4,108	0.0	0.0	4,108	0.0	0.0	4,108
SUPERVISORY PERSONNEL			0	0	0	0	0.112	0.0	0.0	0.112	0.0	0.0	0.112
ENGINEERING PERSONNEL			242	3	398	643	96,560	2,828	162,535	96,560	2,828	162,535	262,923
TOTAL			242	3	398	643	96,560	2,828	162,535	96,560	2,828	162,535	262,923



APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1980

PLANT: BEAVER VALLEY 1 (PWR)	NUMBER OF PERSONNEL (>100 M REM)		TOTAL		STATION		TOTAL MAN-REMS	
	EMPLOYEES	UTILITY CONTRACT & OTHERS	PERSONS	PERSONS	EMPLOYEES	EMPLOYEES	UTILITY CONTRACT & OTHERS	MAN-REMS
<b>WORK &amp; JOB FUNCTION</b>	<b>EMPLOYEES</b>	<b>UTILITY CONTRACT &amp; OTHERS</b>	<b>TOTAL PERSONS</b>	<b>TOTAL PERSONS</b>	<b>EMPLOYEES</b>	<b>EMPLOYEES</b>	<b>UTILITY CONTRACT &amp; OTHERS</b>	<b>TOTAL MAN-REMS</b>
REACTION OPERATIONS & SURV.								
MAINTENANCE PERSONNEL	27	30	57	57	5,685	0,790	7,300	
OPERATING PERSONNEL	31	0	31	31	6,930	0.0	0.0	
HEALTH PHYSICS PERSONNEL	2	71	73	73	1,365	0.105	35,290	
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	4	27	31	31	0,655	0,685	9,215	
TOTAL	64	128	192	192	14,635	1,580	51,805	68,020
<b>ROUTINE MAINTENANCE</b>								
MAINTENANCE PERSONNEL	68	225	293	293	28,120	1,370	102,345	
OPERATING PERSONNEL	6	0	6	6	0,815	0.0	0.0	
HEALTH PHYSICS PERSONNEL	1	19	20	20	0,740	0,180	4,010	
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	1	25	26	26	0,165	0,875	10,120	
TOTAL	76	269	345	345	29,840	2,125	116,475	148,740
<b>IN-SERVICE INSPECTION</b>								
MAINTENANCE PERSONNEL	0	13	13	13	0.0	0.0	4,820	
OPERATING PERSONNEL	0	0	0	0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	2	2	2	0.0	0.0	0,285	
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0.0	0.0	0.0	
TOTAL	0	15	15	15	0.0	0.0	5,105	5,105
<b>SPECIAL MAINTENANCE</b>								
MAINTENANCE PERSONNEL	6	354	360	360	0,970	0.0	204,910	
OPERATING PERSONNEL	1	0	1	1	0,130	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	18	18	18	0.0	0.0	3,050	
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	24	24	24	0.0	0,135	18,365	
TOTAL	7	396	403	403	1,100	0,135	226,325	227,560
<b>WASTE PROCESSING</b>								
MAINTENANCE PERSONNEL	9	6	15	15	2,290	0.0	1,230	
OPERATING PERSONNEL	3	0	3	3	1,555	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	5	5	5	0.0	0.0	0,935	
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0.0	0.0	0.0	
TOTAL	12	11	23	23	3,845	0.0	2,165	6,010
<b>REFUELING</b>								
MAINTENANCE PERSONNEL	29	28	57	57	14,465	0.0	23,485	
OPERATING PERSONNEL	1	0	1	1	0,195	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	6	6	6	0.0	0.0	0,950	
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0.0	0.0	0.0	
TOTAL	30	34	64	64	14,660	0,240	24,435	48,930
<b>TOTAL BY JOB FUNCTION</b>								
MAINTENANCE PERSONNEL	139	656	795	795	51,530	2,160	344,090	397,780
OPERATING PERSONNEL	42	0	42	42	9,625	0.0	0.0	9,625
HEALTH PHYSICS PERSONNEL	3	121	124	124	2,105	0,285	44,520	46,910
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	5	80	85	85	0,820	1,935	39,300	42,055
GRAND TOTAL	189	857	1,046	1,046	64,880	4,380	427,910	496,370

APPENDIX C

PLANT: BIG ROCK POINT (BWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1980

WORK & JOB FUNCTION	STATION EMPLOYEES		NUMBER OF PERSONNEL (>100 M REM) 1980		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS
<b>*REACTOR OPERATIONS &amp; SURV.</b>												
MAINTENANCE PERSONNEL	23	17	29	17	46	34	6,566	3,757	0.892	0.892	0.892	0.892
OPERATING PERSONNEL	32	145	6	145	151	141	30,996	1,118	12.673	12.673	12.673	12.673
HEALTH PHYSICS PERSONNEL	9	0	4	0	4	0	12,648	0.127	2.807	2.807	2.807	2.807
SUPERVISORY PERSONNEL	24	0	0	0	24	0	9,765	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	23	0	49	0	72	0	11,653	1.277	0.0	0.0	1.277	1.277
<b>TOTAL</b>	<b>111</b>	<b>169</b>	<b>88</b>	<b>169</b>	<b>368</b>	<b>368</b>	<b>71,628</b>	<b>6,579</b>	<b>16,372</b>	<b>16,372</b>	<b>94,579</b>	<b>94,579</b>
<b>*ROUTINE MAINTENANCE</b>												
MAINTENANCE PERSONNEL	28	28	91	28	119	28	32,430	22,379	4.937	4.937	4.937	4.937
OPERATING PERSONNEL	2	57	0	57	59	57	0.070	0.0	4.112	4.112	4.112	4.112
HEALTH PHYSICS PERSONNEL	9	0	2	0	11	0	6,587	0.030	1.227	1.227	1.227	1.227
SUPERVISORY PERSONNEL	4	0	0	0	4	0	1,110	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	5	0	3	0	8	0	0,303	1.690	0.0	0.0	1.690	1.690
<b>TOTAL</b>	<b>48</b>	<b>91</b>	<b>96</b>	<b>91</b>	<b>235</b>	<b>235</b>	<b>40,500</b>	<b>24,099</b>	<b>10,276</b>	<b>10,276</b>	<b>74,875</b>	<b>74,875</b>
<b>*IN-SERVICE INSPECTION</b>												
MAINTENANCE PERSONNEL	8	17	36	17	53	17	1,144	34,966	12.956	12.956	12.956	12.956
OPERATING PERSONNEL	1	8	0	8	9	8	0.102	0.0	13.871	13.871	13.871	13.871
HEALTH PHYSICS PERSONNEL	7	0	0	0	7	0	3,304	0.0	5.564	5.564	5.564	5.564
SUPERVISORY PERSONNEL	6	0	0	0	6	0	0,206	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	7	0	6	0	13	0	1,077	1.961	0.0	0.0	1.961	1.961
<b>TOTAL</b>	<b>29</b>	<b>32</b>	<b>42</b>	<b>32</b>	<b>103</b>	<b>103</b>	<b>5,813</b>	<b>36,927</b>	<b>32,391</b>	<b>32,391</b>	<b>75,131</b>	<b>75,131</b>
<b>*SPECIAL MAINTENANCE</b>												
MAINTENANCE PERSONNEL	19	38	42	38	80	38	8,193	39,852	31.054	31.054	31.054	31.054
OPERATING PERSONNEL	2	7	0	7	9	7	0,373	0.0	1.548	1.548	1.548	1.548
HEALTH PHYSICS PERSONNEL	9	6	1	6	16	6	7,411	0.0	1,899	1,899	1,899	1,899
SUPERVISORY PERSONNEL	6	0	0	0	6	0	2,187	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	6	0	5	0	11	0	1,525	0.371	0.0	0.0	0.371	0.371
<b>TOTAL</b>	<b>52</b>	<b>51</b>	<b>48</b>	<b>51</b>	<b>141</b>	<b>141</b>	<b>19,689</b>	<b>50,223</b>	<b>34,501</b>	<b>34,501</b>	<b>94,613</b>	<b>94,613</b>
<b>*WASTE PROCESSING</b>												
MAINTENANCE PERSONNEL	12	1	8	1	13	1	8,819	0.721	0.300	0.300	0.300	0.300
OPERATING PERSONNEL	20	0	0	0	20	0	3,060	0.0	0.038	0.038	0.038	0.038
HEALTH PHYSICS PERSONNEL	8	1	0	1	11	1	2,717	0.0	0.005	0.005	0.005	0.005
SUPERVISORY PERSONNEL	4	0	0	0	4	0	0,381	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	0	0	0	0,015	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>44</b>	<b>3</b>	<b>8</b>	<b>3</b>	<b>55</b>	<b>55</b>	<b>14,992</b>	<b>0,721</b>	<b>0,343</b>	<b>0,343</b>	<b>16,056</b>	<b>16,056</b>
<b>*REFUELING</b>												
MAINTENANCE PERSONNEL	6	0	2	0	8	0	2,718	0.036	0.0	0.0	0.0	0.0
OPERATING PERSONNEL	23	0	0	0	23	0	7,248	0.0	0.469	0.469	0.469	0.469
HEALTH PHYSICS PERSONNEL	9	0	0	0	9	0	0,593	0.0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	2	0	0	0	2	0	1,502	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	2	0	0	0	2	0	0,012	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>45</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>52</b>	<b>52</b>	<b>12,073</b>	<b>0,036</b>	<b>0,469</b>	<b>0,469</b>	<b>12,578</b>	<b>12,578</b>
<b>*TOTAL BY JOB FUNCTION</b>												
MAINTENANCE PERSONNEL	96 (28)	101 (64)	208 (103)	101 (64)	405 (195)	101 (64)	59,870	101,711	50.139	50.139	211,720	211,720
OPERATING PERSONNEL	80 (32)	223 (176)	6 (6)	223 (176)	309 (214)	223 (176)	41,849	1,118	32,711	32,711	75,678	75,678
HEALTH PHYSICS PERSONNEL	47 (9)	7 (4)	2 (1)	7 (4)	56 (11)	7 (4)	33,260	0.157	11,502	11,502	44,919	44,919
SUPERVISORY PERSONNEL	53 (24)	0 (0)	0 (0)	0 (0)	53 (24)	0 (0)	15,151	0.0	0.0	0.0	15,151	15,151
ENGINEERING PERSONNEL	43 (23)	0 (0)	63 (50)	0 (0)	106 (73)	63 (50)	14,565	5,589	0.0	0.0	20,154	20,154
<b>GRAND TOTAL</b>	<b>319 (118)</b>	<b>351 (237)</b>	<b>284 (183)</b>	<b>351 (237)</b>	<b>954 (628)</b>	<b>351 (237)</b>	<b>164,695</b>	<b>108,585</b>	<b>94,332</b>	<b>94,332</b>	<b>367,632</b>	<b>367,632</b>

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: BROWNS FERRY 1,2,3 (BWR)

NUMBER OF PERSONNEL (>100 M REM) 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM) 1980			TOTAL MAN-REMS		
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS
REACTOR OPERATIONS & SURV.	4	0	0	0.5	0.0	0.0
MAINTENANCE PERSONNEL	15	0	0	2.3	0.0	0.0
OPERATING PERSONNEL	0	0	0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	0.0	0.0	0.0
TOTAL	19	0	0	2.8	0.0	0.0
ROUTINE MAINTENANCE						
MAINTENANCE PERSONNEL	421	923	21	215.4	676.0	13.7
OPERATING PERSONNEL	212	0	0	121.4	0.0	0.0
HEALTH PHYSICS PERSONNEL	31	5	35	12.2	0.9	18.6
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	41	166	9	40.7	106.2	1.5
TOTAL	705	1094	65	389.7	783.1	33.8
IN-SERVICE INSPECTION						
MAINTENANCE PERSONNEL	0	0	0	0.0	0.0	0.0
OPERATING PERSONNEL	0	0	0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	4	1	0.0	1.2	0.2
TOTAL	0	4	1	0.0	1.2	0.2
SPECIAL MAINTENANCE						
MAINTENANCE PERSONNEL	0	63	0	0.0	16.2	0.0
OPERATING PERSONNEL	0	0	0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	2	2	0	0.2	0.4	0.0
TOTAL	2	65	0	0.2	16.6	0.0
WASTE PROCESSING						
MAINTENANCE PERSONNEL	12	0	0	2.5	0.0	0.0
OPERATING PERSONNEL	5	0	0	2.3	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	0.0	0.0	0.0
TOTAL	17	0	0	4.8	0.0	0.0
REFUELING						
MAINTENANCE PERSONNEL	0	64	0	0.0	18.7	0.0
OPERATING PERSONNEL	34	0	0	11.9	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	2	4	2	0.3	1.6	0.3
TOTAL	36	68	2	12.2	19.3	0.3
TOTAL BY JOB FUNCTION						
MAINTENANCE PERSONNEL	437	1050	21	218.4	710.9	13.7
OPERATING PERSONNEL	266	0	0	137.9	0.0	0.0
HEALTH PHYSICS PERSONNEL	31	5	35	12.2	0.9	18.6
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0
ENGINEERING PERSONNEL	45	176	12	41.2	109.4	2.0
GRAND TOTAL	779	1231	63	409.7	821.2	34.3

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: BRUNSWICK 1,2	(DWR)	NUMBER OF PERSONNEL (>100 M REM) 1980				TOTAL MAN-REMS			
		STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
<b>REACTOR OPERATIONS &amp; SURV.</b>									
MAINTENANCE PERSONNEL	3	0	0	0	0	6,541	0,371	0,005	0,005
OPERATING PERSONNEL	30	2	73	0	0	49,025	2,517	33,520	33,520
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	10,366	2,321	0,0	0,0
SUPERVISORY PERSONNEL	0	0	0	0	0	0,0	0,034	0,0	0,0
ENGINEERING PERSONNEL	1	0	1,451	0	0	1,451	0,012	1,164	1,164
<b>TOTAL</b>	<b>43</b>	<b>4</b>	<b>75</b>	<b>0</b>	<b>122</b>	<b>67,383</b>	<b>3,255</b>	<b>34,689</b>	<b>105,327</b>
<b>ROUTINE MAINTENANCE</b>									
MAINTENANCE PERSONNEL	24	2	96	0	0	50,470	2,337	137,617	137,617
OPERATING PERSONNEL	0	0	0	0	0	0,730	0,0	0,0	0,0
HEALTH PHYSICS PERSONNEL	8	3	10	0	0	9,732	2,649	10,102	10,102
SUPERVISORY PERSONNEL	0	0	0	0	0	0,0	0,0	0,0	0,0
ENGINEERING PERSONNEL	5	0	3	3	0	3,862	0,101	1,758	1,758
<b>TOTAL</b>	<b>37</b>	<b>4</b>	<b>109</b>	<b>3</b>	<b>151</b>	<b>64,794</b>	<b>5,087</b>	<b>149,477</b>	<b>219,358</b>
<b>IN-SERVICE INSPECTION</b>									
MAINTENANCE PERSONNEL	0	0	0	0	0	0,0	0,0	0,0	0,0
OPERATING PERSONNEL	0	0	0	0	0	0,0	0,0	0,0	0,0
HEALTH PHYSICS PERSONNEL	2	1	10	0	0	2,133	0,661	10,102	10,102
SUPERVISORY PERSONNEL	0	0	0	0	0	0,0	0,0	0,0	0,0
ENGINEERING PERSONNEL	5	1	4	4	0	4,377	2,562	2,687	2,687
<b>TOTAL</b>	<b>7</b>	<b>6</b>	<b>14</b>	<b>4</b>	<b>27</b>	<b>6,510</b>	<b>3,421</b>	<b>12,789</b>	<b>22,720</b>
<b>SPECIAL MAINTENANCE</b>									
MAINTENANCE PERSONNEL	87	12	1241	0	0	184,969	15,124	1905,905	1905,905
OPERATING PERSONNEL	1	0	0	0	0	1,094	0,0	0,0	0,0
HEALTH PHYSICS PERSONNEL	15	6	46	0	0	16,854	5,167	45,560	45,560
SUPERVISORY PERSONNEL	0	2	3	0	0	0,0	0,395	0,507	0,507
ENGINEERING PERSONNEL	23	34	244	0	0	18,725	16,317	233,288	233,288
<b>TOTAL</b>	<b>126</b>	<b>54</b>	<b>1533</b>	<b>0</b>	<b>1714</b>	<b>221,642</b>	<b>37,003</b>	<b>2,185,260</b>	<b>2,443,905</b>
<b>WASTE PROCESSING</b>									
MAINTENANCE PERSONNEL	24	2	62	0	0	51,169	2,662	84,580	84,580
OPERATING PERSONNEL	35	2	0	0	0	58,025	0,773	0,0	0,0
HEALTH PHYSICS PERSONNEL	10	3	20	0	0	10,879	3,026	20,260	20,260
SUPERVISORY PERSONNEL	1	0	0	0	0	0,0	0,0	0,0	0,0
ENGINEERING PERSONNEL	1	0	3	3	0	0,551	0,012	1,758	1,758
<b>TOTAL</b>	<b>70</b>	<b>7</b>	<b>85</b>	<b>3</b>	<b>162</b>	<b>120,624</b>	<b>6,693</b>	<b>106,598</b>	<b>233,915</b>
<b>REFUELING</b>									
MAINTENANCE PERSONNEL	39	5	278	0	0	81,008	5,203	404,304	404,304
OPERATING PERSONNEL	44	4	0	0	0	72,311	1,288	0,0	0,0
HEALTH PHYSICS PERSONNEL	6	3	15	0	0	6,424	2,132	15,173	15,173
SUPERVISORY PERSONNEL	0	0	0	0	0	0,0	0,0	0,0	0,0
ENGINEERING PERSONNEL	22	15	26	0	0	17,587	7,658	25,110	25,110
<b>TOTAL</b>	<b>111</b>	<b>28</b>	<b>319</b>	<b>0</b>	<b>458</b>	<b>177,330</b>	<b>16,876</b>	<b>444,642</b>	<b>638,848</b>
<b>TOTAL BY JOB FUNCTION</b>									
MAINTENANCE PERSONNEL	177	21	1677	0	0	374,157	25,917	2532,411	2932,485
OPERATING PERSONNEL	110	8	73	0	0	181,185	2,578	33,520	217,283
HEALTH PHYSICS PERSONNEL	50	18	101	0	0	56,388	15,956	101,197	173,541
SUPERVISORY PERSONNEL	0	4	3	0	0	0,0	1,022	0,562	1,584
ENGINEERING PERSONNEL	57	53	282	3	0	48,553	26,862	265,765	339,180
<b>GRAND TOTAL</b>	<b>324</b>	<b>104</b>	<b>2136</b>	<b>3</b>	<b>2634</b>	<b>658,283</b>	<b>72,335</b>	<b>2933,493</b>	<b>3669,073</b>

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: CALVERT CLIFFS 1,2 (PWR) 1980

* WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS
<b>* REACTOR OPERATIONS &amp; SURV.</b>												
MAINTENANCE PERSONNEL	3	1	0	0	4	0	0.599	0.106	0.0	0.126	0.106	0.126
OPERATING PERSONNEL	23	0	0	0	23	0	11.997	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	2	0	0	0	2	0	0.276	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>28</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>12.872</b>	<b>0.106</b>	<b>0.0</b>	<b>0.126</b>	<b>0.106</b>	<b>0.126</b>
<b>* ROUTINE MAINTENANCE</b>												
MAINTENANCE PERSONNEL	44	149	1	0	154	0	11.774	0.120	0.0	43.903	0.120	43.903
OPERATING PERSONNEL	14	20	1	0	35	0	7.951	0.100	0.0	3.865	0.100	3.865
HEALTH PHYSICS PERSONNEL	14	78	0	0	92	0	7.144	0.146	0.0	35.641	0.146	35.641
SUPERVISORY PERSONNEL	4	2	0	0	6	0	1.480	0.0	0.0	0.271	0.0	0.271
ENGINEERING PERSONNEL	0	5	0	0	5	0	0.0	0.0	0.0	1.064	0.0	1.064
<b>TOTAL</b>	<b>76</b>	<b>254</b>	<b>1</b>	<b>0</b>	<b>271</b>	<b>0</b>	<b>28.349</b>	<b>0.366</b>	<b>0.0</b>	<b>84.744</b>	<b>0.366</b>	<b>84.744</b>
<b>* IN-SERVICE INSPECTION</b>												
MAINTENANCE PERSONNEL	10	17	35	0	62	0	3.486	15.145	0.0	4.939	15.145	4.939
OPERATING PERSONNEL	6	0	0	0	6	0	0.787	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	2	0	0	2	0	0.0	0.0	0.0	0.245	0.0	0.245
SUPERVISORY PERSONNEL	2	2	0	0	4	0	0.301	0.0	0.0	0.669	0.0	0.669
ENGINEERING PERSONNEL	6	7	0	0	13	0	1.609	0.0	0.0	1.657	0.0	1.657
<b>TOTAL</b>	<b>24</b>	<b>26</b>	<b>35</b>	<b>0</b>	<b>85</b>	<b>0</b>	<b>6.183</b>	<b>15.145</b>	<b>0.0</b>	<b>7.510</b>	<b>15.145</b>	<b>7.510</b>
<b>* SPECIAL MAINTENANCE</b>												
MAINTENANCE PERSONNEL	83	479	99	0	561	0	57.499	35.175	0.0	222.925	35.175	222.925
OPERATING PERSONNEL	34	30	12	0	76	0	8.252	4.639	0.0	8.851	4.639	8.851
HEALTH PHYSICS PERSONNEL	2	6	0	0	8	0	0.507	0.0	0.0	1.594	0.0	1.594
SUPERVISORY PERSONNEL	12	11	0	0	23	0	4.309	0.0	0.0	4.035	0.0	4.035
ENGINEERING PERSONNEL	5	19	1	0	25	0	1.077	0.136	0.0	5.612	0.136	5.612
<b>TOTAL</b>	<b>136</b>	<b>545</b>	<b>112</b>	<b>0</b>	<b>793</b>	<b>0</b>	<b>71.644</b>	<b>39.950</b>	<b>0.0</b>	<b>243.017</b>	<b>39.950</b>	<b>243.017</b>
<b>* WASTE PROCESSING</b>												
MAINTENANCE PERSONNEL	2	0	0	0	2	0	0.230	0.0	0.0	0.0	0.0	0.0
OPERATING PERSONNEL	5	0	0	0	5	0	1.864	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	2	39	25	0	66	0	0.247	5.633	0.0	16.518	5.633	16.518
SUPERVISORY PERSONNEL	1	0	0	0	1	0	0.101	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>10</b>	<b>39</b>	<b>25</b>	<b>0</b>	<b>74</b>	<b>0</b>	<b>2.442</b>	<b>5.633</b>	<b>0.0</b>	<b>16.518</b>	<b>5.633</b>	<b>16.518</b>
<b>* REFUELING</b>												
MAINTENANCE PERSONNEL	43	3	50	0	96	0	22.233	24.424	0.0	0.335	24.424	0.335
OPERATING PERSONNEL	10	1	6	0	17	0	3.010	3.613	0.0	0.123	3.613	0.123
HEALTH PHYSICS PERSONNEL	4	9	0	0	13	0	1.371	0.0	0.0	2.877	0.0	2.877
SUPERVISORY PERSONNEL	10	2	0	0	12	0	8.096	0.0	0.0	0.483	0.0	0.483
ENGINEERING PERSONNEL	2	17	0	0	19	0	0.371	0.0	0.0	3.376	0.0	3.376
<b>TOTAL</b>	<b>69</b>	<b>32</b>	<b>56</b>	<b>0</b>	<b>157</b>	<b>0</b>	<b>35.081</b>	<b>28.037</b>	<b>0.0</b>	<b>7.194</b>	<b>28.037</b>	<b>7.194</b>
<b>* TOTAL BY JOB FUNCTION</b>												
MAINTENANCE PERSONNEL	185 (103)	649 (536)	186 (167)	0	1020 (798)	0	95.821	74.970	0.0	272.228	74.970	272.228
OPERATING PERSONNEL	92 (70)	51 (47)	19 (15)	0	162 (132)	0	33.861	8.352	0.0	12.839	8.352	12.839
HEALTH PHYSICS PERSONNEL	22 (15)	134 (123)	26 (25)	0	182 (163)	0	9.269	5.779	0.0	56.875	5.779	56.875
SUPERVISORY PERSONNEL	31 (22)	0 (0)	0 (0)	0	31 (22)	0	14.563	0.0	0.0	5.458	0.0	5.458
ENGINEERING PERSONNEL	11 (13)	48 (39)	1 (3)	0	62 (55)	0	3.057	0.0	0.0	11.709	0.0	11.709
<b>GRAND TOTAL</b>	<b>341 (223)</b>	<b>879 (700)</b>	<b>212 (200)</b>	<b>0</b>	<b>1474 (1183)</b>	<b>0</b>	<b>156.371</b>	<b>89.237</b>	<b>0.0</b>	<b>359.109</b>	<b>89.237</b>	<b>359.109</b>

Workers may be counted in more than one category. Numbers in parentheses is the total number of individuals who received more than 100 mrems during the year but not necessarily more than 100 mrems in any one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REMS BY WORK AND JOB FUNCTION

PLANT: D.C. COOK 1,2 (PWR)

1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M.REM)		TOTAL MAN-REMS		TOTAL MAN-REMS
	STATION EMPLOYEES	CONTRACT EMPLOYEES	STATION EMPLOYEES	CONTRACT EMPLOYEES	
<b>* REACTOR OPERATIONS &amp; SURV.</b>					
MAINTENANCE PERSONNEL	60	33	3,460	0.0	2,241
OPERATING PERSONNEL	63	0	27,557	0.0	0.0
HEALTH PHYSICS PERSONNEL	13	0	3,060	0.0	4,040
SUPERVISORY PERSONNEL	11	4	1,020	0.0	0.100
ENGINEERING PERSONNEL	5	1	0.620	0.080	0.050
TOTAL	152	49	35,717	0.080	6,431
<b>* ROUTINE MAINTENANCE</b>					
MAINTENANCE PERSONNEL	96	119	54,130	0.0	12,796
OPERATING PERSONNEL	1	0	0.060	0.0	0.0
HEALTH PHYSICS PERSONNEL	13	20	2,140	0.0	3,360
SUPERVISORY PERSONNEL	11	11	1,540	0.0	0.816
ENGINEERING PERSONNEL	6	1	0.320	0.640	0.020
TOTAL	127	151	58,190	0.640	16,994
<b>* IN-SERVICE INSPECTION</b>					
MAINTENANCE PERSONNEL	46	94	5,250	0.0	13,292
OPERATING PERSONNEL	0	0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	9	10	0.810	0.0	2,770
SUPERVISORY PERSONNEL	5	6	0.290	0.0	1,590
ENGINEERING PERSONNEL	6	7	0.790	0.930	2,070
TOTAL	66	117	7,140	0.930	19,722
<b>* SPECIAL MAINTENANCE</b>					
MAINTENANCE PERSONNEL	80	421	21,380	0.0	162,742
OPERATING PERSONNEL	1	0	0.020	0.0	0.0
HEALTH PHYSICS PERSONNEL	9	22	1,300	0.0	8,330
SUPERVISORY PERSONNEL	8	43	0.540	0.0	15,180
ENGINEERING PERSONNEL	5	2	0.710	0.120	0.120
TOTAL	103	488	23,950	0.120	186,372
<b>* WASTE PROCESSING</b>					
MAINTENANCE PERSONNEL	52	95	7,430	0.0	37,877
OPERATING PERSONNEL	25	0	3,130	0.0	0.0
HEALTH PHYSICS PERSONNEL	13	6	6,200	0.0	1,040
SUPERVISORY PERSONNEL	7	5	1,710	0.0	3,030
ENGINEERING PERSONNEL	2	0	2,170	0.180	0.0
TOTAL	99	106	20,640	0.180	41,947
<b>* REFUELING</b>					
MAINTENANCE PERSONNEL	31	50	3,670	0.0	20,345
OPERATING PERSONNEL	0	0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	1	11	0.070	0.0	1,205
SUPERVISORY PERSONNEL	4	6	1,020	0.0	1,750
ENGINEERING PERSONNEL	1	1	0.120	0.140	0.030
TOTAL	37	68	4,910	0.140	23,330
<b>* TOTAL BY JOB FUNCTION</b>					
MAINTENANCE PERSONNEL	365 (103)	812 (495)	95,320	0.0	249,293
OPERATING PERSONNEL	90 (63)	0 (0)	30,767	0.0	0.0
HEALTH PHYSICS PERSONNEL	58 (14)	80 (25)	13,580	0.0	20,745
SUPERVISORY PERSONNEL	46 (14)	75 (45)	6,120	0.0	22,468
ENGINEERING PERSONNEL	25 (8)	12 (8)	4,760	5,030	2,290
GRAND TOTAL	584 (202)	979 (573)	150,547	5,030	294,796

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: COOPER STATION (BWP)	NUMBER OF PERSONNEL (>100 M PPM)		TOTAL		STATION EMPLOYEES	UTILITY EMPLOYEES	TOTAL MAN-REMS		TOTAL MAN REMS
	STATION EMPLOYEES	UTILITY EMPLOYEES	PERSONS	PERSONS			UTILITY CONTRACT & OTHERS	CONTRACT & OTHERS	
<b>* WORK &amp; JOB FUNCTION</b>									
MAINTENANCE PERSONNEL	2	0	0	0	0.826	0.0	0.0	0.0	
OPERATING PERSONNEL	41	0	0	0	35.764	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	11	0	2	0	10.595	0.0	0.349	0.0	
SUPERVISORY PERSONNEL	8	1	1	0	6.844	0.153	0.576	0.153	
ENGINEERING PERSONNEL	13	3	3	0	11.512	0.0	0.614	0.614	
TOTAL	77	4	6	82	65.641	0.576	1.116	1.116	67.333
<b>* ROUTINE MAINTENANCE</b>									
MAINTENANCE PERSONNEL	52	0	127	0	91.549	0.0	109.161	0.0	
OPERATING PERSONNEL	2	0	0	0	0.241	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	11	0	3	0	1.959	0.0	1.324	0.0	
SUPERVISORY PERSONNEL	4	0	1	0	1.810	0.0	0.134	0.0	
ENGINEERING PERSONNEL	4	0	0	0	1.433	0.0	0.0	0.0	
TOTAL	73	0	131	204	95.992	0.0	110.619	0.0	207.611
<b>* IN-SERVICE INSPECTION</b>									
MAINTENANCE PERSONNEL	0	0	17	0	0.0	0.0	20.361	0.0	
OPERATING PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	11	0	3	0	0.586	0.0	0.160	0.0	
SUPERVISORY PERSONNEL	0	0	1	0	0.0	0.0	0.886	0.0	
ENGINEERING PERSONNEL	6	0	0	0	5.000	0.0	0.0	0.0	
TOTAL	17	0	21	38	5.586	0.0	21.407	0.0	26.993
<b>* SPECIAL MAINTENANCE</b>									
MAINTENANCE PERSONNEL	13	0	316	0	3.057	0.0	469.697	0.0	
OPERATING PERSONNEL	6	0	0	0	1.425	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	5	0	9	0	1.614	0.0	6.766	0.0	
SUPERVISORY PERSONNEL	5	0	4	0	1.516	0.0	0.0	0.0	
ENGINEERING PERSONNEL	2	12	4	0	0.285	13.682	4.012	0.0	
TOTAL	31	12	329	372	7.897	13.682	480.475	4.012	502.054
<b>* WASTE PROCESSING</b>									
MAINTENANCE PERSONNEL	1	0	0	0	0.031	0.0	0.0	0.0	
OPERATING PERSONNEL	15	0	0	0	4.182	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	2	0	0	0	1.499	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	1	0	0	0	0.010	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	
TOTAL	25	0	0	25	5.722	0.0	0.0	0.0	5.722
<b>* REFUELLING</b>									
MAINTENANCE PERSONNEL	0	0	2	0	0.0	0.0	0.806	0.0	
OPERATING PERSONNEL	31	0	0	0	8.462	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	8	0	3	0	0.081	0.0	0.154	0.0	
SUPERVISORY PERSONNEL	3	0	0	0	0.299	0.0	0.0	0.0	
ENGINEERING PERSONNEL	5	0	0	0	0.644	0.0	0.0	0.0	
TOTAL	47	0	5	52	9.486	0.0	0.960	0.0	10.446
<b>* TOTAL BY JOB FUNCTION</b>									
MAINTENANCE PERSONNEL	68 (57)	0	462 (356)	530 (413)	95.463	0.0	600.025	0.0	695.482
OPERATING PERSONNEL	95 (42)	0	0	95 (42)	50.074	0.0	0.0	0.0	50.074
HEALTH PHYSICS PERSONNEL	54 (11)	0	20 (9)	74 (20)	16.334	0.0	8.753	0.0	25.087
SUPERVISORY PERSONNEL	21 (9)	1 (1)	3 (3)	25 (13)	10.479	0.576	1.173	0.576	12.228
ENGINEERING PERSONNEL	29 (13)	12 (12)	7 (7)	48 (32)	14.274	13.682	4.674	13.682	37.282
TOTAL	269 (132)	13 (13)	492 (375)	773 (520)	191.324	14.258	614.577	14.258	820.159

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: CRYSTAL RIVER 3 (PWR)

NUMBER OF PERSONNEL (>100 M REM) 1980

WORK & JOB FUNCTION	STATION EMPLOYEES			UTILITY EMPLOYEES			TOTAL PERSONS			STATION EMPLOYEES			UTILITY EMPLOYEES			TOTAL MAN-REMS		
	EMPLOYEES	UTILITY	& OTHERS	EMPLOYEES	UTILITY	& OTHERS	PERSONS	PERSONS	PERSONS	EMPLOYEES	UTILITY	& OTHERS	EMPLOYEES	UTILITY	& OTHERS	MAN-REMS	MAN-REMS	MAN-REMS
* REACTOR OPERATIONS & SURV.																		
MAINTENANCE PERSONNEL	4	0	0	0	0	0	0	0	0.11	0.09	0.16							
OPERATING PERSONNEL	31	4	0	0	0	0	0	0	12.34	0.97	0.0							
HEALTH PHYSICS PERSONNEL	22	0	0	0	0	0	0	0	9.30	0.0	0.01							
SUPERVISORY PERSONNEL	2	0	0	0	0	0	0	0	0.0	0.0	0.0							
ENGINEERING PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
TOTAL	59	4	0	0	0	0	63	63	21.75	1.06	0.17						22.98	
* ROUTINE MAINTENANCE																		
MAINTENANCE PERSONNEL	86	106	295	0	0	0	295	295	84.31	88.08	187.24							
OPERATING PERSONNEL	11	1	0	0	0	0	0	0	3.20	0.48	0.06							
HEALTH PHYSICS PERSONNEL	8	0	56	0	0	0	56	56	1.08	0.13	32.46							
SUPERVISORY PERSONNEL	12	2	26	0	0	0	26	26	6.72	1.18	24.86							
ENGINEERING PERSONNEL	1	0	34	0	0	0	34	34	0.23	0.49	27.77							
TOTAL	118	109	411	0	0	0	411	411	95.56	90.36	272.39						458.31	
* IN-SERVICE INSPECTION																		
MAINTENANCE PERSONNEL	0	3	3	0	0	0	3	3	0.01	0.89	0.80							
OPERATING PERSONNEL	0	0	0	0	0	0	0	0	0.07	0.0	0.0							
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.05							
SUPERVISORY PERSONNEL	7	0	4	0	0	0	4	4	1.90	0.0	0.91							
ENGINEERING PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
TOTAL	7	3	10	0	0	0	10	10	2.03	0.89	2.129						5.21	
* SPECIAL MAINTENANCE																		
MAINTENANCE PERSONNEL	22	26	67	0	0	0	67	67	5.77	8.46	67.27							
OPERATING PERSONNEL	1	0	0	0	0	0	0	0	0.20	0.03	0.0							
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
SUPERVISORY PERSONNEL	0	0	13	0	0	0	13	13	0.08	0.0	3.09							
ENGINEERING PERSONNEL	1	0	29	0	0	0	29	29	0.0	0.0	13.79							
TOTAL	24	26	109	0	0	0	109	109	6.05	8.49	84.15						98.69	
* WASTE PROCESSING																		
MAINTENANCE PERSONNEL	6	1	13	0	0	0	13	13	1.74	0.40	4.57							
OPERATING PERSONNEL	2	0	1	0	0	0	1	1	0.61	0.01	0.91							
HEALTH PHYSICS PERSONNEL	11	0	1	0	0	0	1	1	3.07	0.0	0.62							
SUPERVISORY PERSONNEL	3	0	1	0	0	0	1	1	0.22	0.0	0.19							
ENGINEERING PERSONNEL	2	0	0	0	0	0	0	0	0.10	0.0	0.01							
TOTAL	24	1	16	0	0	0	16	16	5.74	0.41	6.30						12.45	
* REFUELLING																		
MAINTENANCE PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
OPERATING PERSONNEL	0	0	0	0	0	0	0	0	0.01	0.0	0.0							
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
ENGINEERING PERSONNEL	0	0	0	0	0	0	0	0	0.0	0.0	0.0							
TOTAL	0	0	0	0	0	0	0	0	0.01	0.0	0.0						0.01	
* TOTAL BY JOB FUNCTION																		
MAINTENANCE PERSONNEL	118	136	378	0	0	0	378	378	91.94	97.92	260.04						449.90	
OPERATING PERSONNEL	45	5	1	0	0	0	1	1	16.43	1.45	0.97						18.89	
HEALTH PHYSICS PERSONNEL	41	0	57	0	0	0	57	57	13.45	0.13	33.14						46.72	
SUPERVISORY PERSONNEL	17	2	62	0	0	0	62	62	7.07	1.18	28.67						36.92	
ENGINEERING PERSONNEL	11	0	67	0	0	0	67	67	2.25	0.45	42.48						45.22	
TOTAL	232	143	566	0	0	0	566	566	131.14	101.21	363.30						597.65	

\* Workers may be counted in more than one category.



APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: DAVIS-BESSE 1 (CHR) 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
<b>* REACTOR OPERATIONS - SURV.</b>							
MAINTENANCE PERSONNEL	6	0	8	0.070	0.0	0.225	
OPERATING PERSONNEL	79	0	0	5.750	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	12	0	7	0.660	0.0	0.595	
ENGINEERING PERSONNEL	1	0	8	0.015	0.0	0.275	
<b>TOTAL</b>	<b>98</b>	<b>0</b>	<b>23</b>	<b>6.495</b>	<b>0.0</b>	<b>1.095</b>	<b>7.590</b>
<b>* ROUTINE MAINTENANCE</b>							
MAINTENANCE PERSONNEL	92	38	195	11.635	2.005	32.875	
OPERATING PERSONNEL	4	0	0	0.165	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	102	38	63	6.000	1.800	7.230	
ENGINEERING PERSONNEL	20	4	24	0.500	0.070	1.305	
<b>TOTAL</b>	<b>218</b>	<b>80</b>	<b>282</b>	<b>18.300</b>	<b>3.875</b>	<b>41.410</b>	<b>63.585</b>
<b>* IN-SERVICE INSPECTION</b>							
MAINTENANCE PERSONNEL	6	0	10	0.135	0.0	0.180	
OPERATING PERSONNEL	1	0	0	0.010	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	16	1	26	0.285	0.015	0.565	
ENGINEERING PERSONNEL	5	0	0	0.165	0.0	0.0	
<b>TOTAL</b>	<b>28</b>	<b>1</b>	<b>36</b>	<b>0.575</b>	<b>0.015</b>	<b>0.745</b>	<b>1.335</b>
<b>* SPECIAL MAINTENANCE</b>							
MAINTENANCE PERSONNEL	74	29	2209	7.420	2.755	161.580	
OPERATING PERSONNEL	8	0	0	0.650	0.0	0.0	
HEALTH PHYSICS PERSONNEL	22	0	21	9.975	0.0	4.200	
SUPERVISORY PERSONNEL	27	0	49	1.925	0.0	4.620	
ENGINEERING PERSONNEL	24	0	39	1.515	0.0	3.435	
<b>TOTAL</b>	<b>155</b>	<b>29</b>	<b>2318</b>	<b>21.485</b>	<b>2.755</b>	<b>173.835</b>	<b>198.075</b>
<b>* WASTE PROCESSING</b>							
MAINTENANCE PERSONNEL	6	2	9	0.325	0.035	0.145	
OPERATING PERSONNEL	1	0	0	0.050	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	5	0	9	0.085	0.0	0.175	
ENGINEERING PERSONNEL	0	0	0	0.0	0.0	0.0	
<b>TOTAL</b>	<b>12</b>	<b>2</b>	<b>18</b>	<b>0.460</b>	<b>0.035</b>	<b>0.320</b>	<b>0.815</b>
<b>* REFUELING</b>							
MAINTENANCE PERSONNEL	6	0	8	0.070	0.0	0.225	
OPERATING PERSONNEL	79	0	0	5.750	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	12	0	7	0.660	0.0	0.595	
ENGINEERING PERSONNEL	1	0	8	0.015	0.0	0.275	
<b>TOTAL</b>	<b>98</b>	<b>0</b>	<b>23</b>	<b>6.495</b>	<b>0.0</b>	<b>1.095</b>	<b>7.590</b>
<b>* TOTAL BY JOB FUNCTION</b>							
MAINTENANCE PERSONNEL	190	69	2439	19.655	4.795	195.230	219.680
OPERATING PERSONNEL	172	0	172	12.375	0.0	0.0	12.375
HEALTH PHYSICS PERSONNEL	22	0	43	9.975	0.0	4.200	14.175
SUPERVISORY PERSONNEL	174	39	374	9.615	1.815	13.780	25.210
ENGINEERING PERSONNEL	51	4	134	2.190	0.070	5.290	7.550
<b>GRAND TOTAL</b>	<b>609</b>	<b>112</b>	<b>2700</b>	<b>53.810</b>	<b>6.680</b>	<b>218.500</b>	<b>278.990</b>

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: DRESDEN 1,2,3 (BWR) 1980

NUMBER OF PERSONNEL (>100 M REM)

* WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL PERSONS	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL MAN-REMS
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES		CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	CONTRACT & OTHERS		
* REACTOR OPERATIONS & SURV.														
MAINTENANCE PERSONNEL	15	0	0	0	19.8	0.0	19.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPERATING PERSONNEL	103	0	0	0	119.6	0.0	119.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	2	0	0	0	2.7	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	60	0	0	0	13.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	52	0	0	0	72.3	0.0	72.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	232	0	0	0	227.4	0.0	232	0.0	0.0	0.0	0.0	0.0	0.0	227.4
* ROUTINE MAINTENANCE														
MAINTENANCE PERSONNEL	263	0	2093	0	366.4	0.0	2356.4	0.0	0.0	0.0	1053.4	0.0	0.0	1053.4
OPERATING PERSONNEL	7	0	0	0	11.6	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	38	0	0	0	54.3	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	61	0	0	0	83.2	0.0	83.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	59	0	0	0	21.3	0.0	21.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	428	0	2093	0	536.8	0.0	2521	0.0	0.0	0.0	1053.4	0.0	0.0	1590.2
* IN-SERVICE INSPECTION														
MAINTENANCE PERSONNEL	1	0	0	0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPERATING PERSONNEL	2	0	0	0	3.5	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	3	0	0	0	4.5	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	11	0	0	0	4.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	17	0	0	0	12.5	0.0	17	0.0	0.0	0.0	0.0	0.0	0.0	12.5
* SPECIAL MAINTENANCE														
MAINTENANCE PERSONNEL	0	173	0	0	0.0	68.2	68.2	0.0	0.0	0.0	0.0	0.0	0.0	68.2
OPERATING PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	227	0	0	0.0	13.2	13.2	0.0	0.0	0.0	0.0	0.0	0.0	13.2
TOTAL	0	400	0	0	0.0	81.4	81.4	0.0	0.0	0.0	0.0	0.0	0.0	81.4
* WASTE PROCESSING														
MAINTENANCE PERSONNEL	1	0	0	0	1.8	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8
OPERATING PERSONNEL	22	0	0	0	38.4	0.0	38.4	0.0	0.0	0.0	0.0	0.0	0.0	38.4
HEALTH PHYSICS PERSONNEL	15	0	0	0	21.4	0.0	21.4	0.0	0.0	0.0	0.0	0.0	0.0	21.4
SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	3	0	0	0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1
TOTAL	41	0	0	0	62.7	0.0	62.7	0.0	0.0	0.0	0.0	0.0	0.0	62.7
* REFUELING														
MAINTENANCE PERSONNEL	2	0	0	0	2.7	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7
OPERATING PERSONNEL	17	0	0	0	35.4	0.0	35.4	0.0	0.0	0.0	0.0	0.0	0.0	35.4
HEALTH PHYSICS PERSONNEL	4	0	0	0	6.2	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	6.2
SUPERVISORY PERSONNEL	3	0	0	0	7.7	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	7.7
ENGINEERING PERSONNEL	5	0	0	0	1.8	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8
TOTAL	31	0	0	0	53.8	0.0	53.8	0.0	0.0	0.0	0.0	0.0	0.0	53.8
* TOTAL BY JOB FUNCTION														
MAINTENANCE PERSONNEL	282	173	2093	0	391.2	68.2	2548	391.2	68.2	0.0	1053.4	0.0	0.0	1512.8
OPERATING PERSONNEL	151	0	0	0	208.5	0.0	151	208.5	0.0	0.0	0.0	0.0	0.0	208.5
HEALTH PHYSICS PERSONNEL	62	0	0	0	89.1	0.0	62	89.1	0.0	0.0	0.0	0.0	0.0	89.1
SUPERVISORY PERSONNEL	124	0	0	0	103.9	0.0	124	103.9	0.0	0.0	0.0	0.0	0.0	103.9
ENGINEERING PERSONNEL	130	227	0	0	100.5	13.2	357	100.5	13.2	0.0	0.0	0.0	0.0	113.7
GRAND TOTAL	749	400	2093	0	893.2	81.4	3242	893.2	81.4	0.0	1053.4	0.0	0.0	2026.0

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: DUANE ARNOLD (RWR)

1980

WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS
<b>* REACTOR OPERATIONS &amp; SURV.</b>												
MAINTENANCE PERSONNEL	25	0	0	66	25	66	4,148	0.0	0.0	0.0	2,804	
OPERATING PERSONNEL	31	0	0	1	31	1	11,620	0.0	0.0	0.0	0,032	
HEALTH PHYSICS PERSONNEL	8	0	0	26	34	26	6,275	0.0	0.0	0.0	4,484	
SUPERVISORY PERSONNEL	7	0	0	3	10	3	1,084	0.0	0.0	0.0	0,240	
ENGINEERING PERSONNEL	7	2	2	14	21	14	0,542	0.158	0.158	0.158	0,835	
TOTAL	78	2	2	110	82	110	23,569	0.158	0.158	0.158	8,395	32,122
<b>* ROUTINE MAINTENANCE</b>												
MAINTENANCE PERSONNEL	31	0	0	328	359	328	12,605	0.0	0.0	0.0	82,682	
OPERATING PERSONNEL	19	0	0	0	19	0	1,056	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	2	0	0	10	12	10	0,030	0.0	0.0	0.0	0,315	
SUPERVISORY PERSONNEL	4	0	0	9	13	9	0,346	0.0	0.0	0.0	1,461	
ENGINEERING PERSONNEL	6	1	1	28	35	28	0,430	0.093	0.093	0.093	1,056	
TOTAL	62	1	1	375	438	375	14,467	0.093	0.093	0.093	85,514	100,074
<b>* IN-SERVICE INSPECTION</b>												
MAINTENANCE PERSONNEL	28	0	0	166	194	166	1,264	0.0	0.0	0.0	36,217	
OPERATING PERSONNEL	10	0	0	0	10	0	0,598	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	7	0	0	2	9	2	1,928	0.0	0.0	0.0	0,012	
SUPERVISORY PERSONNEL	6	0	0	10	16	10	0,337	0.0	0.0	0.0	0,546	
ENGINEERING PERSONNEL	7	2	2	50	59	50	0,781	0.090	0.090	0.090	29,635	
TOTAL	58	2	2	234	296	234	4,908	0.090	0.090	0.090	66,442	72,266
<b>* SPECIAL MAINTENANCE</b>												
MAINTENANCE PERSONNEL	32	0	0	461	493	461	11,238	0.0	0.0	0.0	298,380	
OPERATING PERSONNEL	25	0	0	1	26	1	9,938	0.0	0.0	0.0	0,685	
HEALTH PHYSICS PERSONNEL	5	0	0	65	70	65	0,292	0.0	0.0	0.0	73,770	
SUPERVISORY PERSONNEL	6	0	0	19	25	19	0,840	0.0	0.0	0.0	8,328	
ENGINEERING PERSONNEL	6	4	4	59	67	59	1,481	1.295	1.295	1.295	10,194	
TOTAL	74	4	4	605	683	605	23,289	1.295	1.295	1.295	391,357	416,441
<b>* WASTE PROCESSING</b>												
MAINTENANCE PERSONNEL	0	0	0	19	19	19	0.0	0.0	0.0	0.0	1,070	
OPERATING PERSONNEL	9	2	2	0	11	2	14,006	0.0	0.0	0.0	0,118	
HEALTH PHYSICS PERSONNEL	5	0	0	2	7	2	2,704	0.0	0.0	0.0	2,055	
SUPERVISORY PERSONNEL	1	0	0	0	1	0	0,010	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
TOTAL	15	2	2	21	38	21	16,720	0.0	0.0	0.0	3,243	19,963
<b>* REFUELING</b>												
MAINTENANCE PERSONNEL	13	0	0	21	34	21	1,440	0.0	0.0	0.0	8,521	
OPERATING PERSONNEL	25	0	0	0	25	0	11,031	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	6	0	0	2	8	2	0.0	0.0	0.0	0,010		
SUPERVISORY PERSONNEL	3	0	0	4	7	4	1,275	0.0	0.0	0.0	0,300	
ENGINEERING PERSONNEL	3	2	2	10	15	10	0,360	0.035	0.035	0.035	0,774	
TOTAL	47	2	2	37	86	37	14,106	0.035	0.035	0.035	9,605	23,546
<b>* TOTAL BY JOB FUNCTION</b>												
MAINTENANCE PERSONNEL	129 (32)	0	0	1061 (498)	1190 (630)	1061 (498)	30,695	0.0	0.0	0.0	429,674	460,369
OPERATING PERSONNEL	119 (37)	0	0	4 (2)	123 (39)	4 (2)	48,249	0.0	0.0	0.0	0,835	49,084
HEALTH PHYSICS PERSONNEL	27 (8)	0	0	107 (71)	134 (79)	107 (71)	11,229	0.0	0.0	0.0	80,646	91,875
SUPERVISORY PERSONNEL	30 (9)	0	0	45 (19)	75 (28)	45 (19)	3,892	0.0	0.0	0.0	10,713	14,605
ENGINEERING PERSONNEL	29 (7)	13 (4)	13 (4)	167 (68)	209 (79)	167 (68)	3,494	2.471	2.471	2.471	42,494	68,459
GRAND TOTAL	334 (93)	13 (4)	13 (4)	1384 (658)	1731 (756)	1384 (658)	97,559	2.471	2.471	2.471	564,362	664,392

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: FARLEY (PWP)	NUMBER OF PERSONNEL (>100 M REM) 1980		STATION		TOTAL PERSONS	STATION EMPLOYEES		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS		EMPLOYEES	UTILITY CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS
<b>* REACTOR OPERATIONS &amp; SURV.</b>									
MAINTENANCE PERSONNEL	89	0	0	0	89	5,542	0.0	0.0	0.0
OPERATING PERSONNEL	92	0	0	0	92	30,299	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	31	0	0	55	86	11,820	0.0	28,309	0.0
SUPERVISORY PERSONNEL	39	1	0	0	40	13,748	0.0	0.0	0.0
ENGINEERING PERSONNEL	6	0	0	43	49	0,396	0.0	1,182	0.0
TOTAL	257	1	0	98	356	61,805	0.0	29,491	0.0
<b>* ROUTINE MAINTENANCE</b>									
MAINTENANCE PERSONNEL	148	0	0	0	148	17,994	0.0	0.0	0.0
OPERATING PERSONNEL	64	0	0	0	64	23,209	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	11	0	0	7	18	1,405	0.0	0.360	0.0
SUPERVISORY PERSONNEL	16	1	0	0	17	1,263	0.0	0.0	0.0
ENGINEERING PERSONNEL	2	0	0	81	83	0,077	0.0	3,832	0.0
TOTAL	241	1	0	88	330	43,948	0.0	4,192	0.0
<b>* IN-SERVICE INSPECTION</b>									
MAINTENANCE PERSONNEL	11	0	0	0	11	0,210	0.0	0.0	0.0
OPERATING PERSONNEL	4	0	0	0	4	0,120	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	2	0	0	3	5	0,022	0.0	0.033	0.0
SUPERVISORY PERSONNEL	1	0	0	0	1	0,007	0.0	0.0	0.0
ENGINEERING PERSONNEL	1	0	0	65	66	0,012	0.0	18,937	0.0
TOTAL	19	0	0	68	87	0,371	0.0	18,970	0.0
<b>* SPECIAL MAINTENANCE</b>									
MAINTENANCE PERSONNEL	154	0	0	1	155	72,943	0.0	0.108	0.0
OPERATING PERSONNEL	53	0	0	0	53	9,099	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	19	0	0	43	62	4,247	0.0	8,810	0.0
SUPERVISORY PERSONNEL	22	0	0	1	23	5,297	0.0	1,136	0.0
ENGINEERING PERSONNEL	6	0	0	260	266	0,857	0.0	91,099	0.0
TOTAL	251	0	0	305	556	92,443	0.0	101,153	0.0
<b>* WASTE PROCESSING</b>									
MAINTENANCE PERSONNEL	9	0	0	0	9	0,491	0.0	0.0	0.0
OPERATING PERSONNEL	17	0	0	0	17	1,697	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	10	0	0	9	19	1,521	0.0	4,103	0.0
SUPERVISORY PERSONNEL	4	0	0	0	4	1,196	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	1	1	0,000	0.0	0,006	0.0
TOTAL	40	0	0	10	50	4,905	0.0	4,109	0.0
<b>* REFUELING</b>									
MAINTENANCE PERSONNEL	61	0	0	0	61	9,483	0.0	0.0	0.0
OPERATING PERSONNEL	22	0	0	0	22	1,308	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	3	0	0	9	12	0,136	0.0	0,172	0.0
SUPERVISORY PERSONNEL	13	0	0	0	13	1,779	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	11	11	0,000	0.0	2,234	0.0
TOTAL	101	0	0	20	121	12,906	0.0	2,406	0.0
<b>* TOTAL BY JOB FUNCTION</b>									
MAINTENANCE PERSONNEL	474	0	0	1	475	106,863	0.0	0.108	0.0
OPERATING PERSONNEL	252	0	0	0	252	65,732	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	76	0	0	126	202	19,151	0.0	41,787	0.0
SUPERVISORY PERSONNEL	95	2	0	98	195	23,290	0.0	1,136	0.0
ENGINEERING PERSONNEL	15	0	0	461	476	1,342	0.0	117,290	0.0
GRAND TOTAL	912	2	0	589	1503	216,378	0.0	160,321	0.0

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: FITZPATRICK (BWR) 1980

WORK & JOB FUNCTION	STATION EMPLOYEES		NUMBER OF PERSONNEL (>100 M REM)		TOTAL PERSONS		STATION EMPLOYEES		UTILITY CONTRACTORS & OTHERS		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY CONTRACTORS & OTHERS	STATION EMPLOYEES	UTILITY CONTRACTORS & OTHERS	STATION EMPLOYEES	UTILITY CONTRACTORS & OTHERS	STATION EMPLOYEES	UTILITY CONTRACTORS & OTHERS	STATION EMPLOYEES	UTILITY CONTRACTORS & OTHERS	STATION EMPLOYEES	UTILITY CONTRACTORS & OTHERS
* REACTOR OPERATIONS & SURV.												
MAINTENANCE PERSONNEL	71	0	55	0	6	0	0	0	0	0	8	0
OPERATING PERSONNEL	87	0	55	0	23	0	0	0	0	0	5	0
HEALTH PHYSICS PERSONNEL	18	0	54	0	3	0	0	0	0	0	68	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	43	0	38	0	0	0	0	0	0	0	0	0
TOTAL	219	0	202	0	421	0	41	0	0	0	83	124
* ROUTINE MAINTENANCE												
MAINTENANCE PERSONNEL	80	0	616	0	136	0	0	0	0	0	668	0
OPERATING PERSONNEL	61	0	12	0	9	0	0	0	0	0	1	0
HEALTH PHYSICS PERSONNEL	10	0	18	0	1	0	0	0	0	0	1	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	33	0	83	0	10	0	0	0	0	0	24	0
TOTAL	184	0	729	0	156	0	10	0	0	0	694	850
* IN-SERVICE INSPECTION												
MAINTENANCE PERSONNEL	33	0	307	0	3	0	0	0	0	0	48	0
OPERATING PERSONNEL	41	0	2	0	3	0	0	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	1	0	7	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	21	0	88	0	0	0	0	0	0	0	0	0
TOTAL	96	0	404	0	500	0	6	0	0	0	50	56
* SPECIAL MAINTENANCE												
MAINTENANCE PERSONNEL	44	0	1034	0	8	0	0	0	0	0	955	0
OPERATING PERSONNEL	30	0	9	0	2	0	0	0	0	0	1	0
HEALTH PHYSICS PERSONNEL	3	0	8	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	12	0	62	0	0	0	0	0	0	0	0	0
TOTAL	89	0	1113	0	1202	0	10	0	0	0	966	976
* WASTE PROCESSING												
MAINTENANCE PERSONNEL	77	0	375	0	15	0	0	0	0	0	87	0
OPERATING PERSONNEL	41	0	4	0	13	0	0	0	0	0	6	0
HEALTH PHYSICS PERSONNEL	6	0	9	0	0	0	0	0	0	0	1	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	11	0	18	0	2	0	0	0	0	0	5	0
TOTAL	135	0	406	0	541	0	30	0	0	0	99	119
* REFUELING												
MAINTENANCE PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
OPERATING PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
* TOTAL BY JOB FUNCTION												
MAINTENANCE PERSONNEL	305	0	2387	0	2692	0	168	0	0	0	1766	1934
OPERATING PERSONNEL	260	0	82	0	342	0	50	0	0	0	13	63
HEALTH PHYSICS PERSONNEL	38	0	96	0	134	0	10	0	0	0	71	81
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	120	0	289	0	409	0	12	0	0	0	42	54
GRAND TOTAL	723	0	2854	0	3877	0	243	0	0	0	1872	2136

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: FORT CALHOUN (PWR)	NUMBER OF PERSONNEL (>100 M REM) 1980		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY CONTRACT & OTHERS
<b>WORK &amp; JOB FUNCTION</b>	<b>STATION EMPLOYEES</b>	<b>UTILITY CONTRACT &amp; OTHERS</b>	<b>STATION EMPLOYEES</b>	<b>UTILITY CONTRACT &amp; OTHERS</b>
* REACTOR OPERATIONS & SURV.				
MAINTENANCE PERSONNEL	5	15	1,619	0,812
OPERATING PERSONNEL	20	0	8,584	0,000
HEALTH PHYSICS PERSONNEL	10	16	3,516	9,266
SUPERVISORY PERSONNEL	3	0	1,001	0,000
ENGINEERING PERSONNEL	9	1	4,021	3,059
<b>TOTAL</b>	<b>47</b>	<b>32</b>	<b>18,741</b>	<b>16,179</b>
* ROUTINE MAINTENANCE				
MAINTENANCE PERSONNEL	32	35	13,593	8,557
OPERATING PERSONNEL	0	0	0,147	0,000
HEALTH PHYSICS PERSONNEL	0	0	0,015	0,125
SUPERVISORY PERSONNEL	0	0	0,025	0,000
ENGINEERING PERSONNEL	1	0	0,238	0,351
<b>TOTAL</b>	<b>33</b>	<b>35</b>	<b>14,008</b>	<b>13,702</b>
* IN-SERVICE INSPECTION				
MAINTENANCE PERSONNEL	2	161	0,560	1,445
OPERATING PERSONNEL	0	0	0,250	0,000
HEALTH PHYSICS PERSONNEL	0	0	0,111	0,265
SUPERVISORY PERSONNEL	0	0	0,057	0,197
ENGINEERING PERSONNEL	3	1	1,589	8,951
<b>TOTAL</b>	<b>5</b>	<b>162</b>	<b>2,567</b>	<b>158,609</b>
* SPECIAL MAINTENANCE				
MAINTENANCE PERSONNEL	37	169	30,292	15,446
OPERATING PERSONNEL	4	0	1,033	0,000
HEALTH PHYSICS PERSONNEL	9	5	5,671	0,098
SUPERVISORY PERSONNEL	1	0	0,985	0,000
ENGINEERING PERSONNEL	7	1	6,905	5,388
<b>TOTAL</b>	<b>58</b>	<b>175</b>	<b>44,886</b>	<b>20,962</b>
* WASTE PROCESSING				
MAINTENANCE PERSONNEL	12	14	8,720	4,646
OPERATING PERSONNEL	4	0	1,225	0,000
HEALTH PHYSICS PERSONNEL	6	2	3,373	0,062
SUPERVISORY PERSONNEL	0	0	0,086	0,000
ENGINEERING PERSONNEL	1	3	0,252	0,506
<b>TOTAL</b>	<b>23</b>	<b>17</b>	<b>13,656</b>	<b>5,214</b>
* REFUELING				
MAINTENANCE PERSONNEL	37	137	40,223	38,789
OPERATING PERSONNEL	29	0	5,528	0,349
HEALTH PHYSICS PERSONNEL	7	16	4,036	0,005
SUPERVISORY PERSONNEL	9	0	2,432	0,217
ENGINEERING PERSONNEL	11	0	9,848	4,306
<b>TOTAL</b>	<b>93</b>	<b>153</b>	<b>61,865</b>	<b>43,666</b>
* TOTAL BY JOB FUNCTION				
MAINTENANCE PERSONNEL	125	119	95,007	69,695
OPERATING PERSONNEL	57	2	16,767	0,475
HEALTH PHYSICS PERSONNEL	32	1	16,722	0,401
SUPERVISORY PERSONNEL	13	2	4,586	0,559
ENGINEERING PERSONNEL	32	44	22,641	22,561
<b>GRAND TOTAL</b>	<b>259 (112)</b>	<b>168 (102)</b>	<b>155,723 (554)</b>	<b>93,691 (537,677)</b>

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: GINNA 1 (PUR) 1980

* WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL PERSONS	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL MAN-REMS
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS		EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	
<b>* REACTOR OPERATIONS &amp; SUPV.</b>														
MAINTENANCE PERSONNEL	47	0	246	0	0	0	7.27	7.01	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	43	0	0	0	27	0	15.76	0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	21	0	0	0	0	0	5.87	0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	116	0	0	0	0	0	5.99	0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	18	0	379	0	0.0	2.72	0.0	15.53	0.0	0.0	0.0	
<b>TOTAL</b>	<b>227</b>	<b>0</b>	<b>264</b>	<b>0</b>	<b>397</b>	<b>0</b>	<b>34.89</b>	<b>9.73</b>	<b>19.70</b>	<b>64.32</b>	<b>0.0</b>	<b>0.0</b>	<b>64.32</b>	
<b>* ROUTINE MAINTENANCE</b>														
MAINTENANCE PERSONNEL	51	0	265	0	0	0	18.35	150.78	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	20	0	0	0	27	0	1.03	0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	17	0	0	0	0	0	3.98	0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	48	0	0	0	0	0	0.79	0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	12	0	395	0	0.0	1.94	0.0	63.13	0.0	0.0	0.0	
<b>TOTAL</b>	<b>135</b>	<b>0</b>	<b>277</b>	<b>0</b>	<b>422</b>	<b>0</b>	<b>24.15</b>	<b>152.72</b>	<b>68.53</b>	<b>245.40</b>	<b>0.0</b>	<b>0.0</b>	<b>245.40</b>	
<b>* IN-SERVICE INSPECTION</b>														
MAINTENANCE PERSONNEL	33	0	146	0	0	0	1.45	48.80	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	4	0	0	0	0	0	0.15	0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	6	0	0	0	22	0	0.69	0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	7	0	0	0	0	0	0.50	0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	5	0	171	0	0.0	0.72	0.0	26.75	0.0	0.0	0.0	
<b>TOTAL</b>	<b>50</b>	<b>0</b>	<b>151</b>	<b>0</b>	<b>193</b>	<b>0</b>	<b>2.79</b>	<b>49.52</b>	<b>28.99</b>	<b>81.30</b>	<b>0.0</b>	<b>0.0</b>	<b>81.30</b>	
<b>* SPECIAL MAINTENANCE</b>														
MAINTENANCE PERSONNEL	50	0	236	0	0	0	20.15	76.73	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	10	0	0	0	0	0	1.22	0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	12	0	0	0	27	0	4.23	0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	25	0	0	0	0	0	0.99	0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	14	0	421	0	0.0	1.97	0.0	162.14	0.0	0.0	0.0	
<b>TOTAL</b>	<b>97</b>	<b>0</b>	<b>250</b>	<b>0</b>	<b>448</b>	<b>0</b>	<b>26.37</b>	<b>78.70</b>	<b>162.14</b>	<b>256.20</b>	<b>0.0</b>	<b>0.0</b>	<b>256.20</b>	
<b>* WASTE PROCESSING</b>														
MAINTENANCE PERSONNEL	26	0	46	0	0	0	2.60	5.44	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	12	0	0	0	0	0	0.49	0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	12	0	0	0	18	0	0.37	0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	24	0	0	0	0	0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	1	0	89	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>TOTAL</b>	<b>74</b>	<b>0</b>	<b>47</b>	<b>0</b>	<b>107</b>	<b>0</b>	<b>3.58</b>	<b>5.44</b>	<b>6.22</b>	<b>15.25</b>	<b>0.0</b>	<b>0.0</b>	<b>15.25</b>	
<b>* REFUELING</b>														
MAINTENANCE PERSONNEL	79	0	60	0	0	0	2.99	11.43	0.0	0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	6	0	0	0	0	0	2.85	0.0	0.0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	6	0	0	0	16	0	0.34	0.0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	38	0	0	0	0	0	2.38	0.0	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	2	0	78	0	0.0	1.60	0.0	28.42	0.0	0.0	0.0	
<b>TOTAL</b>	<b>79</b>	<b>0</b>	<b>62</b>	<b>0</b>	<b>94</b>	<b>0</b>	<b>8.16</b>	<b>13.03</b>	<b>30.30</b>	<b>51.49</b>	<b>0.0</b>	<b>0.0</b>	<b>51.49</b>	
<b>* TOTAL BY JOB FUNCTION</b>														
MAINTENANCE PERSONNEL	236 (51)	0	999 (330)	0	1235 (381)	0	52.41	300.19	0.0	352.60	0.0	0.0	352.60	
OPERATING PERSONNEL	95 (43)	0	0	0	95 (43)	0	21.50	0.0	0.0	21.50	0.0	0.0	21.50	
HEALTH PHYSICS PERSONNEL	74 (21)	0	0	0	211 (48)	0	15.48	0.0	0.0	15.48	0.0	0.0	15.48	
SUPERVISORY PERSONNEL	258 (122)	0	0	0	258 (122)	0	10.77	0.0	0.0	10.77	0.0	0.0	10.77	
ENGINEERING PERSONNEL	0	0	52 (22)	0	1576 (698)	0	0.0	8.96	0.0	281.68	0.0	0.0	281.68	
<b>GRAND TOTAL</b>	<b>653 (277)</b>	<b>1051 (352)</b>	<b>1661 (603)</b>	<b>1000 (16)</b>	<b>3373 (1102)</b>	<b>0</b>	<b>100.16</b>	<b>309.19</b>	<b>309.19</b>	<b>713.97</b>	<b>281.68</b>	<b>0.0</b>	<b>713.97</b>	

Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

PLANT: HADDAM NECK (PWR) NUMBER OF PERSONNEL AND MAN-REM BY WOPK AND JOB FUNCTION 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M. REM)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
* REACTOR OPERATIONS & SURV.	5	3	5	4.01	0.50	3.58	
MAINTENANCE PERSONNEL	40	0	54	32.86	0.15	17.60	
HEALTH PHYSICS PERSONNEL	21	6	105	11.91	3.53	75.67	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.02	
ENGINEERING PERSONNEL	1	1	0	0.55	0.79	0.22	
TOTAL	67	10	164	49.33	4.97	97.09	151.39
* ROUTINE MAINTENANCE	29	78	160	43.41	37.93	83.31	
MAINTENANCE PERSONNEL	23	1	17	8.58	0.49	7.65	
HEALTH PHYSICS PERSONNEL	18	5	207	8.01	3.01	120.65	
SUPERVISORY PERSONNEL	0	0	1	0.0	0.03	0.84	
ENGINEERING PERSONNEL	2	2	32	4.15	0.90	20.38	
TOTAL	72	86	417	64.15	52.36	232.83	339.34
* IN-SERVICE INSPECTION	11	26	75	3.27	8.91	41.78	
MAINTENANCE PERSONNEL	3	1	7	1.87	0.63	2.12	
HEALTH PHYSICS PERSONNEL	0	0	4	0.12	0.03	1.51	
SUPERVISORY PERSONNEL	2	4	1	0.0	0.0	0.66	
ENGINEERING PERSONNEL	16	31	125	1.53	1.41	29.69	
TOTAL	16	31	125	6.79	10.98	75.56	93.33
* SPECIAL MAINTENANCE	21	32	512	10.67	11.75	340.73	
MAINTENANCE PERSONNEL	3	3	9	1.30	1.50	4.49	
HEALTH PHYSICS PERSONNEL	4	2	48	1.22	0.67	16.44	
SUPERVISORY PERSONNEL	0	1	8	0.0	0.28	3.33	
ENGINEERING PERSONNEL	3	14	34	0.99	4.50	16.79	
TOTAL	31	52	611	14.18	18.70	381.78	414.60
* BASIC PROCESSING	6	0	1	0.88	0.18	0.92	
MAINTENANCE PERSONNEL	2	0	0	0.73	0.0	0.08	
HEALTH PHYSICS PERSONNEL	3	0	63	10.33	0.0	30.28	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	9	0	66	0.03	0.0	0.0	
TOTAL	9	0	66	11.97	0.18	31.28	43.43
* REFUELING	11	7	70	5.18	2.53	64.76	
MAINTENANCE PERSONNEL	11	1	8	5.13	0.16	2.62	
HEALTH PHYSICS PERSONNEL	0	0	23	0.02	0.02	6.46	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	3	2	35	1.87	0.70	36.76	
TOTAL	27	10	136	12.20	3.41	110.60	126.21
* TOTAL BY JOB FUNCTION	81	146	825	67.42	61.80	535.08	664.30
MAINTENANCE PERSONNEL	82	6	95	50.47	2.93	34.56	87.96
HEALTH PHYSICS PERSONNEL	46	13	450	31.61	7.26	251.01	289.88
SUPERVISORY PERSONNEL	0	1	10	0.0	0.31	4.65	4.96
ENGINEERING PERSONNEL	13	23	139	9.12	8.30	103.84	121.26
TOTAL	222	172	1519	158.62	80.60	929.19	1104.36

\* Workers may be counted in more than one category.



APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1980

PLANT: E. I. HATCH 1, 2 (BNR)	NUMBER OF PERSONNEL (>100 M REM)		STATION EMPLOYEES		TOTAL PERSONS		STATION EMPLOYEES		TOTAL MAN-PEMS	
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	CONTRACT & OTHERS	UTILITY EMPLOYEES	CONTRACT & OTHERS	UTILITY EMPLOYEES	CONTRACT & OTHERS	UTILITY EMPLOYEES	CONTRACT & OTHERS
* WORK & JOB FUNCTION										
REACTOR OPERATIONS & SURV.	14	0	3	0	5	0	0	0	0	0
MAINTENANCE PERSONNEL	139	3	0	0	95	1	0	0	0	0
HEALTH PHYSICS PERSONNEL	44	2	41	0	30	1	20	0	0	0
SUPERVISORY PERSONNEL	35	15	2	0	8	4	1	0	0	0
ENGINEERING PERSONNEL	30	3	6	0	7	1	2	0	0	0
TOTAL	262	23	52	0	145	7	23	0	0	0
* ROUTINE MAINTENANCE										
MAINTENANCE PERSONNEL	188	7	56	0	88	2	13	0	0	0
OPERATING PERSONNEL	60	0	0	0	28	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	9	0	2	0	6	0	0	0	0	0
SUPERVISORY PERSONNEL	6	1	0	0	1	0	0	0	0	0
ENGINEERING PERSONNEL	24	2	10	0	4	0	0	0	0	0
TOTAL	287	10	68	0	127	2	17	0	0	0
* IN-SERVICE INSPECTION										
MAINTENANCE PERSONNEL	0	0	6	0	0	0	0	0	0	0
OPERATING PERSONNEL	0	0	0	0	0	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	1	1	2	0	0	0	0	0	0	0
TOTAL	1	1	8	0	0	0	0	0	0	0
* SPECIAL MAINTENANCE										
MAINTENANCE PERSONNEL	102	22	424	0	47	5	124	0	0	0
OPERATING PERSONNEL	25	0	0	0	5	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	0	0	41	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	2	4	0	0	0	11	0	0	0
ENGINEERING PERSONNEL	10	4	66	0	3	2	21	0	0	0
TOTAL	137	32	539	0	55	7	158	0	0	0
* WASTE PROCESSING										
MAINTENANCE PERSONNEL	0	0	1	0	2	0	0	0	0	0
OPERATING PERSONNEL	21	0	0	0	4	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	0	0	0	0	0	0	0	0	0	0
TOTAL	29	0	1	0	6	0	0	0	0	0
* REFUELING										
MAINTENANCE PERSONNEL	0	0	0	0	0	0	0	0	0	0
OPERATING PERSONNEL	1	0	0	0	0	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	0	1	0	0	0	0	0	0	0	0
TOTAL	1	1	0	0	0	0	0	0	0	0
* TOTAL BY JOB FUNCTION										
MAINTENANCE PERSONNEL	312 (204)	29 (26)	490 (451)	0	831 (681)	142	138	287	0	0
OPERATING PERSONNEL	246 (182)	3 (3)	0	0	249 (185)	132	0	133	0	0
HEALTH PHYSICS PERSONNEL	53 (48)	2 (2)	84 (75)	0	139 (125)	36	31	68	0	0
SUPERVISORY PERSONNEL	41 (42)	18 (18)	10 (10)	0	69 (70)	9	3	16	0	0
ENGINEERING PERSONNEL	65 (56)	15 (13)	84 (80)	0	164 (149)	14	27	44	0	0
GRAND TOTAL	717 (532)	67 (62)	668 (618)	0	1452 (1210)	333	199	548	0	0

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1980

PLANT: HUMBOLDT BAY (BWR)	NUMBER OF PERSONNEL (>100 M REM)		TOTAL		STATION		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	PERSONS	EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	MAN-REMS
<b>WORK &amp; JOB FUNCTION</b>								
REACTOR OPERATIONS & SURV.				19	6.6	0.0	0.0	6.6
MAINTENANCE PERSONNEL	0	0	0		0.0	0.0	0.0	
OPERATING PERSONNEL	14	0	0		4.4	0.0	0.0	
HEALTH PHYSICS PERSONNEL	1	0	0		1.0	0.0	0.0	
SUPERVISORY PERSONNEL	2	0	0		0.5	0.0	0.0	
ENGINEERING PERSONNEL	2	0	0		0.7	0.0	0.0	
TOTAL	19	0	0	19	6.6	0.0	0.0	6.6
<b>ROUTINE MAINTENANCE</b>								
MAINTENANCE PERSONNEL	4	0	0		0.9	0.0	0.0	
OPERATING PERSONNEL	0	0	0		0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0		0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0		0.0	0.0	0.0	
TOTAL	4	0	0	4	0.9	0.0	0.0	0.9
<b>IN-SERVICE INSPECTION</b>								
MAINTENANCE PERSONNEL	0	0	0		0.0	0.0	0.0	
OPERATING PERSONNEL	0	0	0		0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0		0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	1	1	0.0	0.0	0.1	0.1
TOTAL	0	0	1	1	0.0	0.0	0.1	0.1
<b>SPECIAL MAINTENANCE</b>								
MAINTENANCE PERSONNEL	4	0	0		1.2	0.0	0.0	
OPERATING PERSONNEL	4	0	0		1.2	0.0	0.0	
HEALTH PHYSICS PERSONNEL	1	0	0		0.6	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	1	0	0		0.7	0.0	0.0	
TOTAL	10	0	0	10	3.7	0.0	0.0	3.7
<b>WASTE PROCESSING</b>								
MAINTENANCE PERSONNEL	2	0	0		0.5	0.0	0.0	
OPERATING PERSONNEL	1	0	3		0.1	0.0	2.0	
HEALTH PHYSICS PERSONNEL	1	0	0		0.5	0.0	0.0	
SUPERVISORY PERSONNEL	1	0	0		0.4	0.0	0.0	
ENGINEERING PERSONNEL	1	0	0		0.2	0.0	0.0	
TOTAL	6	0	3	9	1.7	0.0	2.0	3.7
<b>REFUELING</b>								
MAINTENANCE PERSONNEL	0	0	0		0.0	0.0	0.0	
OPERATING PERSONNEL	0	0	0		0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0		0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0		0.0	0.0	0.0	
TOTAL	0	0	0	0	0.0	0.0	0.0	0.0
<b>TOTAL BY JOB FUNCTION</b>								
MAINTENANCE PERSONNEL	10	0	0	10	2.6	0.0	0.0	2.6
OPERATING PERSONNEL	19	0	3	22	5.7	0.0	2.0	7.7
HEALTH PHYSICS PERSONNEL	3	0	0	3	2.1	0.0	0.0	2.1
SUPERVISORY PERSONNEL	3	0	0	3	0.9	0.0	0.0	0.9
ENGINEERING PERSONNEL	4	0	1	5	1.6	0.0	0.1	1.7
GRAND TOTAL	39	0	4	43	12.9	0.0	2.1	15.0

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

(PWHD)

Plant: INDIAN POINT 1,2

WORK & JOB FUNCTION	NUMBER OF PERSONNEL ( - 100 manrem)				TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REM
Reactor Operations & Surv Maintenance Personnel	165			165	174.6			174.6
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	165			165	174.6			174.6
Routine Maintenance								
Maintenance Personnel								
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	40			40	45.7			45.7
In-Service Inspection								
Maintenance Personnel								
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	0			0				0.0
Special Maintenance								
Maintenance Personnel								
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	0			0				0.0
Waste Processing	1	245	530	776	0.8	258.7	381.0	644.5
Maintenance Personnel								
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	1	245	530	776	0.8	258.7	381.0	644.5
Fueling	43		1	44	35.4		2.3	37.7
Maintenance Personnel								
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	43		1	44	35.4		2.3	37.7
Total Hy Job Functions	0	28	3	40	8.3	20.8	1.0	30.1
Maintenance Personnel								
Operating Personnel								
Health Physics Personnel								
Supervisory Personnel								
Engineering Personnel								
<b>TOTAL</b>	0	28	3	40	8.3	20.8	1.0	30.1
GRAND TOTAL	200	274	534	1008	270.8	283.5	384.3	938.6

No further breakdowns were provided

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: INDIAN POINT 3 (PWR)	WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM) 1980				TOTAL MAN-REMS			
		STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
		EMPLOYEES	EMPLOYEES	EMPLOYEES	PERSONS	EMPLOYEES	EMPLOYEES	EMPLOYEES	MAN-REMS
	REACTOR OPERATING PERSONNEL	4	0	7	11	1.08	0.0	3.57	4.65
	MAINTENANCE PERSONNEL	35	0	3	38	18.99	0.05	1.00	20.04
	OPERATING PHYSICS PERSONNEL	14	0	19	33	8.26	0.07	10.59	18.92
	HEALTH PHYSICS PERSONNEL	10	0	0	10	4.38	0.02	0.08	4.46
	SUPERVISORY PERSONNEL	1	0	9	10	1.03	0.0	3.76	4.79
	ENGINEERING PERSONNEL	64	0	38	102	33.74	0.14	19.00	52.88
	TOTAL	121	0	76	197	67.48	0.26	37.96	105.70
	ROUTINE MAINTENANCE	42	0	67	109	12.11	0.01	35.42	47.54
	MAINTENANCE PERSONNEL	3	0	2	5	1.02	0.02	1.92	2.94
	OPERATING PHYSICS PERSONNEL	0	0	0	0	0.12	0.02	0.47	0.61
	HEALTH PHYSICS PERSONNEL	4	0	0	4	9.09	0.02	0.73	9.84
	SUPERVISORY PERSONNEL	1	0	0	1	0.41	0.03	0.73	1.14
	ENGINEERING PERSONNEL	50	0	71	121	22.73	0.10	39.27	62.00
	TOTAL	100	0	79	179	46.06	0.18	77.62	123.86
	IN-SERVICE INSPECTION	10	0	21	31	3.60	0.0	10.09	13.69
	MAINTENANCE PERSONNEL	0	0	2	2	0.02	0.0	0.39	0.41
	OPERATING PHYSICS PERSONNEL	0	0	0	0	0.0	0.04	0.0	0.04
	HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.90	0.90
	SUPERVISORY PERSONNEL	2	0	4	6	0.49	0.0	0.60	1.09
	ENGINEERING PERSONNEL	8	0	1	9	0.01	0.0	0.60	0.61
	TOTAL	12	0	28	40	4.12	0.04	11.98	16.14
	SPECIAL MAINTENANCE	65	0	280	345	32.56	0.01	123.98	156.55
	MAINTENANCE PERSONNEL	18	0	3	21	4.69	0.01	1.34	6.04
	OPERATING PHYSICS PERSONNEL	7	0	27	34	3.20	0.06	15.21	18.41
	HEALTH PHYSICS PERSONNEL	12	1	9	22	4.44	0.23	3.34	7.99
	SUPERVISORY PERSONNEL	8	1	35	44	3.60	0.29	11.89	15.69
	ENGINEERING PERSONNEL	110	1	354	465	48.49	0.60	155.76	204.85
	TOTAL	102	2	407	511	58.49	0.90	187.26	240.55
	WASTE PROCESSING	0	0	11	11	0.10	0.0	3.75	3.85
	MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.0	0.15	0.15
	OPERATING PHYSICS PERSONNEL	3	0	1	4	0.85	0.0	3.30	4.15
	HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0
	SUPERVISORY PERSONNEL	0	0	0	0	0.01	0.0	0.0	0.01
	ENGINEERING PERSONNEL	3	0	12	15	0.96	0.0	7.20	8.16
	TOTAL	3	0	12	15	0.96	0.0	7.20	8.16
	REFUELLING	0	0	8	8	0.0	0.0	2.79	2.79
	MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0
	OPERATING PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0
	HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.03	0.03
	SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0
	ENGINEERING PERSONNEL	0	0	8	8	0.0	0.0	2.82	2.82
	TOTAL	0	0	8	8	0.0	0.0	2.82	2.82
	TOTAL BY JOB FUNCTION	121	0	394	515	49.45	0.02	179.60	229.07
	MAINTENANCE PERSONNEL	56	0	10	66	24.72	0.08	3.91	28.71
	OPERATING PHYSICS PERSONNEL	24	0	49	73	12.43	0.19	31.02	43.64
	HEALTH-PHYSICS PERSONNEL	28	1	43	72	18.40	0.27	4.82	23.49
	SUPERVISORY PERSONNEL	10	0	45	55	5.06	0.32	16.92	22.36
	ENGINEERING PERSONNEL	239	1	511	751	110.06	0.88	236.33	347.27
	GRAND TOTAL	239	1	511	751	110.06	0.88	236.33	347.27

\*Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: KEWAUNEE (PWR)

NUMBER OF PERSONNEL (>10J M REM) 1980

WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY CONTRACT & OTHERS		TOTAL PERSONS	STATION EMPLOYEES		UTILITY CONTRACT & OTHERS		TOTAL MAN-REMS
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS		EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	
REACTOR OPERATIONS & SUPV.	4	1	5	0	5	0.189	0.040	0.013	0.040	
MAINTENANCE PERSONNEL	25	0	1	0	26	3.860	0.012	0.0	0.012	
OPERATING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	7	1	0	0	8	1.086	0.0	0.002	0.0	
SUPERVISORY PERSONNEL	4	8	5	0	17	0.388	0.0	0.705	0.235	
ENGINEERING PERSONNEL	40	10	11	61	122	5.523	0.720	0.287	0.287	5.530
TOTAL	74	20	26	71	121	12.262	0.698	1.506	2.159	17.956

\* ROUTINE MAINTENANCE

MAINTENANCE PERSONNEL	11	10	6	29	6.615	0.106	6.343	0.506	40.966	58.923
OPERATING PERSONNEL	15	0	9	12	0.032	0.0	2.269	0.0	0.030	
HEALTH PHYSICS PERSONNEL	0	0	1	0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	5	0	11	12	0.135	0.0	6.531	0.0	0.0	
ENGINEERING PERSONNEL	2	0	2	5	0.392	1.200	0.333	0.0	0.333	
TOTAL	33	10	29	58	7.534	1.506	15.476	0.506	41.329	17.956

\* IN-SERVICE INSPECTION

MAINTENANCE PERSONNEL	6	1	29	36	0.615	0.106	6.343	0.506	40.966	58.923
OPERATING PERSONNEL	3	0	12	15	0.032	0.0	2.269	0.0	0.030	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	2	0	12	14	0.135	0.0	6.531	0.0	0.0	
ENGINEERING PERSONNEL	2	0	5	7	0.392	1.200	0.333	0.0	0.333	
TOTAL	13	1	58	72	1.274	1.506	15.476	0.506	41.329	17.956

\* SPECIAL MAINTENANCE

MAINTENANCE PERSONNEL	31	10	76	117	11.056	0.506	40.966	0.506	40.966	58.923
OPERATING PERSONNEL	10	0	1	11	0.282	0.0	0.030	0.0	0.030	
HEALTH PHYSICS PERSONNEL	6	0	0	6	0.524	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	3	1	0	4	0.255	0.113	0.0	0.0	0.0	
ENGINEERING PERSONNEL	53	16	85	154	0.107	0.979	4.722	0.0	4.722	
TOTAL	103	27	162	232	12.226	1.598	45.718	0.506	45.718	58.923

\* WASTE PROCESSING

MAINTENANCE PERSONNEL	20	7	10	37	5.251	0.057	0.171	0.057	0.171	14.163
OPERATING PERSONNEL	27	0	0	27	8.432	0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	6	0	0	6	0.252	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	1	0	0	1	0.0	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
TOTAL	54	7	10	71	13.935	0.057	0.171	0.057	0.171	14.163

\* REFUELLING

MAINTENANCE PERSONNEL	20	10	11	41	1.837	3.544	2.882	3.544	2.882	13.409
OPERATING PERSONNEL	9	0	9	18	0.063	0.0	4.882	0.0	4.882	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	3	0	0	3	0.034	0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	2	3	0	5	0.167	0.0	0.0	0.0	0.0	
TOTAL	34	13	20	67	2.101	3.544	7.764	3.544	7.764	13.409

\* TOTAL BY JOB FUNCTION

MAINTENANCE PERSONNEL	112	39	193	344	23.995	4.924	65.388	4.924	65.388	94.507
OPERATING PERSONNEL	29	0	32	121	13.505	0.0	8.652	0.0	8.652	22.157
HEALTH PHYSICS PERSONNEL	21	0	11	32	6.951	0.0	3.183	0.0	3.183	10.134
SUPERVISORY PERSONNEL	21	2	23	46	1.649	0.115	8.460	0.115	8.460	10.224
ENGINEERING PERSONNEL	13	22	20	55	1.12	2.265	5.321	2.265	5.321	8.707
GUARD TOTAL	186	64	277	527	47.221	7.419	91.007	7.419	91.007	143.531

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: LACROSSE (B&P)	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL PERSONS	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL MAN-REMS
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS		EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	
* WORK & JOB FUNCTION														
REACTOR OPERATIONS & SUPV	9	0	0	0	0	0	52	1,964	0.0	0.0	0.006			61,779
MAINTENANCE PERSONNEL	21	0	0	0	0	0		41,012	0.0	0.0	0.0			
OPERATING PERSONNEL	7	0	0	0	0	0		7,824	0.0	0.0	0.0			
HEALTH PHYSICS PERSONNEL	11	0	0	0	0	0		7,255	0.0	0.0	0.619			
SUPERVISORY PERSONNEL	4	0	0	0	0	0		3,062	0.0	0.0	0.037			
ENGINEERING PERSONNEL	52	0	0	0	0	0		61,117	0.0	0.0	0.662			
TOTAL														
* ROUTINE MAINTENANCE														
MAINTENANCE PERSONNEL	20	1	1	2	0	0		24,525	0.067	0.591	0.591			
OPERATING PERSONNEL	16	0	0	0	0	0		5,377	0.0	0.0	0.0			
HEALTH PHYSICS PERSONNEL	6	0	0	0	0	0		2,437	0.0	0.0	0.0			
SUPERVISORY PERSONNEL	3	0	0	0	0	0		0,814	0.0	0.0	0.207			
ENGINEERING PERSONNEL	1	0	0	0	0	0		0,297	0.0	0.0	0.072			
TOTAL	45	1	1	2	0	0	48	33,450	0.067	0.870	0.870			34,387
* IN-SERVICE INSPECTION														
MAINTENANCE PERSONNEL	8	0	0	8	0	0		5,793	0.0	0.0	7.120			
OPERATING PERSONNEL	8	0	0	0	0	0		2,620	0.0	0.0	0.0			
HEALTH PHYSICS PERSONNEL	2	0	0	0	0	0		0,426	0.0	0.0	0.0			
SUPERVISORY PERSONNEL	7	0	0	4	0	0		9,451	0.0	0.0	0.734			
ENGINEERING PERSONNEL	0	0	0	0	0	0		0,015	0.0	0.0	0.0			
TOTAL	25	0	0	12	0	0	37	18,305	0.0	0.0	7.854			26,159
* SPECIAL MAINTENANCE														
MAINTENANCE PERSONNEL	13	2	1	1	0	0		11,506	0.312	0.160	0.160			
OPERATING PERSONNEL	3	0	0	0	0	0		1,374	0.0	0.0	0.0			
HEALTH PHYSICS PERSONNEL	5	0	0	0	0	0		1,442	0.0	0.0	0.0			
SUPERVISORY PERSONNEL	9	0	0	0	0	0		11,256	0.0	0.0	0.0			
ENGINEERING PERSONNEL	3	0	0	0	0	0		3,228	0.0	0.0	0.097			
TOTAL	33	2	1	1	0	0	35	28,806	0.312	0.257	0.257			29,375
* WASTE PROCESSING														
MAINTENANCE PERSONNEL	10	0	0	0	0	0		5,497	0.0	0.0	0.022			
OPERATING PERSONNEL	5	0	0	0	0	0		1,349	0.0	0.0	0.0			
HEALTH PHYSICS PERSONNEL	7	0	0	0	0	0		13,243	0.0	0.0	0.0			
SUPERVISORY PERSONNEL	5	0	0	0	0	0		4,623	0.0	0.0	0.0			
ENGINEERING PERSONNEL	1	0	0	0	0	0		0,354	0.0	0.0	0.032			
TOTAL	28	0	0	0	0	0	28	25,066	0.0	0.0	0.054			25,120
* REFUELING														
MAINTENANCE PERSONNEL	15	2	0	0	0	0		16,875	1.922	0.0	0.0			
OPERATING PERSONNEL	19	0	0	0	0	0		5,792	0.0	0.0	0.0			
HEALTH PHYSICS PERSONNEL	7	0	0	0	0	0		4,087	0.0	0.0	0.0			
SUPERVISORY PERSONNEL	9	0	0	0	0	0		6,554	0.0	0.0	0.074			
ENGINEERING PERSONNEL	4	0	0	0	0	0		1,801	0.0	0.0	1.254			
TOTAL	54	2	0	0	0	0	58	35,109	1.922	1.328	1.328			38,359
* TOTAL BY JOB FUNCTION														
MAINTENANCE PERSONNEL	75 (21)	5 (2)	11	11	0	0	91 (34)	66,160	2.301	7.899	7.899			76,360
OPERATING PERSONNEL	72 (21)	0	0	0	0	0	72 (21)	57,524	0.0	0.0	0.0			57,524
HEALTH PHYSICS PERSONNEL	34 (7)	0	0	0	0	0	34 (7)	29,459	0.0	0.0	0.0			29,459
SUPERVISORY PERSONNEL	43 (13)	0	4 (6)	4 (6)	0	0	47 (19)	39,953	0.0	0.0	1.634			41,587
ENGINEERING PERSONNEL	12 (7)	0	2	2	0	0	14 (9)	8,757	0.0	1.492	1.492			10,249
GRAND TOTAL	236 (69)	5 (2)	17 (19)	17 (19)	0	0	258 (90)	201,853	2.301	11.025	11.025			215,179

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLAN: MAINE YANKEE (PWR)

1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
REACTOR OPERATIONS & SURV.	2	0	0	0.770	0.320	0.060	
MAINTENANCE PERSONNEL	47	0	4	52.489	0.0	0.923	
OPERATING PERSONNEL	18	1	31	14.605	0.160	13.339	
HEALTH PHYSICS PERSONNEL	70	8	13	26.568	1.800	3.950	
SUPERVISORY PERSONNEL	19	13	37	7.761	4.771	13.432	
ENGINEERING PERSONNEL	156	24	85	102.193	7.051	31.704	140.948
TOTAL	265	265	265				
* EQUIPMENT MAINTENANCE							
MAINTENANCE PERSONNEL	35	3	157	37.075	0.895	77.769	
OPERATING PERSONNEL	1	0	0	0.329	0.0	0.0	
HEALTH PHYSICS PERSONNEL	1	0	1	1.420	0.0	0.205	
SUPERVISORY PERSONNEL	2	2	1	1.010	0.735	0.165	
ENGINEERING PERSONNEL	2	0	1	1.320	0.015	0.145	
TOTAL	41	5	160	41.154	1.645	78.284	121.083
* IN-SERVICE INSPECTION							
MAINTENANCE PERSONNEL	5	0	28	1.630	0.0	14.000	
OPERATING PERSONNEL	1	0	0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	1	0	0	0.185	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.050	0.020	
ENGINEERING PERSONNEL	2	4	8	0.390	0.855	3.395	
TOTAL	8	4	36	2.205	0.905	17.415	20.525
* SPECIAL MAINTENANCE							
MAINTENANCE PERSONNEL	7	0	102	1.590	0.0	66.172	
OPERATING PERSONNEL	2	0	0	0.670	0.0	0.030	
HEALTH PHYSICS PERSONNEL	0	0	1	0.100	0.0	0.234	
SUPERVISORY PERSONNEL	0	0	0	0.040	0.140	0.095	
ENGINEERING PERSONNEL	4	5	10	1.003	2.130	1.660	
TOTAL	13	5	113	3.403	2.270	71.191	76.864
* WASTE PROCESSING							
MAINTENANCE PERSONNEL	11	0	14	2.905	0.0	4.845	
OPERATING PERSONNEL	25	0	0	10.633	0.0	0.035	
HEALTH PHYSICS PERSONNEL	0	0	0	0.095	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0.135	0.0	0.100	
ENGINEERING PERSONNEL	1	0	0	0.170	0.065	0.010	
TOTAL	37	0	14	13.938	0.065	4.990	18.993
* REFUELING							
MAINTENANCE PERSONNEL	29	2	164	20.903	0.400	95.811	
OPERATING PERSONNEL	30	0	4	14.822	0.0	0.990	
HEALTH PHYSICS PERSONNEL	5	0	28	1.535	0.0	17.404	
SUPERVISORY PERSONNEL	2	1	0	0.428	1.765	0.290	
ENGINEERING PERSONNEL	9	10	29	4.433	3.572	16.679	
TOTAL	75	13	225	42.121	5.737	129.174	177.032
* TOTAL BY JOB FUNCTION							
MAINTENANCE PERSONNEL	89	7	465	64.873	1.615	258.657	325.145
OPERATING PERSONNEL	105	0	8	78.943	0.0	1.978	80.921
HEALTH PHYSICS PERSONNEL	25	1	61	17.940	0.160	31.182	49.282
SUPERVISORY PERSONNEL	74	14	99	28.181	4.490	4.620	37.291
ENGINEERING PERSONNEL	37	32	85	15.077	11.408	36.321	62.806
GRAND TOTAL	330	51	633	205.014	17.673	332.758	555.445

\* Workers may be counted in more than one category.

APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1980

PLANT: MILLSTONE 1 (BWR)	NUMBER OF PERSONNEL (>100 M REM)		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY EMPLOYEES	STATION EMPLOYEES	UTILITY EMPLOYEES
<b>*WORK &amp; JOB FUNCTION</b>				
MAINTENANCE PERSONNEL	11	0	9.49	0.01
OPERATING PERSONNEL	45	0	45.18	0.25
HEALTH PHYSICS PERSONNEL	16	4	15.11	1.46
SUPERVISORY PERSONNEL	2	0	0.58	0.00
ENGINEERING PERSONNEL	2	1	0.86	0.31
<b>TOTAL</b>	<b>76</b>	<b>60</b>	<b>71.22</b>	<b>23.22</b>
<b>*EQUIPMENT MAINTENANCE</b>				
MAINTENANCE PERSONNEL	16	0	4.13	0.28
OPERATING PERSONNEL	0	0	0.22	0.01
HEALTH PHYSICS PERSONNEL	1	0	0.27	0.00
SUPERVISORY PERSONNEL	0	0	0.01	0.00
ENGINEERING PERSONNEL	0	0	0.08	0.00
<b>TOTAL</b>	<b>17</b>	<b>0</b>	<b>4.71</b>	<b>0.29</b>
<b>*IN-SERVICE INSPECTION</b>				
MAINTENANCE PERSONNEL	3	3	1.11	0.75
OPERATING PERSONNEL	0	0	0.65	0.08
HEALTH PHYSICS PERSONNEL	0	1	0.33	1.94
SUPERVISORY PERSONNEL	1	0	0.39	7.83
ENGINEERING PERSONNEL	4	5	2.63	1.02
<b>TOTAL</b>	<b>8</b>	<b>9</b>	<b>5.11</b>	<b>11.60</b>
<b>*SPECIAL MAINTENANCE</b>				
MAINTENANCE PERSONNEL	46	99	44.83	46.13
OPERATING PERSONNEL	31	59	9.89	1274.32
HEALTH PHYSICS PERSONNEL	9	4	4.44	39.05
SUPERVISORY PERSONNEL	4	0	1.50	93.28
ENGINEERING PERSONNEL	15	32	6.44	18.12
<b>TOTAL</b>	<b>105</b>	<b>197</b>	<b>67.10</b>	<b>1533.07</b>
<b>*WASTE PROCESSING</b>				
MAINTENANCE PERSONNEL	0	1	0.40	0.28
OPERATING PERSONNEL	47	0	23.41	1.98
HEALTH PHYSICS PERSONNEL	9	0	3.88	1.80
SUPERVISORY PERSONNEL	1	0	0.27	0.00
ENGINEERING PERSONNEL	1	3	0.46	0.01
<b>TOTAL</b>	<b>58</b>	<b>37</b>	<b>28.42</b>	<b>21.90</b>
<b>*SREVELLING</b>				
MAINTENANCE PERSONNEL	21	16	12.70	6.94
OPERATING PERSONNEL	30	0	16.15	0.42
HEALTH PHYSICS PERSONNEL	6	1	1.64	8.70
SUPERVISORY PERSONNEL	0	0	0.13	0.09
ENGINEERING PERSONNEL	4	4	3.02	0.00
<b>TOTAL</b>	<b>63</b>	<b>21</b>	<b>33.64</b>	<b>15.87</b>
<b>*TOTAL BY JOB FUNCTION</b>				
MAINTENANCE PERSONNEL	97	119	72.66	52.14
OPERATING PERSONNEL	153	1	95.50	0.40
HEALTH PHYSICS PERSONNEL	41	10	25.67	43.65
SUPERVISORY PERSONNEL	8	0	2.88	6.66
ENGINEERING PERSONNEL	28	41	13.49	19.23
<b>GRAND TOTAL</b>	<b>327</b>	<b>2446</b>	<b>210.20</b>	<b>1791.52</b>

Workers may be counted in more than one category.



APPENDIX C

PLANT: MILLSTONE 2 (PWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1980

WORK & JOB FUNCTION	STATION EMPLOYEES		NUMBER OF PERSONNEL (>100 M.REM) 1980		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS
<b>* REACTOR OPERATIONS &amp; SURV.</b>												
MAINTENANCE PERSONNEL	5	0	4	0	9	0	27.03	0.04	0.00	4.62	41.20	72.85
OPERATING PERSONNEL	30	0	3	0	33	0	12.75	0.02	0.00	0.00	2.56	15.31
HEALTH PHYSICS PERSONNEL	13	4	63	0	77	4	10.43	0.06	0.00	2.57	31.97	44.96
SUPERVISORY PERSONNEL	0	0	3	0	3	0	0.13	0.00	0.00	0.00	1.55	1.68
ENGINEERING PERSONNEL	3	5	12	0	17	5	1.56	0.00	0.00	1.99	4.16	7.71
<b>TOTAL</b>	<b>51</b>	<b>9</b>	<b>85</b>	<b>0</b>	<b>94</b>	<b>4</b>	<b>52.45</b>	<b>0.12</b>	<b>0.00</b>	<b>9.18</b>	<b>81.26</b>	<b>144.63</b>
<b>* ROUTINE MAINTENANCE</b>												
MAINTENANCE PERSONNEL	2	0	1	0	3	0	1.21	0.01	0.00	0.01	0.66	1.88
OPERATING PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
ENGINEERING PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1.21</b>	<b>0.01</b>	<b>0.00</b>	<b>0.01</b>	<b>0.66</b>	<b>1.88</b>
<b>* IN-SERVICE INSPECTION</b>												
MAINTENANCE PERSONNEL	0	0	15	0	15	0	0.00	0.00	0.00	0.00	7.71	7.71
OPERATING PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
SUPERVISORY PERSONNEL	0	0	1	0	1	0	0.03	0.00	0.00	0.00	0.16	0.19
ENGINEERING PERSONNEL	0	0	8	0	8	0	0.00	0.00	0.00	0.13	6.17	6.30
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.13</b>	<b>14.26</b>	<b>14.46</b>
<b>* SPECIAL MAINTENANCE</b>												
MAINTENANCE PERSONNEL	46	1	678	1	725	1	49.40	0.91	0.91	308.71	369.03	441.36
OPERATING PERSONNEL	24	0	16	0	40	0	6.16	0.07	0.07	6.82	13.64	19.80
HEALTH PHYSICS PERSONNEL	6	1	26	1	34	1	1.71	0.81	0.81	9.33	11.85	16.39
SUPERVISORY PERSONNEL	1	0	7	0	8	0	0.21	0.00	0.00	2.26	2.47	3.14
ENGINEERING PERSONNEL	12	13	78	13	106	13	4.67	0.00	0.00	5.94	29.17	39.14
<b>TOTAL</b>	<b>69</b>	<b>15</b>	<b>625</b>	<b>15</b>	<b>640</b>	<b>15</b>	<b>61.15</b>	<b>1.78</b>	<b>1.78</b>	<b>373.26</b>	<b>441.36</b>	<b>504.51</b>
<b>* WASTE PROCESSING</b>												
MAINTENANCE PERSONNEL	3	1	11	1	15	1	1.08	0.40	0.40	3.67	4.75	5.83
OPERATING PERSONNEL	10	0	1	0	11	0	2.96	0.00	0.00	0.39	3.35	3.74
HEALTH PHYSICS PERSONNEL	1	1	1	1	4	1	0.41	0.00	0.00	0.74	1.15	1.56
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
ENGINEERING PERSONNEL	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>14</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>16</b>	<b>1</b>	<b>4.46</b>	<b>0.40</b>	<b>0.40</b>	<b>4.81</b>	<b>9.67</b>	<b>11.24</b>
<b>* REFUELING</b>												
MAINTENANCE PERSONNEL	17	1	77	1	96	1	7.44	0.28	0.28	48.14	55.86	63.30
OPERATING PERSONNEL	5	0	10	0	15	0	2.17	0.00	0.00	4.04	6.21	8.38
HEALTH PHYSICS PERSONNEL	0	0	9	0	9	0	0.00	0.00	0.00	2.70	2.70	2.70
SUPERVISORY PERSONNEL	1	0	1	0	2	0	0.17	0.00	0.00	0.00	0.00	0.17
ENGINEERING PERSONNEL	1	1	11	1	14	1	0.67	0.00	0.00	0.00	0.00	0.67
<b>TOTAL</b>	<b>24</b>	<b>2</b>	<b>107</b>	<b>2</b>	<b>111</b>	<b>2</b>	<b>10.45</b>	<b>0.28</b>	<b>0.28</b>	<b>60.18</b>	<b>71.24</b>	<b>81.70</b>
<b>* TOTAL BY JOB FUNCTION</b>												
MAINTENANCE PERSONNEL	73	3	806	3	812	3	61.21	1.63	1.63	371.45	434.25	515.73
OPERATING PERSONNEL	69	0	30	0	99	0	24.14	0.09	0.09	12.30	36.53	41.52
HEALTH PHYSICS PERSONNEL	20	5	99	5	124	5	12.64	3.39	3.39	44.90	60.93	73.52
SUPERVISORY PERSONNEL	2	11	13	11	26	11	0.51	0.00	0.00	3.94	4.45	6.95
ENGINEERING PERSONNEL	16	19	109	19	144	19	6.92	6.55	6.55	61.81	75.28	88.23
<b>GRAND TOTAL</b>	<b>190</b>	<b>27</b>	<b>1855</b>	<b>27</b>	<b>1882</b>	<b>27</b>	<b>105.42</b>	<b>11.66</b>	<b>11.66</b>	<b>694.00</b>	<b>811.48</b>	<b>922.96</b>

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REMS BY WORK AND JOB FUNCTION

PLANT: MONTECELLO (BWR)

NUMBER OF PERSONNEL (>100 M REM)  
1980

WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL MAN-REMS	
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS
<b>* REACTOR OPERATIONS &amp; SURV.</b>																
MAINTENANCE PERSONNEL	48	93	134	0	13	592	15	921	13	592	15	921	3	392	15	921
OPERATING PERSONNEL	45	1	0	0	25	324	0	0	25	324	0	0	0	116	25	324
HEALTH PHYSICS PERSONNEL	15	28	0	0	4	361	0	0	4	361	0	0	0	5,058	4	361
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	22	73	7	0	2	483	0	263	2	483	0	263	4	869	2	483
<b>TOTAL</b>	<b>130</b>	<b>195</b>	<b>141</b>	<b>0</b>	<b>45</b>	<b>760</b>	<b>16</b>	<b>184</b>	<b>45</b>	<b>760</b>	<b>16</b>	<b>184</b>	<b>7</b>	<b>435</b>	<b>45</b>	<b>760</b>
<b>* ROUTINE MAINTENANCE</b>																
MAINTENANCE PERSONNEL	44	100	144	0	13	690	20	525	13	690	20	525	8	585	13	690
OPERATING PERSONNEL	26	0	0	0	2	261	0	0	2	261	0	0	0	0	2	261
HEALTH PHYSICS PERSONNEL	11	6	0	0	0	713	0	0	0	713	0	0	0	478	0	713
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	15	66	5	0	1	374	0	243	1	374	0	243	3	668	1	374
<b>TOTAL</b>	<b>95</b>	<b>192</b>	<b>149</b>	<b>0</b>	<b>18</b>	<b>042</b>	<b>20</b>	<b>808</b>	<b>18</b>	<b>042</b>	<b>20</b>	<b>808</b>	<b>12</b>	<b>551</b>	<b>18</b>	<b>042</b>
<b>* IN-SERVICE INSPECTION</b>																
MAINTENANCE PERSONNEL	0	25	22	0	0	0	0	588	0	0	0	588	21	028	0	0
OPERATING PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	0	15	3	0	0	0	0	1,776	0	0	1	776	13	360	0	0
<b>TOTAL</b>	<b>0</b>	<b>40</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,364</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>364</b>	<b>34</b>	<b>388</b>	<b>0</b>	<b>0</b>
<b>* SPECIAL MAINTENANCE</b>																
MAINTENANCE PERSONNEL	38	281	157	0	36	902	68	785	36	902	68	785	94	661	36	902
OPERATING PERSONNEL	44	0	0	0	16	208	0	0	16	208	0	0	0	0	16	208
HEALTH PHYSICS PERSONNEL	11	23	0	0	2	710	0	0	2	710	0	0	9	781	2	710
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	20	101	9	0	8	492	1	113	8	492	1	113	51	047	8	492
<b>TOTAL</b>	<b>113</b>	<b>405</b>	<b>166</b>	<b>0</b>	<b>64</b>	<b>312</b>	<b>69</b>	<b>898</b>	<b>64</b>	<b>312</b>	<b>69</b>	<b>898</b>	<b>155</b>	<b>489</b>	<b>64</b>	<b>312</b>
<b>* WASTE PROCESSING</b>																
MAINTENANCE PERSONNEL	20	2	18	0	2	165	0	398	2	165	0	398	0	018	2	165
OPERATING PERSONNEL	8	3	0	0	0	908	0	0	0	908	0	0	7	276	0	0
HEALTH PHYSICS PERSONNEL	10	4	0	0	1	039	0	0	1	039	0	0	0	428	1	039
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>34</b>	<b>12</b>	<b>18</b>	<b>0</b>	<b>4</b>	<b>112</b>	<b>0</b>	<b>398</b>	<b>4</b>	<b>112</b>	<b>0</b>	<b>398</b>	<b>8</b>	<b>412</b>	<b>4</b>	<b>112</b>
<b>* REFUELING</b>																
MAINTENANCE PERSONNEL	22	3	63	0	3	731	8	491	3	731	8	491	0	039	3	731
OPERATING PERSONNEL	34	0	0	0	5	638	0	0	5	638	0	0	0	0	5	638
HEALTH PHYSICS PERSONNEL	3	8	0	0	0	089	0	0	0	089	0	0	1	835	0	0
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	6	11	2	0	1	227	0	078	1	227	0	078	1	910	1	227
<b>TOTAL</b>	<b>65</b>	<b>22</b>	<b>65</b>	<b>0</b>	<b>10</b>	<b>683</b>	<b>8</b>	<b>569</b>	<b>10</b>	<b>683</b>	<b>8</b>	<b>569</b>	<b>1</b>	<b>784</b>	<b>10</b>	<b>683</b>
<b>* TOTAL BY JOB FUNCTION</b>																
MAINTENANCE PERSONNEL	172	504	538	0	70	080	114	708	70	080	114	708	127	723	70	080
OPERATING PERSONNEL	157	4	0	0	50	339	0	0	50	339	0	0	7	392	50	339
HEALTH PHYSICS PERSONNEL	50	69	0	0	8	912	0	0	8	912	0	0	17	580	8	912
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENGINEERING PERSONNEL	62	249	26	0	13	540	0	0	13	540	0	0	75	344	13	540
<b>TOTAL</b>	<b>341</b>	<b>826</b>	<b>564</b>	<b>0</b>	<b>142</b>	<b>911</b>	<b>118</b>	<b>721</b>	<b>142</b>	<b>911</b>	<b>118</b>	<b>721</b>	<b>228</b>	<b>059</b>	<b>142</b>	<b>911</b>

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: NINE MILE POINT (BWR) 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)		TOTAL PERSONS		STATION EMPLOYEES		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY EMPLOYEES	PERSONS	OTHERS	EMPLOYEES	UTILITY EMPLOYEES	CONTRACT	OTHERS
* REACTOR OPERATIONS & SURV.	173	40	100		16,834	1,200	5,071	
MAINTENANCE PERSONNEL	35	0	0		9,440	0.0	0.0	
OPERATING PERSONNEL	32	0	3		17,582	0.0	0.229	
HEALTH PHYSICS PERSONNEL	42	4			8,589	0.002	0.029	
SUPERVISORY PERSONNEL	11	16	15		0,673	0,316	0,249	
ENGINEERING PERSONNEL	293	57	122		53,118	1,518	5,578	
TOTAL			472					
* ROUTINE MAINTENANCE	281	56	92		34,988	8,483	4,518	
MAINTENANCE PERSONNEL	29	0	0		0,998	0.0	0.0	
OPERATING PERSONNEL	33	0	0		0.804	0.0	0.0	
HEALTH PHYSICS PERSONNEL	26	0	6		1,664	0.0	2,138	
SUPERVISORY PERSONNEL	16	7	6		0,645	0,485	0,262	
ENGINEERING PERSONNEL	385	63	104		39,099	8,968	6,918	
TOTAL			552					
* IN-SERVICE INSPECTION	39	56	53		10,300	32,689	6,132	
MAINTENANCE PERSONNEL	11	0	0		0,275	0.0	0.0	
OPERATING PERSONNEL	16	0	1		0,491	0.0	0.015	
HEALTH PHYSICS PERSONNEL	18	0	4		0,706	0.0	0,966	
SUPERVISORY PERSONNEL	3	18	11		0,085	5,958	2,153	
ENGINEERING PERSONNEL	87	74	69		11,857	38,647	9,266	
TOTAL			230					
* SPECIAL MAINTENANCE	368	96	285		50,891	18,397	164,784	
MAINTENANCE PERSONNEL	17	0	0		0,990	0.0	0.0	
OPERATING PERSONNEL	58	0	3		6,549	0.0	0,100	
HEALTH PHYSICS PERSONNEL	46	1	9		2,632	0,010	0,832	
SUPERVISORY PERSONNEL	19	17	15		0,886	1,711	1,144	
ENGINEERING PERSONNEL	508	114	312		61,948	20,118	166,860	
TOTAL			934					
* WASTE PROCESSING	73	8	58		13,123	0,470	8,690	
MAINTENANCE PERSONNEL	36	0	0		10,200	0.0	0.0	
OPERATING PERSONNEL	20	0	4		1,550	0.0	0,065	
HEALTH PHYSICS PERSONNEL	5	1	1		2,421	0.0	0,008	
SUPERVISORY PERSONNEL	1	1	2		0,007	0,002	0,055	
ENGINEERING PERSONNEL	135	9	65		27,301	0,472	8,818	
TOTAL			209					
* REFUELLING	63	1	14		4,931	0,004	2,782	
MAINTENANCE PERSONNEL	26	0	0		2,573	0.0	0.0	
OPERATING PERSONNEL	16	0	1		0,906	0.0	0,010	
HEALTH PHYSICS PERSONNEL	11	0	0		0,172	0.0	0.0	
SUPERVISORY PERSONNEL	1	4	1		0,067	0,052	0,010	
ENGINEERING PERSONNEL	117	5	16		8,649	0,056	2,802	
TOTAL			138					
* TOTAL BY JOB FUNCTION	997	257	602		131,067	61,243	191,977	
MAINTENANCE PERSONNEL	154	0	3		26,476	0.0	0.0	
OPERATING PERSONNEL	175	0	12		27,882	0.0	0,419	
HEALTH PHYSICS PERSONNEL	148	2	24		16,184	0,12	3,973	
SUPERVISORY PERSONNEL	51	63	50		2,363	8,524	3,873	
ENGINEERING PERSONNEL	1525	322	688		201,972	69,779	200,262	
GRAND TOTAL			2535					
TOTAL					201,972	69,779	200,262	
TOTAL								60,314
TOTAL								54,985
TOTAL								57,770
TOTAL								248,926
TOTAL								36,591
TOTAL								11,507
TOTAL								384,287
TOTAL								24,476
TOTAL								28,301
TOTAL								20,169
TOTAL								14,760
TOTAL								471,993

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: NORTH ANNA 1 (PMR) 1980

* WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
<b>* REACTOR OPERATIONS &amp; SURV.</b>							
MAINTENANCE PERSONNEL	220	8	635	23,975	0.375	35.311	
OPERATING PERSONNEL	104	6	9	23,316	0.126	0.041	
HEALTH PHYSICS PERSONNEL	58	1	36	21,579	0.002	8.479	
SUPERVISORY PERSONNEL	15	2	14	0.047	0.011	0.125	
ENGINEERING PERSONNEL	34	58	27	0.955	0.870	0.767	
<b>TOTAL</b>	<b>431</b>	<b>75</b>	<b>721</b>	<b>69,872</b>	<b>1.384</b>	<b>44,723</b>	<b>115,979</b>
<b>* ROUTINE MAINTENANCE</b>							
MAINTENANCE PERSONNEL	140	9	251	27,801	0.385	12.129	
OPERATING PERSONNEL	44	12	0	1,397	0.244	0.0	
HEALTH PHYSICS PERSONNEL	28	0	19	2,155	0.0	1.067	
SUPERVISORY PERSONNEL	7	0	3	0.048	0.0	0.030	
ENGINEERING PERSONNEL	8	0	6	0.122	0.0	0.156	
<b>TOTAL</b>	<b>227</b>	<b>21</b>	<b>279</b>	<b>31,523</b>	<b>0.629</b>	<b>13,382</b>	<b>45,534</b>
<b>* IN-SERVICE INSPECTION</b>							
MAINTENANCE PERSONNEL	0	0	1	0.0	0.0	0.030	
OPERATING PERSONNEL	0	0	0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0.0	0.0	0.0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.030</b>	<b>0.030</b>
<b>* SPECIAL MAINTENANCE</b>							
MAINTENANCE PERSONNEL	11	0	205	0.388	0.0	9.068	
OPERATING PERSONNEL	4	4	0	0.045	0.037	0.0	
HEALTH PHYSICS PERSONNEL	4	0	0	0.011	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	0	3	0.0	0.0	0.614	
<b>TOTAL</b>	<b>19</b>	<b>4</b>	<b>208</b>	<b>0.444</b>	<b>0.037</b>	<b>9.682</b>	<b>10,163</b>
<b>* WASTE PROCESSING</b>							
MAINTENANCE PERSONNEL	65	0	91	1,419	0.0	2,327	
OPERATING PERSONNEL	56	0	7	4,372	0.0	5,934	
HEALTH PHYSICS PERSONNEL	25	0	14	10,632	0.0	0.991	
SUPERVISORY PERSONNEL	1	0	2	0.005	0.0	0.010	
ENGINEERING PERSONNEL	2	2	2	0.062	0.012	0.014	
<b>TOTAL</b>	<b>139</b>	<b>2</b>	<b>116</b>	<b>16,490</b>	<b>0.012</b>	<b>9,276</b>	<b>25,778</b>
<b>* REFUELLING</b>							
MAINTENANCE PERSONNEL	34	0	49	0.085	0.0	0.124	
OPERATING PERSONNEL	46	0	2	0.218	0.0	0.019	
HEALTH PHYSICS PERSONNEL	10	0	0	0.036	0.0	0.0	
SUPERVISORY PERSONNEL	6	0	3	0.010	0.0	0.013	
ENGINEERING PERSONNEL	9	9	0	0.015	0.125	0.0	
<b>TOTAL</b>	<b>105</b>	<b>9</b>	<b>54</b>	<b>0.364</b>	<b>0.125</b>	<b>0.156</b>	<b>0.645</b>
<b>* TOTAL BY JOB FUNCTION</b>							
MAINTENANCE PERSONNEL	470	17	1232	53,668	0.760	58,989	113,417
OPERATING PERSONNEL	244	22	18	29,348	0.407	5,994	35,749
HEALTH PHYSICS PERSONNEL	125	1	69	34,413	0.002	10,537	44,952
SUPERVISORY PERSONNEL	29	2	22	0.110	0.011	0.174	0,279
ENGINEERING PERSONNEL	53	69	38	1,154	1,007	1,551	3,712
<b>GRAND TOTAL</b>	<b>921</b>	<b>111</b>	<b>1379</b>	<b>118,693</b>	<b>2,187</b>	<b>77,249</b>	<b>198,129</b>

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: O'CONNOR 1, 2, 3 (PWR) NUMBER OF PERSONNEL (>100 M-REM) 1980

WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	MAN-REMS	CONTRACT & OTHERS
<b>REACTOR OPERATIONS &amp; SURV.</b>												
MAINTENANCE PERSONNEL	103	28	67	0	134	80	602	4,560	2,585	11,499	3,714	0.0
OPERATING PERSONNEL	112	0	8	0	120	0	46,759	4,025	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	77	42	43	0	120	0	22,040	3,905	0.0	0.0	7,290	0.0
SUPERVISORY PERSONNEL	8	0	0	0	8	0	0,450	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	88	10	16	0	114	10	27,260	1,343	0.0	0.0	0.495	0.0
<b>TOTAL</b>	<b>388</b>	<b>80</b>	<b>134</b>	<b>0</b>	<b>602</b>	<b>90</b>	<b>101,069</b>	<b>11,855</b>	<b>11,499</b>	<b>11,499</b>	<b>124,423</b>	<b>0.0</b>
<b>ROUTINE MAINTENANCE</b>												
MAINTENANCE PERSONNEL	240	97	251	0	338	97	105,344	76,740	43,229	43,229	0.0	0.0
OPERATING PERSONNEL	79	0	6	0	85	0	8,115	0,600	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	76	36	44	0	120	0	15,310	6,385	8,345	8,345	0.0	0.0
SUPERVISORY PERSONNEL	8	0	0	0	8	0	0,495	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	64	57	29	0	150	57	13,340	4,170	11,015	11,015	0.0	0.0
<b>TOTAL</b>	<b>467</b>	<b>180</b>	<b>330</b>	<b>0</b>	<b>977</b>	<b>154</b>	<b>142,604</b>	<b>87,895</b>	<b>62,589</b>	<b>62,589</b>	<b>293,083</b>	<b>0.0</b>
<b>IN-SERVICE INSPECTION</b>												
MAINTENANCE PERSONNEL	23	3	50	0	76	3	1,110	18,200	0,050	0,050	0.0	0.0
OPERATING PERSONNEL	28	0	3	0	31	0	1,020	0,070	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	23	17	23	0	40	17	1,335	1,135	1,460	1,460	0.0	0.0
SUPERVISORY PERSONNEL	2	0	0	0	2	0	0,050	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	8	32	13	0	53	32	0,800	0,410	11,290	11,290	0.0	0.0
<b>TOTAL</b>	<b>84</b>	<b>52</b>	<b>89</b>	<b>0</b>	<b>225</b>	<b>52</b>	<b>4,315</b>	<b>19,815</b>	<b>12,800</b>	<b>12,800</b>	<b>36,930</b>	<b>0.0</b>
<b>SPECIAL MAINTENANCE</b>												
MAINTENANCE PERSONNEL	171	35	312	0	486	35	53,235	204,017	2,345	2,345	0.0	0.0
OPERATING PERSONNEL	66	0	12	0	78	0	3,365	2,145	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	53	34	43	0	87	34	10,890	8,240	8,945	8,945	0.0	0.0
SUPERVISORY PERSONNEL	4	0	0	0	4	0	0,505	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	59	98	64	0	157	98	19,480	19,560	33,040	33,040	0.0	0.0
<b>TOTAL</b>	<b>353</b>	<b>167</b>	<b>431</b>	<b>0</b>	<b>951</b>	<b>167</b>	<b>87,075</b>	<b>233,962</b>	<b>44,330</b>	<b>44,330</b>	<b>109,767</b>	<b>0.0</b>
<b>WASTE PROCESSING</b>												
MAINTENANCE PERSONNEL	32	15	5	0	52	15	1,610	0,075	3,075	3,075	0.0	0.0
OPERATING PERSONNEL	59	0	3	0	62	0	6,805	0,170	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	35	6	8	0	41	6	4,655	0,290	0,780	0,780	0.0	0.0
SUPERVISORY PERSONNEL	1	0	0	0	1	0	0,015	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	22	0	2	0	24	0	4,515	0,120	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>149</b>	<b>21</b>	<b>18</b>	<b>0</b>	<b>188</b>	<b>21</b>	<b>17,800</b>	<b>0,655</b>	<b>3,855</b>	<b>3,855</b>	<b>22,310</b>	<b>0.0</b>
<b>REFUELING</b>												
MAINTENANCE PERSONNEL	181	55	309	0	466	55	78,055	109,253	12,210	12,210	0.0	0.0
OPERATING PERSONNEL	100	0	9	0	109	0	23,325	1,910	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	52	44	39	0	96	44	5,815	3,655	10,320	10,320	0.0	0.0
SUPERVISORY PERSONNEL	8	0	0	0	8	0	2,690	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	79	70	35	0	154	70	11,025	4,295	14,310	14,310	0.0	0.0
<b>TOTAL</b>	<b>420</b>	<b>169</b>	<b>392</b>	<b>0</b>	<b>981</b>	<b>169</b>	<b>120,910</b>	<b>119,113</b>	<b>36,870</b>	<b>36,870</b>	<b>276,893</b>	<b>0.0</b>
<b>TOTAL BY JOB FUNCTION</b>												
MAINTENANCE PERSONNEL	750(267)	994(426)	994(426)	223(127)	1967(820)	244(114)	244,114	410,870	64,623	64,623	719,607	0.0
OPERATING PERSONNEL	444(117)	41(16)	41(16)	0(0)	485(133)	89(389)	89,389	8,920	0.0	0.0	98,309	0.0
HEALTH PHYSICS PERSONNEL	316(98)	200(53)	200(53)	179(51)	695(202)	60,045	60,045	23,610	37,140	37,140	120,795	0.0
SUPERVISORY PERSONNEL	31(11)	0(0)	0(0)	0(0)	31(11)	4,205	4,205	0.0	0.0	0.0	4,205	0.0
ENGINEERING PERSONNEL	320(108)	159(77)	159(77)	267(155)	746(340)	76,420	76,420	29,895	70,180	70,180	176,495	0.0
<b>GRAND TOTAL</b>	<b>1861(601)</b>	<b>1394(672)</b>	<b>1394(672)</b>	<b>669(333)</b>	<b>3924(1506)</b>	<b>474,173</b>	<b>474,173</b>	<b>473,295</b>	<b>171,943</b>	<b>171,943</b>	<b>1119,411</b>	<b>0.0</b>

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1980

PLANT, OYSTER CRACK 1 (BHP)

WORK & JOB FUNCTION	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL PERSONS	STATION EMPLOYEES		UTILITY EMPLOYEES		CONTRACT & OTHERS		TOTAL MAN-REMS
	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS		EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	
<b>REACTOR OPERATING &amp; SURV.</b>														
MAINTENANCE PERSONNEL	81	124	24		6,925		7,049	0,667		8,145				
OPERATING PERSONNEL	85	14	3		65,446		66,285	0,011		67,296				
HEALTH PHYSICS PERSONNEL	6	36	0		0,285		36	0,000		36				
SUPERVISORY PERSONNEL	20	2	3		4,281		4,286	0,287		4,573				
ENGINEERING PERSONNEL	31	39	15		4,551		79	0,933		5,676				
<b>TOTAL</b>	<b>223</b>	<b>215</b>	<b>45</b>	<b>483</b>	<b>81,488</b>		<b>83,026</b>	<b>1,898</b>	<b>17,152</b>	<b>100,538</b>				
<b>ROUTINE MAINTENANCE</b>														
MAINTENANCE PERSONNEL	156	630	61		87,580		94,571	51,345		145,916				
OPERATING PERSONNEL	74	22	6		9,662		33,309	0,000		33,309				
HEALTH PHYSICS PERSONNEL	24	257	0		10,115		10,115	1,307		11,422				
SUPERVISORY PERSONNEL	24	2	9		11,333		11,333	9,687		21,020				
ENGINEERING PERSONNEL	41	48	25		151,779		151,779	64,092		215,871				
<b>TOTAL</b>	<b>321</b>	<b>959</b>	<b>101</b>	<b>1381</b>	<b>211,779</b>		<b>211,779</b>	<b>125,424</b>	<b>364,412</b>	<b>580,283</b>				
<b>IN-SERVICE INSPECTION</b>														
MAINTENANCE PERSONNEL	67	253	37		3,667		3,667	4,766		8,433				
OPERATING PERSONNEL	42	21	0		2,541		2,541	0,439		2,980				
HEALTH PHYSICS PERSONNEL	6	10	0		0,293		0,293	0,000		0,293				
SUPERVISORY PERSONNEL	15	1	3		2,771		2,771	0,104		2,875				
ENGINEERING PERSONNEL	27	28	8		4,422		4,422	0,524		4,946				
<b>TOTAL</b>	<b>159</b>	<b>313</b>	<b>48</b>	<b>520</b>	<b>13,794</b>		<b>13,794</b>	<b>5,663</b>	<b>102,151</b>	<b>121,608</b>				
<b>SPECIAL MAINTENANCE</b>														
MAINTENANCE PERSONNEL	103	738	59		73,898		73,898	77,172		151,070				
OPERATING PERSONNEL	53	26	4		6,770		6,770	3,047		9,817				
HEALTH PHYSICS PERSONNEL	11	76	0		0,530		0,530	0,000		0,530				
SUPERVISORY PERSONNEL	15	1	7		2,656		2,656	0,989		3,645				
ENGINEERING PERSONNEL	30	41	16		7,178		7,178	1,226		8,404				
<b>TOTAL</b>	<b>232</b>	<b>882</b>	<b>86</b>	<b>1200</b>	<b>91,032</b>		<b>91,032</b>	<b>82,434</b>	<b>711,231</b>	<b>884,697</b>				
<b>WASTE PROCESSING</b>														
MAINTENANCE PERSONNEL	69	70	12		5,450		5,450	2,874		8,324				
OPERATING PERSONNEL	22	5	1		0,915		0,915	0,230		1,145				
HEALTH PHYSICS PERSONNEL	1	26	0		0,005		0,005	0,000		0,005				
SUPERVISORY PERSONNEL	4	2	0		0,202		0,202	0,000		0,202				
ENGINEERING PERSONNEL	8	8	0		0,983		0,983	0,000		0,983				
<b>TOTAL</b>	<b>104</b>	<b>111</b>	<b>13</b>	<b>228</b>	<b>7,555</b>		<b>7,555</b>	<b>3,104</b>	<b>13,175</b>	<b>23,834</b>				
<b>REFUELING</b>														
MAINTENANCE PERSONNEL	88	130	30		40,610		40,610	3,990		44,600				
OPERATING PERSONNEL	57	14	4		18,529		18,529	0,734		19,263				
HEALTH PHYSICS PERSONNEL	4	22	0		0,224		0,224	0,000		0,224				
SUPERVISORY PERSONNEL	11	0	0		2,108		2,108	0,000		2,108				
ENGINEERING PERSONNEL	15	4	4		3,195		3,195	0,055		3,250				
<b>TOTAL</b>	<b>175</b>	<b>170</b>	<b>38</b>	<b>383</b>	<b>64,666</b>		<b>64,666</b>	<b>4,779</b>	<b>21,210</b>	<b>90,655</b>				
<b>TOTAL BY JOB FUNCTION</b>														
MAINTENANCE PERSONNEL	584 (157)	1945 (903)	223 (64)	2752 (1,124)	218,130		218,130	140,814		358,944				
OPERATING PERSONNEL	335 (99)	102 (50)	20 (8)	457 (157)	103,643		103,643	6,214		109,857				
HEALTH PHYSICS PERSONNEL	52 (24)	427 (284)	0 (0)	479 (288)	34,646		34,646	0,000		34,646				
SUPERVISORY PERSONNEL	89 (24)	8 (4)	22 (12)	119 (40)	22,133		22,133	2,687		24,820				
ENGINEERING PERSONNEL	154 (46)	168 (74)	66 (31)	388 (151)	31,762		31,762	12,255		44,017				
<b>GRAND TOTAL</b>	<b>1214 (350)</b>	<b>2650 (1,285)</b>	<b>331 (118)</b>	<b>4195 (1,760)</b>	<b>410,314</b>		<b>410,314</b>	<b>161,970</b>	<b>1229,331</b>	<b>1801,615</b>				

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

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APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1980

PLANT: PALISADES (PWR)	NUMBER OF PERSONNEL (>100 M REM)				TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
<b>WORK &amp; JOB FUNCTION</b>								
<b>REACTOR OPERATIONS &amp; SURV.</b>								
MAINTENANCE PERSONNEL	0	0	0	0	0.149	0.017	0.341	
OPERATING PERSONNEL	32	0	2	34	9.904	0.344	0.784	
HEALTH PHYSICS PERSONNEL	27	11	16	54	11.371	3.566	22.034	
SUPERVISORY PERSONNEL	2	0	0	2	0.761	0.051	0.082	
ENGINEERING PERSONNEL	6	1	0	7	2.307	0.364	0.591	
<b>TOTAL</b>	<b>67</b>	<b>12</b>	<b>18</b>	<b>97</b>	<b>24.522</b>	<b>4.342</b>	<b>23.832</b>	<b>52.666</b>
<b>ROUTINE MAINTENANCE</b>								
MAINTENANCE PERSONNEL	54	4	3	61	61.691	3.518	3.319	68.528
OPERATING PERSONNEL	0	0	0	0	0.0	0.051	0.145	
HEALTH PHYSICS PERSONNEL	1	0	0	1	0.032	0.0	0.0	
SUPERVISORY PERSONNEL	12	1	2	15	0.010	0.0	0.031	
ENGINEERING PERSONNEL	1	0	0	1	0.009	0.086	0.083	
<b>TOTAL</b>	<b>68</b>	<b>5</b>	<b>5</b>	<b>78</b>	<b>61.691</b>	<b>3.518</b>	<b>3.319</b>	<b>68.528</b>
<b>IN-SERVICE INSPECTION</b>								
MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.051	0.145	
OPERATING PERSONNEL	0	0	0	0	0.032	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.010	0.0	0.031	
SUPERVISORY PERSONNEL	3	0	0	3	0.009	0.086	0.083	
ENGINEERING PERSONNEL	3	0	0	3	0.957	0.687	0.282	
<b>TOTAL</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1.008</b>	<b>0.824</b>	<b>0.541</b>	<b>2.373</b>
<b>SPECIAL MAINTENANCE</b>								
MAINTENANCE PERSONNEL	6	2	287	295	3.058	1.452	203.872	
OPERATING PERSONNEL	0	0	0	0	0.072	0.040	0.125	
HEALTH PHYSICS PERSONNEL	0	0	4	4	0.149	0.035	2.125	
SUPERVISORY PERSONNEL	0	0	6	6	0.234	0.150	3.321	
ENGINEERING PERSONNEL	2	1	36	39	1.224	0.787	50.348	
<b>TOTAL</b>	<b>8</b>	<b>3</b>	<b>333</b>	<b>344</b>	<b>4.737</b>	<b>2.464</b>	<b>259.791</b>	<b>266.992</b>
<b>WASTE PROCESSING</b>								
MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.0	0.005	
OPERATING PERSONNEL	0	0	0	0	0.091	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.109	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0	0.040	0.045	0.0	
ENGINEERING PERSONNEL	0	0	4	4	0.040	0.0	2.139	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>0.280</b>	<b>0.045</b>	<b>2.144</b>	<b>2.669</b>
<b>REFUELING</b>								
MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.0	0.0	
OPERATING PERSONNEL	0	0	0	0	0.013	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0	0.010	0.014	0.0	
ENGINEERING PERSONNEL	0	0	0	0	0.0	0.0	0.0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.023</b>	<b>0.014</b>	<b>0.0</b>	<b>0.037</b>
<b>TOTAL BY JOB FUNCTION</b>								
MAINTENANCE PERSONNEL	60	6	290	356	56.436	4.464	206.516	267.416
OPERATING PERSONNEL	32	0	2	34	10.359	0.424	0.910	11.693
HEALTH PHYSICS PERSONNEL	28	11	20	59	11.925	3.718	24.305	39.948
SUPERVISORY PERSONNEL	14	1	8	23	8.284	0.655	4.051	12.990
ENGINEERING PERSONNEL	12	2	40	54	5.227	1.946	53.645	61.018
<b>GRAND TOTAL</b>	<b>146</b>	<b>20</b>	<b>360</b>	<b>526</b>	<b>92.231</b>	<b>11.207</b>	<b>289.627</b>	<b>393.065</b>

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1980

PLANT: PEACH BOTTOM 2,3 (BUR)	NUMBER OF PERSONNEL (>100 M-REM)		TOTAL PERSONS		STATION EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	UTILITY CONTRACT & OTHERS	EMPLOYEES	UTILITY CONTRACT & OTHERS	EMPLOYEES	UTILITY CONTRACT & OTHERS	EMPLOYEES	UTILITY CONTRACT & OTHERS
<b>* WORK &amp; JOB FUNCTION</b>								
REGULOR OPERATIONS & SURV.								
MAINTENANCE PERSONNEL	1	108	109		0.153	34.289	46.514	
OPERATING PERSONNEL	57	3	60		42.602	1.036	2.118	
HEALTH PHYSICS PERSONNEL	47	70	117		52.629	0.0	55.003	
SUPERVISORY PERSONNEL	0	1	1		0.0	0.114	0.118	
ENGINEERING PERSONNEL	34	16	50		30.867	5.913	15.221	
TOTAL	139	210	349	432	126.251	41.152	118.974	286.577
<b>* ROUTINE MAINTENANCE</b>								
MAINTENANCE PERSONNEL	5	1005	1010		1.730	426.728	899.556	
OPERATING PERSONNEL	15	6	21		3.739	3.576	1.553	
HEALTH PHYSICS PERSONNEL	26	27	53		14.843	0.0	22.179	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.787	0.0	
ENGINEERING PERSONNEL	4	9	13		1.857	11.934	3.420	
TOTAL	50	1047	1097	1648	22.169	443.025	926.708	1391.902
<b>* IN-SERVICE INSPECTION</b>								
MAINTENANCE PERSONNEL	0	66	66		0.0	1.863	80.191	
OPERATING PERSONNEL	0	0	0		0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0		0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	3	3		0.0	2.175	0.903	
TOTAL	0	69	69	74	0.0	4.038	81.094	85.132
<b>* SPECIAL MAINTENANCE</b>								
MAINTENANCE PERSONNEL	0	243	243		0.0	0.720	315.024	
OPERATING PERSONNEL	0	0	0		0.0	0.833	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0		0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	0	2	2		0.0	0.478	1.404	
TOTAL	0	245	245	253	0.0	2.031	316.428	318.459
<b>* WASTE PROCESSING</b>								
MAINTENANCE PERSONNEL	1	24	25		0.104	0.711	4.044	
OPERATING PERSONNEL	6	0	6		5.686	0.0	0.390	
HEALTH PHYSICS PERSONNEL	1	7	8		0.122	0.0	3.915	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	1	0	1		0.114	0.0	0.0	
TOTAL	9	37	46	50	6.030	0.733	12.851	19.614
<b>* REFUELING</b>								
MAINTENANCE PERSONNEL	0	31	31		0.0	2.043	11.069	
OPERATING PERSONNEL	4	3	7		0.888	0.0	1.369	
HEALTH PHYSICS PERSONNEL	6	7	13		2.481	0.0	3.685	
SUPERVISORY PERSONNEL	0	0	0		0.0	0.0	0.0	
ENGINEERING PERSONNEL	1	4	5		0.110	0.0	0.719	
TOTAL	11	45	56	64	3.479	2.043	16.842	22.164
<b>* TOTAL BY JOB FUNCTION</b>								
MAINTENANCE PERSONNEL	7 (5)	613 (560)	620 (615)	2101 (1,812)	1.991	466.376	1360.900	1829.267
OPERATING PERSONNEL	82 (65)	6 (4)	88 (69)	114 (93)	52.915	5.445	5.430	63.790
HEALTH PHYSICS PERSONNEL	80 (50)	0 (0)	80 (50)	191 (130)	70.075	0.0	84.782	154.857
SUPERVISORY PERSONNEL	0 (0)	5 (6)	5 (6)	6 (6)	0.0	0.901	1.019	1.019
ENGINEERING PERSONNEL	40 (34)	33 (28)	73 (62)	109 (89)	32.844	20.500	21.467	75.113
(GRAND TOTAL)	209 (164)	659 (567)	868 (723)	2521 (2,130)	157.829	493.222	1472.897	2124.648

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.



APPENDIX C

PLANT: PILGRIM (BWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1980

* WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M.REM.)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
REACTOR OPERATIONS & SURV.							
MAINTENANCE PERSONNEL	24	1	66	6.61	0.30	23.37	
OPERATING PERSONNEL	45	0	0	91.91	0.0	0.0	
HEALTH PHYSICS PERSONNEL	26	0	16	40.77	0.0	5.10	
SUPERVISORY PERSONNEL	3	3	1.91	1.91	0.90	2.18	
ENGINEERING PERSONNEL	3	1	20	1.89	0.10	6.60	
TOTAL	101	5	105	143.09	1.30	37.25	181.64
ROUTINE MAINTENANCE							
MAINTENANCE PERSONNEL	68	3	1059	85.03	0.67	673.41	
OPERATING PERSONNEL	23	0	0	10.32	0.0	0.0	
HEALTH PHYSICS PERSONNEL	15	0	43	9.16	0.0	30.55	
SUPERVISORY PERSONNEL	37	11	9	19.12	2.77	5.04	
ENGINEERING PERSONNEL	4	0	69	1.44	0.13	28.54	
TOTAL	147	14	1180	125.07	3.57	737.54	866.18
IN-SERVICE INSPECTION							
MAINTENANCE PERSONNEL	0	0	78	0.30	0.0	75.04	
OPERATING PERSONNEL	0	0	0	0.17	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.13	
SUPERVISORY PERSONNEL	1	1	0	0.18	0.11	0.0	
ENGINEERING PERSONNEL	0	0	0	0.02	0.0	0.38	
TOTAL	1	1	78	0.67	0.11	75.55	76.33
SPECIAL MAINTENANCE							
MAINTENANCE PERSONNEL	60	6	1415	46.87	1.91	1155.85	
OPERATING PERSONNEL	19	0	0	10.23	0.0	6.61	
HEALTH PHYSICS PERSONNEL	12	1	76	4.68	1.51	308.74	
SUPERVISORY PERSONNEL	37	13	19	19.08	4.85	8.12	
ENGINEERING PERSONNEL	4	164	85	1.20	84.07	53.75	
TOTAL	132	184	1602	82.06	92.34	1533.07	1707.47
WASTE PROCESSING							
MAINTENANCE PERSONNEL	24	0	148	9.21	0.05	62.61	
OPERATING PERSONNEL	11	0	0	7.19	0.0	0.0	
HEALTH PHYSICS PERSONNEL	7	0	8	2.37	0.0	2.76	
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.01	
ENGINEERING PERSONNEL	7	0	2	2.39	0.05	1.08	
TOTAL	49	0	158	23.16	0.10	66.46	89.72
REFUELING							
MAINTENANCE PERSONNEL	11	0	254	3.16	0.13	234.20	
OPERATING PERSONNEL	9	0	0	2.37	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.25	
SUPERVISORY PERSONNEL	12	0	2	4.46	0.06	1.64	
ENGINEERING PERSONNEL	0	0	16	0.05	0.0	8.59	
TOTAL	32	0	272	10.04	0.19	244.68	254.91
TOTAL BY JOB FUNCTION							
MAINTENANCE PERSONNEL	187 (82)	10	3020 (1799)	151.18	3.06	2224.48	2378.72
OPERATING PERSONNEL	107 (24)	0	114 (31)	124.19	0.0	6.61	130.80
HEALTH PHYSICS PERSONNEL	60 (16)	1	143 (82)	56.98	1.51	347.53	406.02
SUPERVISORY PERSONNEL	90 (55)	28 (18)	33 (23)	44.75	8.69	16.99	70.43
ENGINEERING PERSONNEL	18 (6)	165 (184)	192 (124)	6.99	84.35	98.94	190.28
GRAND TOTAL	452 (183)	204 (123)	3395 (2035)	384.09	97.61	2694.55	3176.25

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (x100 manrem)				TOTAL PERSONS	TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS		STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REM
Plant: POINT BEACH 1,2 (PWR)									
Reactor Operations & Surv Maintenance Personnel	0.0								
Operating Personnel	45.703								
Health Physics Personnel	13.621								
Supervisory Personnel	0.0								
Engineering Personnel	0.0								
TOTAL	59.324						0.0		59.324
Routine Maintenance									
Maintenance Personnel	17.756								
Operating Personnel	0.0								
Health Physics Personnel	0.0								
Supervisory Personnel	0.0								
Engineering Personnel	0.0								
TOTAL	17.756						0.0		17.756
In-Service Inspection									
Maintenance Personnel	20.776								
Operating Personnel	8.904								
Health Physics Personnel	0.0								
Supervisory Personnel	3.668								
Engineering Personnel	2.250								
TOTAL	35.488						298.748		334.242
Radiol Maintenance									
Maintenance Personnel	19.004								
Operating Personnel	5.934								
Health Physics Personnel	0.0								
Supervisory Personnel	0.0								
Engineering Personnel	0.0								
TOTAL	24.938						114.228		139.167
Waste Processing									
Maintenance Personnel	0.0								
Operating Personnel	5.046								
Health Physics Personnel	4.127								
Supervisory Personnel	0.0								
Engineering Personnel	0.0								
TOTAL	9.172						0.0		9.172
Refueling									
Maintenance Personnel	25.763								
Operating Personnel	1.708								
Health Physics Personnel	0.562								
Supervisory Personnel	0.0								
Engineering Personnel	0.250								
TOTAL	28.290						0.0		28.290
Total By Job Function									
Maintenance Personnel	83.289								
Operating Personnel	67.294								
Health Physics Personnel	18.317								
Supervisory Personnel	3.658								
Engineering Personnel	2.500								
TOTAL	174.908		307	478			412.978		587.886

\* Station and Utility personnel and jobs are combined under Station Employees. No further breakdown provided

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: PRAIRIE ISLAND (PWR)

NUMBER OF PERSONNEL (>100 M REM) 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM) 1980			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
REACTOR OPERATIONS & SURV.							
MAINTENANCE PERSONNEL	80	58	45	10,450	1,735	2,676	
OPERATING PERSONNEL	42	0	0	9,963	0.0	0.069	
HEALTH PHYSICS PERSONNEL	23	0	25	8,283	0.0	1,393	
SUPERVISORY PERSONNEL	3	3	0	0.833	0.166	0.006	
ENGINEERING PERSONNEL	15	8	8	0.736	0.133	0.290	
TOTAL	163	64	78	30,262	2,034	4,394	37,203
ROUTINE MAINTENANCE							
MAINTENANCE PERSONNEL	46	7	0	1,016	0.168	0.0	
OPERATING PERSONNEL	2	0	0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	2	0	0	0.052	0.0	0.0	
SUPERVISORY PERSONNEL	1	0	0	0.009	0.0	0.0	
ENGINEERING PERSONNEL	3	0	0	0.017	0.0	0.0	
TOTAL	54	7	0	1,116	0.168	0.0	1,284
IN-SERVICE INSPECTION							
MAINTENANCE PERSONNEL	33	26	27	4,719	2,269	16,138	
OPERATING PERSONNEL	1	0	0	0.026	0.0	0.0	
HEALTH PHYSICS PERSONNEL	5	0	9	0.640	0.0	0.948	
SUPERVISORY PERSONNEL	1	0	1	0.0	0.007	0.457	
ENGINEERING PERSONNEL	6	2	29	0.216	0.260	16,534	
TOTAL	45	28	66	5,601	2,536	34,077	42,214
SPECIAL MAINTENANCE							
MAINTENANCE PERSONNEL	80	139	36	31,498	84,373	55,372	
OPERATING PERSONNEL	39	0	0	4,410	0.0	0.021	
HEALTH PHYSICS PERSONNEL	21	0	30	5,138	0.0	10,930	
SUPERVISORY PERSONNEL	3	1	6	0.311	0.0	1,331	
ENGINEERING PERSONNEL	18	4	56	3,539	1,113	25,437	
TOTAL	161	144	128	45,127	85,797	92,491	223,415
WASTE PROCESSING							
MAINTENANCE PERSONNEL	36	14	1	3,177	0.271	0.027	
OPERATING PERSONNEL	2	0	0	0.062	0.0	0.043	
HEALTH PHYSICS PERSONNEL	11	0	2	1,442	0.0	0.086	
SUPERVISORY PERSONNEL	0	0	0	0.030	0.0	0.0	
ENGINEERING PERSONNEL	0	0	0	0.0	0.0	0.0	
TOTAL	59	14	3	4,711	0.271	0.158	5,138
REFUELING							
MAINTENANCE PERSONNEL	46	61	1	10,130	7,433	0.022	
OPERATING PERSONNEL	33	0	0	1,436	0.0	0.0	
HEALTH PHYSICS PERSONNEL	4	0	2	0.173	0.0	0.093	
SUPERVISORY PERSONNEL	4	0	0	0.190	0.0	0.0	
ENGINEERING PERSONNEL	10	1	0	0.403	0.147	0.039	
TOTAL	97	62	3	12,332	7,580	0.154	20,066
TOTAL BY JOB FUNCTION							
MAINTENANCE PERSONNEL	321	305	110	60,990	96,249	74,035	231,274
OPERATING PERSONNEL	117	0	0	15,897	0.0	0.153	16,050
HEALTH PHYSICS PERSONNEL	66	0	68	15,728	0.0	13,050	28,778
SUPERVISORY PERSONNEL	11	4	7	1,604	0.484	1,794	3,882
ENGINEERING PERSONNEL	51	10	93	4,933	1,653	42,750	49,336
GRAND TOTAL	564	319	278	39,152	98,386	131,782	329,320

\*Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: QUAD CITIES 1,2 (BHR) 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY EMPLOYEES	STATION EMPLOYEES	UTILITY EMPLOYEES
<b>* REACTOR OPERATIONS &amp; SURV.</b>				
MAINTENANCE PERSONNEL	9	0	30.3	0.0
OPERATING PERSONNEL	82	0	101.1	0.0
HEALTH PHYSICS PERSONNEL	8	0	21.9	0.0
SUPERVISORY PERSONNEL	38	0	35.6	0.0
ENGINEERING PERSONNEL	51	0	94.3	0.0
<b>TOTAL</b>	<b>128</b>	<b>0</b>	<b>283.2</b>	<b>0.0</b>
<b>* ROUTINE MAINTENANCE</b>				
MAINTENANCE PERSONNEL	87	0	391.6	0.0
OPERATING PERSONNEL	1	0	3.3	0.0
HEALTH PHYSICS PERSONNEL	4	0	9.6	0.0
SUPERVISORY PERSONNEL	42	0	105.0	0.0
ENGINEERING PERSONNEL	23	0	30.4	0.0
<b>TOTAL</b>	<b>157</b>	<b>0</b>	<b>539.9</b>	<b>0.0</b>
<b>* IN-SERVICE INSPECTION</b>				
MAINTENANCE PERSONNEL	1	0	1.8	0.0
OPERATING PERSONNEL	0	0	0.0	0.0
HEALTH PHYSICS PERSONNEL	3	0	8.7	0.0
SUPERVISORY PERSONNEL	0	0	0.0	0.0
ENGINEERING PERSONNEL	4	0	4.7	0.0
<b>TOTAL</b>	<b>8</b>	<b>0</b>	<b>15.2</b>	<b>0.0</b>
<b>* SPECIAL MAINTENANCE</b>				
MAINTENANCE PERSONNEL	0	90	0.0	50.4
OPERATING PERSONNEL	0	0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0.0	0.0
ENGINEERING PERSONNEL	0	143	0.0	18.5
<b>TOTAL</b>	<b>0</b>	<b>233</b>	<b>0.0</b>	<b>68.9</b>
<b>* WASTE PROCESSING</b>				
MAINTENANCE PERSONNEL	1	0	4.9	0.0
OPERATING PERSONNEL	30	0	107.4	0.0
HEALTH PHYSICS PERSONNEL	10	0	25.4	0.0
SUPERVISORY PERSONNEL	0	0	0.0	0.0
ENGINEERING PERSONNEL	1	0	1.0	0.0
<b>TOTAL</b>	<b>42</b>	<b>0</b>	<b>138.7</b>	<b>0.0</b>
<b>* FUELING</b>				
MAINTENANCE PERSONNEL	5	0	15.2	0.0
OPERATING PERSONNEL	16	0	50.2	0.0
HEALTH PHYSICS PERSONNEL	8	0	21.9	0.0
SUPERVISORY PERSONNEL	5	0	5.5	0.0
ENGINEERING PERSONNEL	6	0	11.0	0.0
<b>TOTAL</b>	<b>42</b>	<b>0</b>	<b>103.8</b>	<b>0.0</b>
<b>* TOTAL BY JOB FUNCTION</b>				
MAINTENANCE PERSONNEL	103	90	443.8	50.4
OPERATING PERSONNEL	129	0	262.0	0.0
HEALTH PHYSICS PERSONNEL	33	0	87.5	0.0
SUPERVISORY PERSONNEL	85	0	146.1	0.0
ENGINEERING PERSONNEL	87	143	141.4	18.5
<b>GRAND TOTAL</b>	<b>437</b>	<b>233</b>	<b>1080.8</b>	<b>68.9</b>

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT, RANCHO, SECO	(PWR)	NUMBER OF PERSONNEL (>100 M REM)		TOTAL		STATION		TOTAL MAN-REMS	
		EMPLOYEES	UTILITY CONTRACTORS & OTHERS	PERSONS	PERSONS	EMPLOYEES	UTILITY CONTRACTORS & OTHERS	EMPLOYEES	UTILITY CONTRACTORS & OTHERS
<b>REACTOR OPERATIONS &amp; SURV.</b>									
MAINTENANCE PERSONNEL	54	5	150	3.99	0.08	22.86			
OPERATING PERSONNEL	53	1	60	18.94	0.02	1.52			
HEALTH PHYSICS PERSONNEL	23	1	64	4.91	0.01	18.51			
SUPERVISORY PERSONNEL	20	0	3	2.93	0.0	0.86			
ENGINEERING PERSONNEL	30	10	99	1.67	0.16	1.75			
<b>TOTAL</b>	<b>185</b>	<b>17</b>	<b>376</b>	<b>32.44</b>	<b>0.27</b>	<b>45.50</b>			<b>78.21</b>
<b>ROUTINE MAINTENANCE</b>									
MAINTENANCE PERSONNEL	69	6	163	18.31	1.35	25.30			
OPERATING PERSONNEL	34	0	13	3.22	0.0	1.60			
HEALTH PHYSICS PERSONNEL	23	1	48	4.35	0.02	5.77			
SUPERVISORY PERSONNEL	6	0	0	2.37	0.0	0.0			
ENGINEERING PERSONNEL	21	2	70	2.47	0.02	1.53			
<b>TOTAL</b>	<b>153</b>	<b>10</b>	<b>294</b>	<b>30.72</b>	<b>1.35</b>	<b>34.00</b>			<b>66.11</b>
<b>IN-SERVICE INSPECTION</b>									
MAINTENANCE PERSONNEL	55	7	229	1.01	0.31	49.11			
OPERATING PERSONNEL	17	1	14	1.55	0.01	0.80			
HEALTH PHYSICS PERSONNEL	20	0	43	2.38	0.0	4.12			
SUPERVISORY PERSONNEL	9	0	5	0.57	0.0	0.05			
ENGINEERING PERSONNEL	18	2	173	0.81	0.03	10.03			
<b>TOTAL</b>	<b>119</b>	<b>10</b>	<b>565</b>	<b>6.32</b>	<b>0.35</b>	<b>64.11</b>			<b>70.78</b>
<b>SPECIAL MAINTENANCE</b>									
MAINTENANCE PERSONNEL	39	1	129	3.20	0.02	27.15			
OPERATING PERSONNEL	34	0	2	2.79	0.0	0.62			
HEALTH PHYSICS PERSONNEL	21	0	35	2.37	0.0	2.02			
SUPERVISORY PERSONNEL	9	0	1	7.02	0.0	8.43			
ENGINEERING PERSONNEL	3	1	21	0.04	0.01	0.62			
<b>TOTAL</b>	<b>106</b>	<b>2</b>	<b>286</b>	<b>15.42</b>	<b>0.03</b>	<b>38.84</b>			<b>54.29</b>
<b>WASTE PROCESSING</b>									
MAINTENANCE PERSONNEL	35	4	65	1.98	0.50	8.67			
OPERATING PERSONNEL	15	0	3	1.90	0.0	0.08			
HEALTH PHYSICS PERSONNEL	6	0	22	0.07	0.0	1.02			
SUPERVISORY PERSONNEL	8	0	1	0.73	0.0	0.0			
ENGINEERING PERSONNEL	12	1	38	0.91	0.03	7.23			
<b>TOTAL</b>	<b>76</b>	<b>5</b>	<b>129</b>	<b>5.59</b>	<b>0.53</b>	<b>17.02</b>			<b>23.14</b>
<b>REFUELLING</b>									
MAINTENANCE PERSONNEL	252	23	736	28.49	2.26	133.09			
OPERATING PERSONNEL	153	2	92	28.60	0.03	4.42			
HEALTH PHYSICS PERSONNEL	93	2	212	14.08	0.03	31.44			
SUPERVISORY PERSONNEL	52	1	10	13.62	0.0	9.34			
ENGINEERING PERSONNEL	54	18	403	3.80	0.29	27.18			
<b>TOTAL</b>	<b>639</b>	<b>44</b>	<b>1453</b>	<b>90.49</b>	<b>2.57</b>	<b>193.47</b>			<b>292.53</b>

\*Workers may be counted in more than one category.

\*\* Routine Maintenance includes Inservice Inspection.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: ROBINSON 2	(PWR)	NUMBER OF PERSONNEL (>100 M REM) 1980		TOTAL PERSONS		STATION EMPLOYEES	UTILITY EMPLOYEES	TOTAL MAN-REMS	CONTRACT OTHERS	TOTAL MAN-REMS
		STATION EMPLOYEES	UTILITY EMPLOYEES	PERSONS	PERSONS					
<b>WORK &amp; JOB FUNCTION</b>										
<b>REACTOR OPERATIONS &amp; SURV.</b>										
MAINTENANCE PERSONNEL	0	1	1	0	0	0.238	0.0	0.0	0.0	0.097
OPERATING PERSONNEL	29	36	36	0	0	48.586	1.548	8.070	0.0	8.070
HEALTH PHYSICS PERSONNEL	6	0	0	0	0	7.834	1.662	0.184	0.0	0.184
SUPERVISORY PERSONNEL	1	0	0	0	0	0.142	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	5	0	0	0	0	5.732	0.605	0.0	0.0	0.605
<b>TOTAL</b>	<b>40</b>	<b>37</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>62.532</b>	<b>3.815</b>	<b>8.351</b>	<b>0.0</b>	<b>74.698</b>
<b>ROUTINE MAINTENANCE</b>										
MAINTENANCE PERSONNEL	21	32	32	0	0	41.204	3.528	48.820	0.0	48.820
OPERATING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	6	1	1	0	0	7.142	0.806	0.637	0.0	0.637
SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	2	0	0	0	0	2.618	0.058	0.0	0.0	0.058
<b>TOTAL</b>	<b>28</b>	<b>33</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>50.964</b>	<b>4.392</b>	<b>49.457</b>	<b>0.0</b>	<b>104.813</b>
<b>IN-SERVICE INSPECTION</b>										
MAINTENANCE PERSONNEL	2	11	11	0	0	4.887	0.243	15.470	0.0	15.470
OPERATING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	1	0	0	0	0	0.621	0.268	0.0	0.0	0.268
SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	6	7	7	0	0	8.516	0.055	6.341	0.0	6.341
<b>TOTAL</b>	<b>8</b>	<b>18</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>14.054</b>	<b>0.566</b>	<b>21.811</b>	<b>0.0</b>	<b>26.431</b>
<b>SPECIAL MAINTENANCE</b>										
MAINTENANCE PERSONNEL	63	674	674	0	0	102.498	36.802	934.160	0.0	934.160
OPERATING PERSONNEL	5	0	0	0	0	8.659	0.365	0.0	0.0	0.365
HEALTH PHYSICS PERSONNEL	18	38	38	0	0	25.875	7.324	27.715	0.0	27.715
SUPERVISORY PERSONNEL	2	2	2	0	0	0.795	1.488	1.842	0.0	1.842
ENGINEERING PERSONNEL	18	133	133	0	0	22.866	23.958	122.050	0.0	122.050
<b>TOTAL</b>	<b>106</b>	<b>847</b>	<b>1016</b>	<b>0</b>	<b>0</b>	<b>160.693</b>	<b>69.937</b>	<b>1085.757</b>	<b>0.0</b>	<b>1316.387</b>
<b>WASTE PROCESSING</b>										
MAINTENANCE PERSONNEL	7	12	12	0	0	15.449	1.306	18.770	0.0	18.770
OPERATING PERSONNEL	13	0	0	0	0	20.608	0.626	0.0	0.0	0.626
HEALTH PHYSICS PERSONNEL	2	0	0	0	0	2.049	0.520	0.093	0.0	0.093
SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	1	0	0	0	0	1.535	0.043	0.0	0.0	0.043
<b>TOTAL</b>	<b>23</b>	<b>12</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>40.641</b>	<b>2.495</b>	<b>18.863</b>	<b>0.0</b>	<b>61.799</b>
<b>REFUELING</b>										
MAINTENANCE PERSONNEL	6	41	41	0	0	16.862	8.973	56.271	0.0	56.271
OPERATING PERSONNEL	4	0	0	0	0	7.185	0.344	0.0	0.0	0.344
HEALTH PHYSICS PERSONNEL	1	14	14	0	0	1.488	1.646	10.396	0.0	10.396
SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	2	3	3	0	0	2.216	2.340	1.381	0.0	1.381
<b>TOTAL</b>	<b>15</b>	<b>58</b>	<b>82</b>	<b>0</b>	<b>0</b>	<b>27.761</b>	<b>11.903</b>	<b>68.048</b>	<b>0.0</b>	<b>107.702</b>
<b>TOTAL BY JOB FUNCTION</b>										
MAINTENANCE PERSONNEL	91	43	906	0	0	181.138	50.452	1073.588	0.0	1305.178
OPERATING PERSONNEL	51	1	88	0	0	85.038	2.883	8.070	0.0	95.991
HEALTH PHYSICS PERSONNEL	32	8	93	0	0	45.809	11.226	39.025	0.0	96.060
SUPERVISORY PERSONNEL	3	2	8	0	0	0.537	1.488	1.842	0.0	4.267
ENGINEERING PERSONNEL	33	298	278	0	0	42.213	27.059	102.762	0.0	260.336
<b>GRAND TOTAL</b>	<b>210</b>	<b>1070</b>	<b>1370</b>	<b>0</b>	<b>0</b>	<b>356.435</b>	<b>93.108</b>	<b>1312.287</b>	<b>0.0</b>	<b>1561.830</b>

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: SALEM 1 (PWR)

WORK & JOB FUNCTION	STATION EMPLOYEES		NUMBER OF PERSONNEL (>100 M REM) 1980		TOTAL PERSONS		STATION EMPLOYEES		TOTAL MAN-REMS	
	EMPLOYEES	UTILITY EMPLOYEES	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	CONTRACT & OTHERS	EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	MAN-REMS
* REACTOR OPERATIONS & SURV.	12	0	10	0	22	0	6,545	0.150	5,987	0.000
MAINTENANCE PERSONNEL	27	0	2	0	29	0	9,098	0.040	1,580	0.000
HEALTH PHYSICS PERSONNEL	1	0	60	0	61	0	1,055	0.020	21,967	0.000
SUPERVISORY PERSONNEL	2	1	0	0	3	0	1,550	0.030	0,300	0.000
ENGINEERING PERSONNEL	0	0	1	0	1	0	0,285	0.230	0,145	0.000
TOTAL	42	1	73	0	116	0	18,533	0.470	29,979	0.000
* ROUTINE MAINTENANCE	3	0	0	0	3	0	3,071	0.020	2,263	0.000
MAINTENANCE PERSONNEL	0	0	0	0	0	0	0,251	0.000	0,020	0.000
OPERATING PERSONNEL	2	0	0	0	2	0	0,850	0.000	0,467	0.000
HEALTH PHYSICS PERSONNEL	2	0	0	0	2	0	0,305	0.000	0,020	0.000
SUPERVISORY PERSONNEL	0	0	2	0	2	0	0.0	0.000	0,075	0.000
ENGINEERING PERSONNEL	7	0	2	0	9	0	4,977	0.020	3,245	0.000
TOTAL	7	0	2	0	9	0	6,075	0.305	14,185	0.000
* IN-SERVICE INSPECTION	5	1	26	0	32	0	3,140	0.095	11,470	0.000
MAINTENANCE PERSONNEL	0	0	3	0	3	0	0,020	0.000	0,590	0.000
OPERATING PERSONNEL	6	1	0	0	7	0	2,380	0.060	0,310	0.000
HEALTH PHYSICS PERSONNEL	1	0	0	0	1	0	0,400	0.035	0,020	0.000
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0,135	0.115	0,020	0.000
ENGINEERING PERSONNEL	12	2	32	0	46	0	6,075	0.305	14,185	0.000
TOTAL	12	2	32	0	46	0	6,075	0.305	14,185	0.000
* SPECIAL MAINTENANCE	143	0	390	0	533	0	59,854	0.225	148,996	0.000
MAINTENANCE PERSONNEL	2	0	2	0	4	0	2,572	0.010	0,515	0.000
OPERATING PERSONNEL	7	0	23	0	30	0	0,810	0.010	8,746	0.000
HEALTH PHYSICS PERSONNEL	0	0	5	0	5	0	2,710	0.090	1,500	0.000
SUPERVISORY PERSONNEL	0	1	7	0	8	0	0,440	0.735	0,315	0.000
ENGINEERING PERSONNEL	15	0	42	0	57	0	66,526	0.735	163,072	0.000
TOTAL	15	1	47	0	63	0	70,042	0.735	173,333	0.000
* WASTE PROCESSING	7	0	47	0	54	0	2,705	0.000	14,335	0.000
MAINTENANCE PERSONNEL	0	0	1	0	1	0	0,020	0.000	0,340	0.000
OPERATING PERSONNEL	0	0	7	0	7	0	0,680	0.000	1,900	0.000
HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0	0,090	0.020	0,020	0.000
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0.0	0.000	0.000	0.000
ENGINEERING PERSONNEL	7	0	55	0	62	0	3,295	0.000	16,595	0.000
TOTAL	7	0	55	0	62	0	3,295	0.000	16,595	0.000
* REFUELING	101	0	44	0	145	0	44,945	0.100	15,300	0.000
MAINTENANCE PERSONNEL	1	0	1	0	2	0	0,455	0.010	0,050	0.000
OPERATING PERSONNEL	1	0	19	0	20	0	0,390	0.000	5,820	0.000
HEALTH PHYSICS PERSONNEL	7	1	0	0	8	0	2,100	0.140	0,045	0.000
SUPERVISORY PERSONNEL	0	0	0	0	0	0	0,030	0.055	0,320	0.000
ENGINEERING PERSONNEL	110	1	64	0	175	0	47,920	0.305	21,535	0.000
TOTAL	110	1	64	0	175	0	47,920	0.305	21,535	0.000
* TOTAL BY JOB FUNCTION	271	1	517	0	789	0	120,240	0.590	198,391	0.000
MAINTENANCE PERSONNEL	30	0	59	0	89	0	12,416	0.060	5,300	0.000
OPERATING PERSONNEL	12	1	112	0	125	0	5,965	0.090	39,420	0.000
HEALTH PHYSICS PERSONNEL	19	2	5	0	26	0	7,155	0.295	2,195	0.000
SUPERVISORY PERSONNEL	0	1	10	0	11	0	1,030	0.800	5,275	0.000
ENGINEERING PERSONNEL	110	5	64	0	179	0	46,626	1.035	218,011	0.000
TOTAL	110	5	64	0	179	0	46,626	1.035	218,011	0.000

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT, SAN ORDER	(PMR)	NUMBER OF PERSONNEL (>100 M REM) 1980				TOTAL PERSONS	STATION EMPLOYEES	TOTAL MAN-REMS		
		STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	UTILITY EMPLOYEES			CONTRACT & OTHERS	TOTAL MAN-REMS	
<b>* WORK &amp; JOB FUNCTION</b>										
<b>REACTOR OPERATIONS &amp; SURV.</b>										
MAINTENANCE PERSONNEL	20	10	114			6.49	2.40		37.94	
OPERATING PERSONNEL	30	0	57			24.86	0.0		24.90	
HEALTH PHYSICS PERSONNEL	14	2	75			9.39	0.53		23.42	
SUPERVISORY PERSONNEL	12	6	21			5.39	2.09		7.39	
ENGINEERING PERSONNEL	23	29	96			13.41	5.81		41.42	
TOTAL	99	47	363		509	60.04	10.83		135.07	205.94
<b>* ROUTINE MAINTENANCE</b>										
MAINTENANCE PERSONNEL	54	114	1008			91.73	97.31		1377.71	
OPERATING PERSONNEL	22	1	80			8.85	0.14		35.47	
HEALTH PHYSICS PERSONNEL	14	4	121			50.98	7.02		132.18	
SUPERVISORY PERSONNEL	9	8	55			5.58	2.08		38.14	
ENGINEERING PERSONNEL	16	13	178			8.04	3.52		164.11	
TOTAL	115	140	1442		1697	165.18	110.07		1747.61	2022.86
<b>* IN-SERVICE INSPECTION</b>										
MAINTENANCE PERSONNEL	0	0	5			0.0	0.0		0.95	
OPERATING PERSONNEL	0	0	0			0.0	0.0		0.0	
HEALTH PHYSICS PERSONNEL	0	0	0			0.0	0.0		0.0	
SUPERVISORY PERSONNEL	0	1	1			0.0	0.0		0.11	
ENGINEERING PERSONNEL	0	7	7			0.0	0.15		1.49	
TOTAL	0	1	13		14	0.0	0.15		2.55	2.70
<b>* SPECIAL MAINTENANCE</b>										
MAINTENANCE PERSONNEL	0	0	0			0.0	0.0		0.0	
OPERATING PERSONNEL	0	0	0			0.0	0.0		0.0	
HEALTH PHYSICS PERSONNEL	0	0	0			0.0	0.0		0.0	
SUPERVISORY PERSONNEL	0	0	0			0.0	0.0		0.0	
ENGINEERING PERSONNEL	0	0	0			0.0	0.0		0.0	
TOTAL	0	0	0		0	0.0	0.0		0.0	0.0
<b>* WASTE PROCESSING</b>										
MAINTENANCE PERSONNEL	0	0	4			0.0	0.0		0.50	
OPERATING PERSONNEL	0	0	0			0.0	0.0		0.0	
HEALTH PHYSICS PERSONNEL	1	0	2			0.17	0.0		0.93	
SUPERVISORY PERSONNEL	0	0	1			0.0	0.0		0.21	
ENGINEERING PERSONNEL	0	0	0			0.0	0.0		0.0	
TOTAL	1	0	7		8	0.17	0.0		1.64	1.81
<b>* REFUELING</b>										
MAINTENANCE PERSONNEL	0	0	22			0.0	0.0		5.90	
OPERATING PERSONNEL	0	0	0			0.0	0.0		0.0	
HEALTH PHYSICS PERSONNEL	0	0	3			0.0	0.0		0.0	
SUPERVISORY PERSONNEL	0	0	3			0.0	0.0		1.51	
ENGINEERING PERSONNEL	0	0	3			0.0	0.0		0.59	
TOTAL	0	0	28		28	0.0	0.0		8.00	8.00
<b>* TOTAL BY JOB FUNCTION</b>										
MAINTENANCE PERSONNEL	74 (56)	124 (119)	1153 (1,030)		1351 (1,206)	98.22	99.71		1423.00	1620.93
OPERATING PERSONNEL	52 (48)	1 (1)	137 (107)		190 (156)	33.71	0.14		60.37	94.22
HEALTH PHYSICS PERSONNEL	29 (14)	6 (5)	198 (138)		233 (157)	61.04	7.55		156.53	225.12
SUPERVISORY PERSONNEL	21 (15)	14 (13)	81 (72)		116 (100)	10.97	4.17		47.36	62.50
ENGINEERING PERSONNEL	39 (28)	43 (38)	284 (232)		366 (298)	21.45	9.48		207.61	238.54
GRAND TOTAL	215 (159)	188 (176)	1853 (1,679)		2256 (1,914)	225.39	121.05		1894.87	2241.31

\* Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.



APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: ST. LUCIE 1 (PWR)	WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM) 1980		TOTAL PERSONS		STATION EMPLOYEES		UTILITY EMPLOYEES		TOTAL MAN-REMS	
		STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT	OTHERS	EMPLOYEES	EMPLOYEES	CONTRACT	OTHERS	CONTRACT	OTHERS
		EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES	EMPLOYEES
	REACTOR OPERATIONS & SURV.	27	0	14	41	58.1	0.0	0.0	0.0	0.0	76.7
	MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
	OPERATING PERSONNEL	16	0	0	16	38.2	0.0	0.0	0.0	0.0	
	HEALTH PHYSICS PERSONNEL	8	0	10	18	19.1	0.0	0.0	0.0	17.6	
	SUPERVISORY PERSONNEL	3	0	0	3	0.8	0.0	0.0	0.0	0.0	
	ENGINEERING PERSONNEL	0	0	4	4	0.0	0.0	0.0	0.0	1.0	
	TOTAL	27	0	14	41	58.1	0.0	0.0	0.0	18.6	
	ROUTINE MAINTENANCE	101	32	318	451	31.8	10.1	10.1	72.3	72.3	
	MAINTENANCE PERSONNEL	26	0	0	26	8.2	0.0	0.0	0.0	0.0	
	OPERATING PERSONNEL	15	60	0	75	5.4	0.0	0.0	18.9	18.9	
	HEALTH PHYSICS PERSONNEL	7	0	0	7	2.2	0.3	0.3	0.0	0.0	
	SUPERVISORY PERSONNEL	4	0	0	4	0.8	0.0	0.0	0.0	0.0	
	ENGINEERING PERSONNEL	153	33	378	564	48.2	10.4	10.4	91.2	149.8	
	TOTAL	153	33	378	564	48.2	10.4	10.4	91.2	149.8	
	IN-SERVICE INSPECTION	0	0	20	20	0.0	0.0	0.0	6.2	6.2	
	MAINTENANCE PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
	OPERATING PERSONNEL	8	22	0	30	2.7	0.0	0.0	7.6	7.6	
	HEALTH PHYSICS PERSONNEL	4	4	0	8	1.8	0.9	0.9	1.6	1.6	
	SUPERVISORY PERSONNEL	3	1	0	4	1.0	0.3	0.3	0.5	0.5	
	ENGINEERING PERSONNEL	15	47	0	62	5.3	1.2	1.2	18.3	18.3	
	TOTAL	15	47	0	62	5.3	1.2	1.2	18.3	18.3	
	SPECIAL MAINTENANCE	56	29	34	119	39.8	20.6	20.6	18.6	18.6	
	MAINTENANCE PERSONNEL	12	0	0	12	5.2	0.0	0.0	0.0	0.0	
	OPERATING PERSONNEL	15	32	0	47	6.5	0.0	0.0	13.9	13.9	
	HEALTH PHYSICS PERSONNEL	4	4	0	8	1.9	2.2	2.2	1.6	1.6	
	SUPERVISORY PERSONNEL	4	0	0	4	0.0	0.0	0.0	0.0	0.0	
	ENGINEERING PERSONNEL	88	37	71	196	34.0	24.1	24.1	34.3	34.3	
	TOTAL	88	37	71	196	34.0	24.1	24.1	34.3	34.3	
	WASTE PROCESSING	36	5	0	41	9.1	1.5	1.5	0.0	0.0	
	MAINTENANCE PERSONNEL	12	0	0	12	3.1	0.0	0.0	0.0	0.0	
	OPERATING PERSONNEL	6	10	0	16	1.6	0.0	0.0	2.5	2.5	
	HEALTH PHYSICS PERSONNEL	1	0	0	1	0.0	0.0	0.0	0.0	0.0	
	SUPERVISORY PERSONNEL	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
	ENGINEERING PERSONNEL	55	5	10	70	16.3	1.5	1.5	2.5	2.5	
	TOTAL	55	5	10	70	16.3	1.5	1.5	2.5	2.5	
	REFUELING	71	27	15	113	64.1	24.4	24.4	13.5	13.5	
	MAINTENANCE PERSONNEL	31	0	0	31	3.0	0.0	0.0	0.0	0.0	
	OPERATING PERSONNEL	15	48	0	63	1.4	0.0	0.0	4.6	4.6	
	HEALTH PHYSICS PERSONNEL	4	1	0	5	0.4	0.1	0.1	0.0	0.0	
	SUPERVISORY PERSONNEL	5	3	0	8	0.5	0.3	0.3	0.0	0.0	
	ENGINEERING PERSONNEL	126	31	63	220	69.4	24.8	24.8	18.1	18.1	
	TOTAL	126	31	63	220	69.4	24.8	24.8	18.1	18.1	
	TOTAL BY JOB FUNCTION	264 (107)	93 (88)	387 (374)	744 (589)	164.8	56.6	56.6	111.2	111.2	
	MAINTENANCE PERSONNEL	97 (42)	0 (0)	0 (0)	97 (42)	57.7	0.0	0.0	57.7	57.7	
	OPERATING PERSONNEL	67 (15)	0 (0)	182 (60)	249 (75)	36.7	0.0	0.0	65.1	65.1	
	HEALTH PHYSICS PERSONNEL	23 (8)	9 (6)	0 (0)	32 (14)	9.6	3.0	3.0	3.8	3.8	
	SUPERVISORY PERSONNEL	13 (8)	7 (5)	0 (0)	20 (13)	8.7	1.0	1.0	1.0	1.0	
	ENGINEERING PERSONNEL	463 (177)	102 (88)	383 (348)	948 (713)	231.3	62.0	62.0	181.3	181.3	
	TOTAL	463 (177)	102 (88)	383 (348)	948 (713)	231.3	62.0	62.0	181.3	181.3	

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

Plant: SURRY 1.2 (PWR)	WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 mem)				TOTAL MAN-REMS			
		STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REM
	Reactor Operations & Surv. Maintenance Personnel								
	Operating Personnel								
	Health Physics Personnel								
	Supervisory Personnel								
	<b>TOTAL</b>	276	17	0	293	330,380	6,723	0.0	337,103
	Routine Maintenance								
	Maintenance Personnel								
	Operating Personnel								
	Health Physics Personnel								
	Supervisory Personnel								
	Engineering Personnel								
	<b>TOTAL</b>	172	13	0	185	278,026	27,845	0.0	305,871
	In-Service Inspection								
	Maintenance Personnel								
	Operating Personnel								
	Health Physics Personnel								
	Supervisory Personnel								
	Engineering Personnel								
	<b>TOTAL</b>	7	28	2492	2477	7,489	18,567	2876,704	3002,770
	Waste Processing								
	Maintenance Personnel								
	Operating Personnel								
	Health Physics Personnel								
	Supervisory Personnel								
	Engineering Personnel								
	<b>TOTAL</b>	6	0	2	7	13,845	0.0	0.685	14,530
	Refueling								
	Maintenance Personnel								
	Operating Personnel								
	Health Physics Personnel								
	Supervisory Personnel								
	Engineering Personnel								
	<b>TOTAL</b>	12	1	1	14	3,723	0,134	0,388	4,259
	Total By Job Function								
	Maintenance Personnel								
	Operating Personnel								
	Health Physics Personnel								
	Supervisory Personnel								
	Engineering Personnel								
	<b>GRAND TOTAL</b>	472	88	2448	3078	638,473	83,989	2877,748	3064,430

Reactor Operations includes Inservice Inspection. No further breakdown provided.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: THREE MILE ISL. 1,2 (PWR)

NUMBER OF PERSONNEL (>100 M REM) 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL
<b>PEACOR OPERATIONS &amp; SURV.</b>							
MAINTENANCE PERSONNEL	197	54	291	2,233	0,298	2,591	
OPERATING PERSONNEL	214	50	148	9,951	0,608	0,737	
HEALTH PHYSICS PERSONNEL	87	16	192	11,286	0,298	5,074	
SUPERVISORY PERSONNEL	53	13	30	0,842	0,012	0,678	
ENGINEERING PERSONNEL	29	60	91	0,838	0,999	1,387	
<b>TOTAL</b>	<b>580</b>	<b>193</b>	<b>749</b>	<b>1522</b>	<b>2,215</b>	<b>10,467</b>	<b>37,832</b>
<b>ROUTINE MAINTENANCE</b>							
MAINTENANCE PERSONNEL	215	63	278	10,064	1,671	3,658	
OPERATING PERSONNEL	207	47	139	3,426	0,355	1,480	
HEALTH PHYSICS PERSONNEL	73	13	132	4,609	0,168	3,081	
SUPERVISORY PERSONNEL	53	13	30	0,736	0,061	0,170	
ENGINEERING PERSONNEL	28	62	97	0,195	0,456	0,529	
<b>TOTAL</b>	<b>576</b>	<b>198</b>	<b>676</b>	<b>19,030</b>	<b>2,711</b>	<b>8,919</b>	<b>36,659</b>
<b>IN-SERVICE INSPECTION</b>							
MAINTENANCE PERSONNEL	193	64	285	1,288	0,401	7	
OPERATING PERSONNEL	194	62	183	2,982	0,323		
HEALTH PHYSICS PERSONNEL	59	7	121	2,757	0,144		
SUPERVISORY PERSONNEL	58	14	23	0,373	0,052	0,232	
ENGINEERING PERSONNEL	34	65	105	0,331	0,380	0,535	
<b>TOTAL</b>	<b>538</b>	<b>212</b>	<b>717</b>	<b>1467</b>	<b>1,300</b>	<b>9,273</b>	<b>18,304</b>
<b>SPECIAL MAINTENANCE</b>							
MAINTENANCE PERSONNEL	238	139	624	16,972	35,266	160,922	
OPERATING PERSONNEL	232	113	237	12,697	12,991	23,206	
HEALTH PHYSICS PERSONNEL	77	36	255	17,918	11,989	53,005	
SUPERVISORY PERSONNEL	71	21	59	2,040	0,165	15,720	
ENGINEERING PERSONNEL	33	87	172	1,168	9,797	7,350	
<b>TOTAL</b>	<b>651</b>	<b>396</b>	<b>1347</b>	<b>50,795</b>	<b>70,208</b>	<b>260,263</b>	<b>381,266</b>
<b>WASTE PROCESSING</b>							
MAINTENANCE PERSONNEL	138	77	155	7,989	5,585	7,915	
OPERATING PERSONNEL	139	30	61	3,332	0,931	2,248	
HEALTH PHYSICS PERSONNEL	58	23	139	1,271	1,019	8,693	
SUPERVISORY PERSONNEL	23	5	27	0,733	0,082	0,724	
ENGINEERING PERSONNEL	10	26	36	0,702	0,429	0,510	
<b>TOTAL</b>	<b>368</b>	<b>161</b>	<b>418</b>	<b>14,027</b>	<b>8,046</b>	<b>20,090</b>	<b>42,163</b>
<b>REFUELING</b>							
MAINTENANCE PERSONNEL	3	0	5	0,003	0,0	0,003	
OPERATING PERSONNEL	1	0	0	0,0	0,0	0,0	
HEALTH PHYSICS PERSONNEL	0	0	0	0,0	0,0	0,0	
SUPERVISORY PERSONNEL	0	0	0	0,0	0,0	0,0	
ENGINEERING PERSONNEL	0	0	0	0,0	0,0	0,0	
<b>TOTAL</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>0,003</b>	<b>0,0</b>	<b>0,003</b>	<b>0,006</b>
<b>TOTAL BY JOB FUNCTION</b>							
MAINTENANCE PERSONNEL	984 (280)	397 (149)	1638 (644)	3019 (1063)	43,221	176,589	260,359
OPERATING PERSONNEL	987 (261)	302 (164)	768 (412)	2057 (737)	15,208	29,816	77,412
HEALTH PHYSICS PERSONNEL	354 (78)	95 (44)	839 (280)	1288 (402)	13,618	72,716	124,173
SUPERVISORY PERSONNEL	258 (81)	66 (28)	166 (66)	490 (176)	0,372	10,524	22,620
ENGINEERING PERSONNEL	134 (42)	300 (138)	501 (248)	935 (428)	12,061	10,371	25,646
<b>GRAND TOTAL</b>	<b>2717 (722)</b>	<b>1150 (623)</b>	<b>3912 (1850)</b>	<b>7789 (2795)</b>	<b>84,480</b>	<b>309,014</b>	<b>519,230</b>

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

PLANT: TROJAN (PMR)

1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)			TOTAL MAN-REMS			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT & OTHERS	TOTAL MAN-REMS
MAINTENANCE PERSONNEL	0	0	0	0.0	0.01	0.04	0.05
OPERATING PERSONNEL	21	0	0	5.97	0.1	0.01	6.08
HEALTH PHYSICS PERSONNEL	24	0	78	15.45	0.3	38.19	53.94
SUPERVISORY PERSONNEL	3	0	6	0.90	0.14	5.55	6.59
ENGINEERING PERSONNEL	9	15	19	4.89	3.69	6.66	15.24
TOTAL	57	15	103	27.21	3.80	30.45	61.34
ROUTINE MAINTENANCE							
MAINTENANCE PERSONNEL	24	29	32	13.	15.40	10.27	38.67
OPERATING PERSONNEL	0	0	0	0.	0.11	0.0	0.11
HEALTH PHYSICS PERSONNEL	0	0	10	0.00	0.04	3.29	3.33
SUPERVISORY PERSONNEL	0	0	1	0.10	0.30	0.30	0.70
ENGINEERING PERSONNEL	1	1	20	0.30	0.65	9.55	10.50
TOTAL	25	30	63	13.99	16.20	23.41	53.60
IN-SERVICE INSPECTION							
MAINTENANCE PERSONNEL							
OPERATING PERSONNEL							
HEALTH PHYSICS PERSONNEL							
SUPERVISORY PERSONNEL							
ENGINEERING PERSONNEL							
TOTAL							
SPECIAL MAINTENANCE							
MAINTENANCE PERSONNEL	32	61	324	13.14	22.98	185.72	221.84
OPERATING PERSONNEL	0	0	0	0.01	0.04	0.03	0.08
HEALTH PHYSICS PERSONNEL	1	0	25	0.14	0.03	7.65	7.82
SUPERVISORY PERSONNEL	0	0	29	0.01	0.10	13.32	13.43
ENGINEERING PERSONNEL	1	0	21	1.19	0.02	9.61	10.82
TOTAL	34	61	399	14.49	23.17	216.33	253.99
WASTE PROCESSING							
MAINTENANCE PERSONNEL	0	0	0	0.0	0.0	0.0	0.0
OPERATING PERSONNEL	0	0	0	0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0	0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0	0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0	0.0	0.0	0.0	0.0
TOTAL	0	0	0	0.0	0.0	0.0	0.0
REFUELING							
MAINTENANCE PERSONNEL	5	9	50	5.91	15.41	21.88	42.20
OPERATING PERSONNEL	0	0	0	0.04	0.01	0.01	0.06
HEALTH PHYSICS PERSONNEL	2	0	17	1.05	0.01	8.70	9.76
SUPERVISORY PERSONNEL	3	0	2	1.43	0.04	1.65	3.12
ENGINEERING PERSONNEL	0	0	5	0.09	0.14	2.26	2.49
TOTAL	10	9	74	8.52	15.61	34.50	58.63
TOTAL BY JOB FUNCTION							
MAINTENANCE PERSONNEL	61	99	406	32.54	53.80	217.91	304.25
OPERATING PERSONNEL	21	0	0	6.04	0.19	0.05	6.28
HEALTH PHYSICS PERSONNEL	27	0	130	16.72	0.11	57.83	74.66
SUPERVISORY PERSONNEL	4	0	38	2.44	0.28	20.82	23.54
ENGINEERING PERSONNEL	11	18	92	6.47	4.50	28.06	39.03
GRAND TOTAL	126	115	639	64.21	58.88	324.69	447.78

\* Workers may be counted in more than one category.  
 \*\* Routine Maintenance includes Inservice Inspection.

APPENDIX C

NUMBER OF PER ONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1980

PLANT: TURKEY POINT 1,2 (PWR)

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)		TOTAL		STATION		UTILITY		TOTAL MAN-REMS	
	EMPLOYEES	& OTHERS	PERSONS	EMPLOYEES	EMPLOYEES	& OTHERS	EMPLOYEES	& OTHERS	EMPLOYEES	CONTRACT
<b>* REACTOR OPERATIONS &amp; SURV.</b>										
MAINTENANCE PERSONNEL	158	158	524	253	155,085	4,934	2,870	96,652	2,870	40,474
OPERATING PERSONNEL	44	0		2	52,856		0.0	1,830	0.0	1,830
HEALTH PHYSICS PERSONNEL	27	0		80	21,868		0.0	51,757	0.0	51,757
SUPERVISORY PERSONNEL	1	0		2	0,371		0.0	0,150	0.0	0,371
ENGINEERING PERSONNEL	21	4		11	8,923		0.835	2,220	0.835	2,220
<b>TOTAL</b>	<b>251</b>	<b>20</b>	<b>524</b>	<b>253</b>	<b>155,085</b>	<b>4,934</b>	<b>3,705</b>	<b>96,652</b>	<b>3,705</b>	<b>255,442</b>
<b>* ROUTINE MAINTENANCE</b>										
MAINTENANCE PERSONNEL	165	53		483	127,981		51,357	360,217	0.0	360,217
OPERATING PERSONNEL	11	0		1	2,923		0.0	0,175	0.0	0,175
HEALTH PHYSICS PERSONNEL	16	0		60	4,500		0.0	38,102	0.0	38,102
SUPERVISORY PERSONNEL	0	0		1	0.0		0.0	0,248	0.0	0,248
ENGINEERING PERSONNEL	13	7		31	4,934		2,648	12,012	2,648	12,012
<b>TOTAL</b>	<b>205</b>	<b>60</b>	<b>841</b>	<b>576</b>	<b>140,338</b>	<b>4,934</b>	<b>54,005</b>	<b>419,754</b>	<b>54,005</b>	<b>614,097</b>
<b>* IN-SERVICE INSPECTION</b>										
MAINTENANCE PERSONNEL	61	22		630	23,330		4,908	716,604	0.0	716,604
OPERATING PERSONNEL	4	0		0	0,840		0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	13	0		41	6,593		0.0	17,682	0.0	17,682
SUPERVISORY PERSONNEL	0	0		0	0.0		0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	9	8		49	10,546		2,915	53,620	2,915	53,620
<b>TOTAL</b>	<b>87</b>	<b>30</b>	<b>837</b>	<b>720</b>	<b>41,309</b>	<b>4,908</b>	<b>7,823</b>	<b>787,906</b>	<b>7,823</b>	<b>837,038</b>
<b>* SPECIAL MAINTENANCE</b>										
MAINTENANCE PERSONNEL	7	0		58	1,906		0.0	25,464	0.0	25,464
OPERATING PERSONNEL	2	0		0	0,270		0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0		0	0.0		0.0	0.0	0.0	0.0
SUPERVISORY PERSONNEL	0	0		0	0.0		0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	0	2		6	0.0		0.485	1,676	0.485	1,676
<b>TOTAL</b>	<b>9</b>	<b>2</b>	<b>75</b>	<b>64</b>	<b>2,176</b>	<b>0.485</b>	<b>0.985</b>	<b>27,140</b>	<b>0.985</b>	<b>29,801</b>
<b>* WASTE PROCESSING</b>										
MAINTENANCE PERSONNEL	24	0		4	8,521		0.0	2,384	0.0	2,384
OPERATING PERSONNEL	1	0		2	0,815		0.0	0,625	0.0	0,625
HEALTH PHYSICS PERSONNEL	7	0		9	5,063		0.0	3,293	0.0	3,293
SUPERVISORY PERSONNEL	0	0		0	0.0		0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	1	0		0	0,105		0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>33</b>	<b>0</b>	<b>48</b>	<b>15</b>	<b>14,504</b>	<b>0.0</b>	<b>0.0</b>	<b>6,302</b>	<b>0.0</b>	<b>20,606</b>
<b>* REFUELLING</b>										
MAINTENANCE PERSONNEL	64	15		12	32,315		13,575	3,679	13,575	3,679
OPERATING PERSONNEL	33	0		0	7,747		0.0	0.0	0.0	0.0
HEALTH PHYSICS PERSONNEL	3	0		6	0,480		0.0	1,030	0.0	1,030
SUPERVISORY PERSONNEL	1	0		0	0,385		0.0	0.0	0.0	0.0
ENGINEERING PERSONNEL	6	1		1	2,490		0.475	0,160	0.475	0,160
<b>TOTAL</b>	<b>107</b>	<b>16</b>	<b>142</b>	<b>19</b>	<b>43,417</b>	<b>14,050</b>	<b>4,869</b>	<b>62,336</b>	<b>14,050</b>	<b>62,336</b>
<b>* TOTAL BY JOB FUNCTION</b>										
MAINTENANCE PERSONNEL	479 (220)	106 ( 57)	1930 (1,179)	1345 (902)	265,341		72,710	1157,822	72,710	1495,873
OPERATING PERSONNEL	95 ( 71)	0 ( 0)	100 ( 74)	5 ( 3)	65,451		0.0	2,430	0.0	67,881
HEALTH PHYSICS PERSONNEL	66 ( 20)	0 ( 0)	262 ( 136)	196 (110)	38,504		0.0	111,864	0.0	150,368
SUPERVISORY PERSONNEL	2 ( 1)	0 ( 0)	5 ( 44)	3 ( 3)	0,535		0.0	0,619	0.0	1,154
ENGINEERING PERSONNEL	50 ( 47)	22 ( 16)	170 ( 114)	98 ( 62)	26,998		7,358	69,668	7,358	104,014
<b>TOTAL</b>	<b>692 (365)</b>	<b>128 ( 72)</b>	<b>2667 (1,607)</b>	<b>1671 (1,070)</b>	<b>396,829</b>	<b>14,050</b>	<b>80,668</b>	<b>1,592,423</b>	<b>80,668</b>	<b>1,819,320</b>

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.

APPENDIX C

PLANT: VERMONT-YANKEE (BWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1980

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)		NUMBER OF PERSONNEL (>100 M REM)		STATION EMPLOYEES	TOTAL PERSONS	TOTAL MAN-REMS		UTILITY EMPLOYEES	CONTRACT OTHERS	TOTAL
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT OTHERS	CONTRACT OTHERS							
REACTOR OPERATIONS & SURV.	10	2	10	2	9,172	174	0.723	0.723	0.723	10.614	137.687
MAINTENANCE PERSONNEL	50	0	3	0	53,042		0.0	0.0	0.0	0.842	
OPERATING PERSONNEL	24	0	41	0	22,700		0.0	0.0	0.0	25.377	
HEALTH PHYSICS PERSONNEL	1	0	0	0	0,471		0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	28	0	5	0	13,440		0.0	0.0	0.0	1.306	
ENGINEERING PERSONNEL	113	2	59	2	98,825	174	0.723	0.723	0.723	38.139	137.687
TOTAL	113	2	59	2	98,825	174	0.723	0.723	0.723	38.139	137.687
ROUTINE MAINTENANCE	47	123	600	0	102,783	849	92.955	92.955	92.955	194.292	439.604
MAINTENANCE PERSONNEL	34	0	0	0	15,466		0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	12	0	18	0	4,338		0.0	0.0	0.0	5.230	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0		0.0	0.0	0.0	20.052	
SUPERVISORY PERSONNEL	13	0	2	0	3,913		0.0	0.0	0.0	0.381	
ENGINEERING PERSONNEL	106	123	620	2	126,500	849	93.149	93.149	93.149	219.955	439.604
TOTAL	8	64	64	0	2,143	136	46.144	46.144	46.144	26.783	75.070
IN-SERVICE INSPECTION	5	64	63	0	1,522		0.0	0.0	0.0	25.956	
MAINTENANCE PERSONNEL	0	0	0	0	0.064		0.0	0.0	0.0	0.0	
OPERATING PERSONNEL	0	0	0	0	0.032		0.0	0.0	0.0	0.061	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0		0.0	0.0	0.0	0.532	
SUPERVISORY PERSONNEL	3	0	1	0	0.525		0.0	0.0	0.0	0.234	
ENGINEERING PERSONNEL	8	64	64	0	2,143	136	46.144	46.144	46.144	26.783	75.070
TOTAL	21	42	42	0	6,300	688	12.673	12.673	12.673	60.630	631.249
SPECIAL MAINTENANCE	3	0	4	0	0.770		0.0	0.0	0.0	0.0	
MAINTENANCE PERSONNEL	3	0	4	0	0.901		0.0	0.0	0.0	3.883	
OPERATING PERSONNEL	0	0	0	0	0.0		0.0	0.0	0.0	0.028	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.064		0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	27	0	0	0	8,033	757	6.033	6.033	6.033	0.0	631.249
ENGINEERING PERSONNEL	27	0	0	0	8,033	757	6.033	6.033	6.033	0.0	631.249
TOTAL	2	0	3	0	0.392		0.0	0.0	0.0	0.630	
WASTE PROCESSING	1	0	0	0	0.130		0.0	0.0	0.0	0.0	
MAINTENANCE PERSONNEL	1	0	1	0	0.108		0.0	0.0	0.0	0.172	
OPERATING PERSONNEL	0	0	0	0	0.0		0.0	0.0	0.0	0.0	
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0		0.0	0.0	0.0	0.0	
SUPERVISORY PERSONNEL	0	0	0	0	0.0		0.0	0.0	0.0	0.0	
ENGINEERING PERSONNEL	4	0	4	0	0.630	8	0.205	0.205	0.205	0.802	1.637
TOTAL	12	24	35	0	4,212	1747	157.941	157.941	157.941	847.302	1129.624
MAINTENANCE PERSONNEL	14	0	0	0	2,370	105	0.0	0.0	0.0	0.842	72.684
OPERATING PERSONNEL	0	0	5	0	0.298	109	0.0	0.0	0.0	35.871	64.258
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.0	1	0.0	0.0	0.0	20.612	21.277
SUPERVISORY PERSONNEL	0	0	0	0	1,657	57	0.0	0.0	0.0	1.928	21.527
ENGINEERING PERSONNEL	31	24	40	0	8,537	2019	158.135	158.135	158.135	906.552	1309.560
TOTAL	97	255	1395	0	124,381	1747	157.941	157.941	157.941	847.302	1129.624
MAINTENANCE PERSONNEL	102	0	3	0	71,842	105	0.0	0.0	0.0	0.842	72.684
OPERATING PERSONNEL	60	0	69	0	28,377	109	0.0	0.0	0.0	35.871	64.258
HEALTH PHYSICS PERSONNEL	0	0	0	0	0.471	1	0.0	0.0	0.0	20.612	21.277
SUPERVISORY PERSONNEL	49	0	8	0	19,599	57	0.0	0.0	0.0	1.928	21.527
ENGINEERING PERSONNEL	289	255	1475	0	244,670	2019	158.135	158.135	158.135	906.552	1309.560
TOTAL	289	255	1475	0	244,670	2019	158.135	158.135	158.135	906.552	1309.560

\*Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1980

PLANT, YANKEE-ROWE	JOB FUNCTION	STATION EMPLOYEES		UTILITY CONTRACTORS & OTHERS		TOTAL PERSONS	STATION EMPLOYEES		UTILITY CONTRACTORS & OTHERS		TOTAL MAN-REMS
		EMPLOYEES	CONTRACTORS & OTHERS	EMPLOYEES	CONTRACTORS & OTHERS		EMPLOYEES	CONTRACTORS & OTHERS			
* REACTOR OPERATIONS & SURV.											
	MAINTENANCE PERSONNEL	0	0	0	0	0	0	0.605	0.362	0.967	3.100
	OPERATING PERSONNEL	15	0	0	0	15	3.303	0.0	0.0	0.0	0.0
	HEALTH PHYSICS PERSONNEL	0	0	1	0	1	0.255	0.0	0.0	0.0	0.220
	SUPERVISORY PERSONNEL	0	0	0	0	0	0.080	0.0	0.0	0.0	0.045
	ENGINEERING PERSONNEL	0	0	0	0	0	0.070	0.0	0.0	0.0	0.0
	TOTAL	15	0	1	0	16	4.113	0.0	0.0	0.0	3.665
* BOILERS MAINTENANCE											
	MAINTENANCE PERSONNEL	20	10	4	0	34	6.400	3.532	0.0	0.0	9.932
	OPERATING PERSONNEL	10	0	0	0	10	2.616	0.0	0.0	0.0	1.625
	HEALTH PHYSICS PERSONNEL	1	0	1	0	2	0.242	0.0	0.0	0.0	0.738
	SUPERVISORY PERSONNEL	0	0	0	0	0	0.020	0.0	0.0	0.0	0.118
	ENGINEERING PERSONNEL	1	0	0	0	1	0.143	0.0	0.0	0.0	0.0
	TOTAL	32	10	5	0	47	9.421	3.725	0.0	0.0	13.146
* IN-SERVICE INSPECTION											
	MAINTENANCE PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	OPERATING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	ENGINEERING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
* SPECIAL MAINTENANCE											
	MAINTENANCE PERSONNEL	27	52	52	0	131	14.542	50.805	48.655	0.0	113.902
	OPERATING PERSONNEL	29	0	0	0	29	8.640	0.0	0.0	0.0	14.564
	HEALTH PHYSICS PERSONNEL	10	0	29	1	40	3.301	0.0	0.0	0.0	0.414
	SUPERVISORY PERSONNEL	0	0	0	0	0	0.115	0.0	0.0	0.0	0.0
	ENGINEERING PERSONNEL	0	3	0	0	3	0.373	1.294	0.0	0.0	0.0
	TOTAL	66	55	82	1	204	26.971	52.099	48.655	0.0	113.902
* WASTE PROCESSING											
	MAINTENANCE PERSONNEL	0	0	5	0	5	0.299	0.360	1.370	0.0	1.370
	OPERATING PERSONNEL	15	0	0	0	15	3.820	0.0	0.0	0.0	0.0
	HEALTH PHYSICS PERSONNEL	5	0	12	0	17	1.640	0.0	0.0	0.0	7.823
	SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.020
	ENGINEERING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	TOTAL	20	0	17	0	37	5.759	0.360	1.370	0.0	15.323
* REACTOR MAINTENANCE											
	MAINTENANCE PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	OPERATING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	HEALTH PHYSICS PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	SUPERVISORY PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	ENGINEERING PERSONNEL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
* TOTAL BY JOB FUNCTION											
	MAINTENANCE PERSONNEL	47	62	61	170	239	21.642	55.065	51.750	0.0	128.457
	OPERATING PERSONNEL	69	0	0	69	138	18.379	0.0	0.0	0.0	18.379
	HEALTH PHYSICS PERSONNEL	16	0	43	59	75	5.438	0.0	23.345	0.0	28.783
	SUPERVISORY PERSONNEL	0	0	1	1	2	0.215	0.0	0.597	0.0	0.812
	ENGINEERING PERSONNEL	1	3	0	4	8	0.584	1.294	0.0	0.0	1.878
	TOTAL	133	65	105	303	503	46.278	56.364	75.695	0.0	178.343

\* Workers may be counted in more than one category.

APPENDIX C

NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

1960

PLANT ZION 1,2 (PWR)

WORK & JOB FUNCTION	NUMBER OF PERSONNEL (>100 M REM)		TOTAL MAN-REMS	
	STATION EMPLOYEES	UTILITY EMPLOYEES	STATION EMPLOYEES	UTILITY EMPLOYEES
REACTOR OPERATIONS & SUPV.	7	0	4.5	0.0
MAINTENANCE PERSONNEL	107	0	49.8	0.0
OPERATING PERSONNEL	6	0	9.0	0.0
HEALTH PHYSICS PERSONNEL	47	0	5.6	0.0
SUPERVISORY PERSONNEL	42	0	23.3	0.0
ENGINEERING PERSONNEL	249	0	92.2	0.0
TOTAL	428	0	172.3	0.0
ROUTINE MAINTENANCE	120	0	129.0	0.0
MAINTENANCE PERSONNEL	26	0	12.3	0.0
OPERATING PERSONNEL	16	0	23.5	0.0
HEALTH PHYSICS PERSONNEL	43	0	9.9	0.0
SUPERVISORY PERSONNEL	50	0	9.4	0.0
ENGINEERING PERSONNEL	255	0	184.1	0.0
TOTAL	428	0	376	0.0
IN-SERVICE INSPECTION	0	0	0.0	0.0
MAINTENANCE PERSONNEL	0	0	0.0	0.0
OPERATING PERSONNEL	0	0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0.0	0.0
ENGINEERING PERSONNEL	7	0	1.4	0.0
TOTAL	7	0	1.4	0.0
SPECIAL MAINTENANCE	0	102	0.0	20.7
MAINTENANCE PERSONNEL	0	0	0.0	0.0
OPERATING PERSONNEL	0	0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0.0	0.0
ENGINEERING PERSONNEL	0	0	0.0	0.0
TOTAL	0	102	0.0	20.7
WASTE PROCESSING	0	0	0.0	0.0
MAINTENANCE PERSONNEL	16	0	7.6	0.0
OPERATING PERSONNEL	5	0	6.7	0.0
HEALTH PHYSICS PERSONNEL	0	0	0.0	0.0
SUPERVISORY PERSONNEL	0	0	0.0	0.0
ENGINEERING PERSONNEL	26	0	15.5	0.0
TOTAL	47	0	30.8	0.0
REFUELLING	0	0	0.0	0.0
MAINTENANCE PERSONNEL	6	0	11.9	0.0
OPERATING PERSONNEL	0	0	0.0	0.0
HEALTH PHYSICS PERSONNEL	0	0	0.0	0.0
SUPERVISORY PERSONNEL	3	0	2.5	0.0
ENGINEERING PERSONNEL	7	0	1.4	0.0
TOTAL	16	0	15.8	0.0
TOTAL BY JOB FUNCTION	127	102	133.3	20.7
MAINTENANCE PERSONNEL	155	0	81.8	0.0
OPERATING PERSONNEL	27	0	39.2	0.0
HEALTH PHYSICS PERSONNEL	93	0	18.0	0.0
SUPERVISORY PERSONNEL	151	127	36.5	0.0
ENGINEERING PERSONNEL	553	229	309.0	28.7
GRAND TOTAL	1203	1203	1985	526.0
TOTAL MAN-REMS	1932	1932	1932	526.0
UTILITY CONTRACTORS	155	155	155	0.0
OTHERS	27	27	27	0.0
TOTAL	93	93	93	0.0
TOTAL	151	151	151	0.0
TOTAL	553	553	553	0.0
GRAND TOTAL	1985	1985	1985	526.0

\*Workers may be counted in more than one category.