

---

---

# Occupational Radiation Exposure at Commercial Nuclear Power Reactors 1983

Annual Report

---

---

**U.S. Nuclear Regulatory  
Commission**

Office of Nuclear Regulatory Research

B. G. Brooks



## NOTICE

### Availability of Reference Materials Cited in NRC Publications

Most documents cited in NRC publications will be available from one of the following sources:

1. The NRC Public Document Room, 1717 H Street, N.W.  
Washington, DC 20555
2. The NRC/GPO Sales Program, U.S. Nuclear Regulatory Commission,  
Washington, DC 20555
3. The National Technical Information Service, Springfield, VA 22161

Although the listing that follows represents the majority of documents cited in NRC publications, it is not intended to be exhaustive.

Referenced documents available for inspection and copying for a fee from the NRC Public Document Room include NRC correspondence and internal NRC memoranda; NRC Office of Inspection and Enforcement bulletins, circulars, information notices, inspection and investigation notices; Licensee Event Reports; vendor reports and correspondence; Commission papers; and applicant and licensee documents and correspondence.

The following documents in the NUREG series are available for purchase from the NRC/GPO Sales Program: formal NRC staff and contractor reports, NRC-sponsored conference proceedings, and NRC booklets and brochures. Also available are Regulatory Guides, NRC regulations in the *Code of Federal Regulations*, and *Nuclear Regulatory Commission Issuances*.

Documents available from the National Technical Information Service include NUREG series reports and technical reports prepared by other federal agencies and reports prepared by the Atomic Energy Commission, forerunner agency to the Nuclear Regulatory Commission.

Documents available from public and special technical libraries include all open literature items, such as books, journal and periodical articles, and transactions. *Federal Register* notices, federal and state legislation, and congressional reports can usually be obtained from these libraries.

Documents such as theses, dissertations, foreign reports and translations, and non-NRC conference proceedings are available for purchase from the organization sponsoring the publication cited.

Single copies of NRC draft reports are available free, to the extent of supply, upon written request to the Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Copies of industry codes and standards used in a substantive manner in the NRC regulatory process are maintained at the NRC Library, 7920 Norfolk Avenue, Bethesda, Maryland, and are available there for reference use by the public. Codes and standards are usually copyrighted and may be purchased from the originating organization or, if they are American National Standards, from the American National Standards Institute, 1430 Broadway, New York, NY 10018.

---

---

# Occupational Radiation Exposure at Commercial Nuclear Power Reactors 1983

Annual Report

---

---

Manuscript Completed: October 1984  
Date Published: March 1985

B. G. Brooks

**Division of Radiation Programs and Earth Sciences  
Office of Nuclear Regulatory Research  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555**



## 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
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.
8. B. G. Brooks, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors, 1980," USNRC Report NUREG-0713, Vol. 2, December 1981.
9. B. G. Brooks, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors, 1981," USNRC Report NUREG-0713, Vol. 3, November 1982.
10. B. G. Brooks, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors, 1982," USNRC Report NUREG-0713, Vol. 4, December 1983.

## ABSTRACT

This report presents an updated compilation of occupational radiation exposures at commercial nuclear power reactors for the years 1969 through 1983. The summary of the data for calendar year 1983 is based on information received from the 75 light-water-cooled reactors (LWRs) and one high temperature gas-cooled reactor (HTGR) that had been declared to be in commercial operation for at least one full year as of December 31, 1983. This represents an increase of one reactor over the number contained in last year's report. The total number of personnel monitored at LWRs in 1983 was 136,700, a slight increase from that found in 1982 (129,300). The number of workers that received measurable doses during 1983 was 85,600 which is about 1,000 more than that found in 1982. The total collective dose at LWRs for 1983 is estimated to be 56,500 man-rem (man-cSv\*), which is about 4,000 more man-rem (man-cSv) than that reported in 1982. This resulted in the average annual dose for each worker who received a measurable dose increasing slightly to 0.66 rem (cSv), and the average collective dose per reactor increasing by about 50 man-rem (man-cSv) to a value of 753 man-rem (man-cSv). The collective dose per megawatt-year of electricity generated by each reactor also increased slightly to an average value of 1.7 man-rem (man-cSv) per megawatt-year. A brief discussion about the health implications of these annual occupational doses is also provided.

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 by nuclear power licensees pursuant to 10 CFR §20.408. As of December 31, 1983, personal identification and exposure information had been collected and computerized for a total of 280,000 terminating reactor personnel. Analyses of these data indicate that, in 1982, some 56,500 individuals completed their employment with one or more reactor licensees. About 2,000 of these individuals were quarterly transient\*\* workers who incurred an average dose of 0.40 rem (cSv), and some 4,500 individuals were yearly transient\*\* workers who incurred an average dose of 1.11 rem (cSv). The collective dose (about 5,000 man-rem (man-cSv)) incurred by the yearly transients constituted ten percent of the total collective dose calculated for 1982. The termination data reported in 1983 have not yet been completely computerized; therefore, such analyses for transient workers in 1983 were not available for presentation in this report.

\*In the International System of Units, the sievert (Sv) is the name given to the units for dose equivalent. One centisievert (cSv) equals one rem; therefore man-rem become man-cSv.

\*\*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).



## CONTENTS

|  | <u>Page</u> |
|--|-------------|
| ABSTRACT . . . . .   | iii         |
| PREFACE . . . . .  | viii        |
| ACKNOWLEDGEMENT . . . . .  | x           |
| 1. INTRODUCTION . . . . .  | 1           |
| 2. SUMMARY OF OCCUPATIONAL MONITORING DATA AND POWER GENERATION . . .                        | 2           |
| 2.1 Definitions of Terms and Sources of Data. . . . .  | 2           |
| 2.1.1 Number of Reactors . . . . .   | 2           |
| 2.1.2 Collective Dose. . . . .   | 2           |
| 2.1.3 Collective Dose by Work Function and Employee Type . .                                 | 2           |
| 2.1.4 Workers with Measurable Whole Body Doses . . . . .                                     | 6           |
| 2.1.5 Electric Energy Generated . . . . .  | 6           |
| 2.1.6 Collective Dose per Megawatt-year. . . . .   | 6           |
| 2.1.7 Average Rated Capacity . . . . .   | 6           |
| 2.2 Average Annual Occupational Doses . . . . .  | 7           |
| 2.3 Plant Rankings by Collective Dose per Reactor . . . . .                                  | 12          |
| 3. ANNUAL DOSE DISTRIBUTIONS. . . . .  | 16          |
| 3.1 Annual Whole Body Dose Distributions. . . . .  | 16          |
| 3.2 Dose Distributions by Work and Job Function . . . . .                                    | 19          |
| 3.3 Health Implications of Average Annual Doses . . . . .                                    | 23          |
| 3.4 High Temperature Gas Cooled Reactor . . . . .  | 24          |
| 4. TERMINATION DATA SUBMITTED PURSUANT TO 10 CFR § 20.408 . . . . .                          | 25          |
| 4.1 Termination Reports, 1969-1983. . . . .  | 25          |
| 4.2 Limitations of the Termination Data . . . . .  | 25          |
| 4.3 Transient Workers per Calendar Quarter. . . . .  | 26          |
| 4.4 Transient Workers per Calendar Year . . . . .  | 27          |
| 4.5 Temporary Workers per Calendar Year . . . . .  | 32          |
| 5. OVEREXPOSURES TO RADIATION . . . . .  | 33          |
| REFERENCES. . . . .  | 35          |
| APPENDIX A - Personnel, Dose, and Power Generation Summary, 1969-1983. .                     | 37          |
| APPENDIX B - Annual Whole Body Doses at Licensed Nuclear Power<br>Facilities, 1983 . . . . . | 59          |
| APPENDIX C - Number of Personnel and Man-Rems by Work and Job<br>Function, 1983 . . . . .    | 65          |
| APPENDIX D - Occupational Doses at Foreign Reactors . . . . .                                | 119         |

## CONTENTS

|           | <u>Page</u>  |    |
|-----------|--|----|
| TABLES    |  |    |
| TABLE 1   | Summary of Annual Information Reported by Commercial Boiling Water Reactors, 1969-1983 . . . . .                             | 3  |
| TABLE 2   | Summary of Annual Information Reported by Commercial Pressurized Water Reactors, 1969-1983 . . . . .                         | 4  |
| TABLE 3   | Summary of Annual Information Reported by Commercial Light Water Cooled Reactors, 1969-1983. . . . .                         | 5  |
| TABLE 4   | Boiling Water Reactors Listed in Ascending Order of Man-Rems per Reactor, 1979-1983 . . . . .                                | 13 |
| TABLE 5   | Pressurized Water Reactors Listed in Ascending Order of Man-Rems per Reactor, 1979-1983. . . . .                             | 14 |
| TABLE 6a  | Grand Totals and Averages for Light Water Reactors Listed in Ascending Order of Man-rems per Reactor-year, 1969-1983         | 15 |
| TABLE 6b  | Grand Totals and Averages for Light Water Reactors Listed in Ascending Order of Man-rems per Reactor-year 1969-1982. . . . . | 15 |
| TABLE 7   | Summary Distribution of Annual Whole Body Doses at Commercial Light Water Cooled Reactors, 1969-1983 . . . . .               | 17 |
| TABLE 8   | Annual Collective Dose by Work Function and Personnel Type, 1983. . . . .  | 20 |
| TABLE 9   | Percentages of Annual Collective Dose at LWRs by Work Function, 1975-1983 . . . . .  | 21 |
| TABLE 10  | Annual Collective Dose by Occupation and Personnel Type, 1983. . . . .   | 22 |
| TABLE 11  | Annual Whole Body Doses at Fort St. Vrain, 1974-1983. . . . .  | 24 |
| TABLE 12  | Termination Reports Submitted for Reactor Personnel, 1969-1983 . . . . .   | 26 |
| TABLE 13  | Transient Workers per Calendar Quarter at Nuclear Power Facilities, 1972-1982 . . . . .                                      | 28 |
| TABLE 14  | Transient Workers Per Calendar Year at Nuclear Power Facilities, 1977-1982 . . . . .   | 29 |
| TABLE 15a | Actual and Compiled Dose Distributions of Transient Workers per Calendar Year at Power Reactors . . . . .                    | 31 |



CONTENTS (continued)

| TABLES (continued)  | <u>Page</u> |
|---|-------------|
| TABLE 15b Effects of Transient Workers on Annual Statistical<br>Compilations. . . . .                   | 31          |
| TABLE 16 Annual Whole Body Doses Exceeding Five Rems . . . . .  | 32          |
| TABLE 17 Temporary Workers Per Calendar Year . . . . .  | 32          |
| TABLE 18 Overexposures at Power Reactors, 1971-1983. . . . .  | 34          |
| <br>FIGURES   |             |
| FIGURE 1 Total Annual Collective Doses and Number of Workers at<br>Commercial LWRs, 1969-1983 . . . . . | 8           |
| FIGURE 2 Total Annual Values at LWRs, 1969-1983. . . . .  | 9           |
| FIGURE 3 Average Annual Values at LWRs, 1969-1983. . . . .  | 10          |
| FIGURE 4 Average, Median, and Extreme Values of the Collective<br>Dose per Reactor, 1973-1983 . . . . . | 11          |
| FIGURE 5 Cumulative Percent of Annual Individual Doses, 1982 & 1983. .                                  | 18          |

## PREFACE

A number of nuclear power plant personnel have inquired as to how occupational radiation exposure data (from reports required by the NRC) are used by the NRC staff. This is a very appropriate inquiry that may be of importance to many affected licensees. In combination with other sources of information, the principal uses of the data by the staff are listed in this preface. In general, the data provide facts regarding routine occupational exposures to radiation and radioactive material that occur in connection with NRC-licensed activities, including individual and collective radiation doses from external sources as well as pertinent information on the inhalation of radioactive material (nuclides involved, bioassay results, exposure magnitude, etc.). These facts are used by the NRC staff as indicated below:

1. The external-dose data permit evaluation, of the radiological risk associated with NRC-licensed activities, including the size of the workforce and the collective dose.
2. The data permit evaluation, from the viewpoint of trends, of the effectiveness of the overall NRC/licensee radiation protection and ALARA efforts. They also provide for the identification (and subsequent correction) of unfavorable trends.
3. The data provide for governmental monitoring of the potential transient-worker problem.
4. The data are used in the establishment of priorities for the utilization of NRC health physics resources: research, standards, development, regulatory program development.
5. The data are considered in reviews of inspection frequencies that are programmed for various categories of licensees.
6. Licensing action decisions are often influenced by the data.
7. The data are used for comparative analyses of radiation protection performance: US/foreign, BWR's/PWR's, civilian/military, plant by plant, nuclear industry with other industries, etc.
8. The data permit analysis of annual dose distribution changes which can trigger investigations as to the cause.
9. The data are used for purposes of justification in the annual budget process.
10. The data provide facts for evaluating the adequacy of the current risk-limitation system (e.g., are individual lifetime dose limits, worker population collective dose limits, requirements for optimization, etc., needed).

11. The effectiveness of dose-reduction measures is evaluated using the data (e.g., methods for reducing individual doses that may increase the collective dose).
12. The data provide facts for answering Congressional and Administration inquiries and for responding to questions raised by public interest groups, special interest groups, labor unions, etc.
13. The data permit comparisons of occupational radiation risks with potential public risks when action for additional protection of the public involves workers exposures.
14. The data provide information which can be used in the planning of epidemiological studies.

With regard to routine work-place conditions, the annual statistical summary reports required by § 20.407, the termination reports required by § 20.408, and the annual dose data reported by work function in accordance with Subsection 6.9.1.5 of the standard technical specifications provide the only centralized data based available to assist the staff in the performance of its duties as listed above. It is to everyone's advantage if these duties are performed by a well-informed staff in the light of factual information.

Beginning with the next report in this series (1984 data), we plan to expand the data analysis sections in an effort to provide for additional practical applications. Suggestions for advanced analysis of this type are invited.



Robert E. Alexander, Chief  
Occupational Radiation Protection Branch  
Division of Radiation Programs  
and Earth Sciences  
Office of Nuclear Regulatory Research

## ACKNOWLEDGEMENT

The author wishes to acknowledge the many contributions that Mrs. Mary P. Feezell, Senior Programmer/Analyst at Martin Marietta Energy Systems in Oak Ridge, Tennessee, has made to the management and development of the NRC's Radiation Exposure Information and Reporting System (REIRS).

Without the benefit of her patience and expertise during the past 10 years, the annual reports (NUREG-0713 and NUREG-0714) that summarize and analyze the exposure data contained in REIRS would not have progressed to be the comprehensive reports that they are today. Mrs. Feezell died August 23, 1984. Her vitality and talents will be sorely missed by the author and her associates at the NRC.

OCCUPATIONAL RADIATION EXPOSURE AT  
COMMERCIAL NUCLEAR POWER REACTORS  
1983

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 that indicated the number of individuals exposed and their cumulative annual doses, categorized by type of personnel, work function, and occupation. (The format for reporting is contained in each plant's technical specifications and is similar to that shown in Appendix C of this report.) To obtain data for previous years, reactor licensees were 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 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 is therefore 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 indicate the number of workers receiving measurable doses. The collective dose and number of workers obtained from these reports were used throughout this report (except for Tables 8, 9, 10 and Appendix C) for the years 1973 through 1983.

Plant operating data, such as plant capacity and megawatt-years of electricity generated, were 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 their technical specifications, may be found in those documents listed on the inside of the front cover of this report. Additional operating data and statistics for each of the years from 1973 through 1981 may be found in a series of reports, "Nuclear Power Plant Operating Experience" (Refs. 3-10). These documents are available for viewing 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 (collective dose) of all of these workers. The annual collective doses shown in parentheses and the other information marked with an asterisk are based on the data submitted by the number of reactors shown in parentheses.

#### 2.1.2 Collective Dose

The collective doses shown for 1969 through 1972 were obtained by special requests made to the licensee or from monthly and semi-annual operating reports that had previously been 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. For the years 1973 through 1980, the annual collective dose was calculated for each facility by summing the products obtained by multiplying the number of individuals reported in each of the dose ranges (shown in Table 7 and Appendix B) by the midpoint of the corresponding 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, and the collective doses shown in this report for these may be about 10% too high. In 1981, a few facilities began reporting the actual collective dose (as determined from official personnel dosimetry results) on their 20.407 annual reports, and the NRC staff used these doses, when provided, instead of the above-described calculations. The staff would prefer to use the actual collective dose and encourages more licensees to make it available.

#### 2.1.3 Collective Dose by Work Function and Employee Type

In Appendix A, the collective dose that was calculated from or provided with the § 20.407-type annual reports is collated 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:

TABLE 1

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

1969 - 1983

| Year | Number Of Reactors Included | Annual Collective Doses (Man-rems) | No. of Workers With Measurable Doses | Gross Electricity Generated (MW-yr) | Average Dose Per Worker (Rems) | Average Collective Dose Per Reactor (Man-rems) | Average No. Personnel With Measurable Doses Per Reactor | Average Collective Dose per MW-yr | Average Electricity Generated Per Reactor (MW-yr) | Average Rated Capacity Net (MWe) |
|------|-----------------------------|------------------------------------|--------------------------------------|-------------------------------------|--------------------------------|--|---|-----------------------------------|---|----------------------------------|
| 1969 | 3 (2)                       | 586 (300)                          | 290*                                 | 192                                 | 1.03*                          | 195  | 145*  | 3.1                               | 64  | 112                              |
| 1970 | 6 (4)                       | 764 (510)                          | 1,321*                               | 912                                 | 0.39*                          | 127  | 330*  | 0.8                               | 152   | 267                              |
| 1971 | 7 (5)                       | 1,784 (1,069)                      | 1,873*                               | 1,308                               | 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                                | 4,059                               | 0.81                           | 507  | 626   | 1.7                               | 290   | 513                              |
| 1975 | 18                          | 12,611                             | 14,607                               | 5,786                               | 0.86                           | 701  | 812   | 2.2                               | 321   | 611                              |
| 1976 | 23                          | 12,626                             | 17,859                               | 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 | 25**                        | 18,322                             | 25,245                               | 11,671                              | 0.73                           | 733  | 1,010   | 1.6                               | 467   | 669                              |
| 1980 | 26**                        | 29,530                             | 34,094                               | 10,868                              | 0.87                           | 1,136  | 1,311   | 2.7                               | 418   | 664                              |
| 1981 | 26**                        | 25,471                             | 34,832                               | 10,899                              | 0.73                           | 980  | 1,340   | 2.3                               | 419   | 674                              |
| 1982 | 26**                        | 24,437                             | 32,235                               | 10,655                              | 0.76                           | 940  | 1,240   | 2.3                               | 410   | 674                              |
| 1983 | 26**                        | 27,455                             | 33,473                               | 9,730                               | 0.82                           | 1,056  | 1,287   | 2.8                               | 374   | 675                              |

\*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.

\*\* Two plants have been shut down continuously for a number of years but have been included in the count of reactors used to compute various averages per reactor in this report. One may wish to calculate these averages without counting these reactors each year: Dresden 1 - shut down since 10/78; Humboldt Bay - shut down since 7/76. (See Appendix A.)

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

1969 - 1983

| Year | Number Of Reactors Included | Annual Collective Doses (Man-rems) | No. of Workers With Measurable Doses | Gross Electricity Generated (MW-yr) | Average Dose Per Worker (Rems) | Average Collective Dose Per Reactor (Man-rems) | Average No. Personnel With Measurable Doses Per Reactor | Average Collective Dose (man-rems per MW-yr) | Average Electricity Generated Per Reactor (MW-yr) | Average Rated Capacity Net (MWe) |
|------|-----------------------------|------------------------------------|--------------------------------------|-------------------------------------|--------------------------------|--|---|--|---|----------------------------------|
| 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)                        | 905*                                 | 1,912                               | 1.01*                          | 307  | 226*  | 1.0  | 319   | 399                              |
| 1972 | 8 (5)                       | 3,708 (2,083)                      | 1,885*                               | 2,544                               | 1.11*                          | 464  | 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                                | 6,824                               | 0.68                           | 331  | 485   | 1.0  | 341   | 619                              |
| 1975 | 26                          | 8,268                              | 10,884                               | 11,983                              | 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**                        | 21,659                             | 38,877                               | 18,249                              | 0.56                           | 516  | 924   | 1.2  | 434   | 729                              |
| 1980 | 42**                        | 24,266                             | 46,237                               | 18,287                              | 0.52                           | 578  | 1,101   | 1.3  | 435   | 721                              |
| 1981 | 44**                        | 28,671                             | 47,351                               | 20,552                              | 0.61                           | 652  | 1,076   | 1.4  | 467   | 745                              |
| 1982 | 48**                        | 27,753                             | 52,147                               | 22,141                              | 0.53                           | 578  | 1,086   | 1.3  | 461   | 773                              |
| 1983 | 49**                        | 29,016                             | 52,173                               | 23,196                              | 0.56                           | 592  | 1,065   | 1.3  | 473   | 778                              |

\*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.

\*\* Three plants have been shut down continuously for a number of years but have been included in the count of reactors used to compute various averages per reactor in this report. One may wish to calculate these averages without counting these reactors each year: Indian Point 1 - shut down since 10/78; Three Mile Island 1 and 2 - shut down since 3/79. (See Appendix A.)



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

1969 - 1983

| Year | Number Of Reactors Included | Annual Collective Doses (Man-rem) | No. of Workers With Measurable Doses | Gross Electricity Generated (MW-yr) | Average Dose Per Worker (Rems) | Average Collective Dose Per Reactor (Man-rem) | Average No. Personnel With Measurable Doses Per Reactor | Average Collective Dose (man-rem per MW-yr) | Average MW-Yrs Electricity Per Reactor (MW-yr) | Average Rated Capacity Net (MWe) |
|------|-----------------------------|-----------------------------------|--------------------------------------|-------------------------------------|--------------------------------|---|---|---|--|----------------------------------|
| 1969 | 7 (5)                       | 1,247 (663)                       | 744*                                 | 1,289                               | 0.89*                          | 178   | 149*  | 1.0   | 184  | 247                              |
| 1970 | 10 (7)                      | 3,502 (1,609)                     | 2,661*                               | 1,892                               | 0.60*                          | 350   | 380*  | 1.9   | 189  | 300                              |
| 1971 | 13 (9)                      | 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                            | 18,466                               | 10,883                              | 0.74                           | 404   | 543   | 1.3   | 320  | 575                              |
| 1975 | 44                          | 20,879                            | 25,491                               | 17,769                              | 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   | 462  | 677                              |
| 1978 | 64**                        | 31,809                            | 45,998                               | 31,614                              | 0.69                           | 497   | 719   | 1.0   | 494  | 702                              |
| 1979 | 67**                        | 39,981                            | 64,122                               | 29,920                              | 0.62                           | 597   | 956   | 1.3   | 447  | 705                              |
| 1980 | 68**                        | 53,796                            | 80,331                               | 29,155                              | 0.67                           | 791   | 1,181   | 1.8   | 429  | 699                              |
| 1981 | 70**                        | 54,142                            | 82,183                               | 31,451                              | 0.66                           | 773   | 1,174   | 1.7   | 449  | 719                              |
| 1982 | 74**                        | 52,190                            | 84,382                               | 32,795                              | 0.62                           | 705   | 1,139   | 1.6   | 443  | 738                              |
| 1983 | 75**                        | 56,471                            | 85,646                               | 32,926                              | 0.66                           | 753   | 1,142   | 1.7   | 439  | 742                              |

\*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.

\*\* Five plants have been shut down continuously for a number of years but have been included in the count of reactors used to compute various averages per reactor in this report. One may wish to calculate these averages without counting these reactors each year: Dresden 1 - shut down since 10/78; Humboldt Bay - shut down since 7/76; Indian Point 1 - shut down since 10/78; Three Mile Island 1 and 2 - shut down since 3/79. (See Appendix A.)

(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 or obtained from the § 20.407 annual report. This product is the collective dose shown in the column headed "Operations" in Appendix A. (3) The collective dose 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 annual reports to yield the collective dose shown in this column of Appendix A. (4) A similar procedure was followed in determining the collective dose for the columns headed "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 Electric Energy Generated

The electric energy generated in gross megawatt-years (MW-yr) 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 8,760, 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-Yr) 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 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 that is used as a measure of the dose 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 A.

## 2.2 Average Annual Occupational Doses

Some of the data presented in Tables 1 and 2 are graphically displayed in Figure 1, where it can be seen that the average collective dose and average number of workers per BWR has been higher than that for PWRs for the last ten years and that the values of both parameters have, in general, continued to rise at both types of facilities. However, looking at the number of workers per reactor reported each year since 1980, it appears that the number of workers per BWR has levelled off at about 1300 workers, while at PWRs the number has levelled off at around 1100 workers. From Table 1, it can be seen that the average collective dose per reactor, dose per worker, and collective dose per megawatt-year at BWRs showed increases over those found for 1982. At PWRs (Table 2), the values of these three parameters remained nearly the same as the 1982 values.

Figures 2 and 3 are plots of much of the information that is given in Table 3 for all light water reactors. One can see that all of the parameters plotted showed increases over last year's values. In looking at these figures and the fluctuations in the parameters for the years following the incident at the Three Mile Island Plant in 1979, one might wonder if they reflect some of the impact that this incident had on the nuclear power industry.

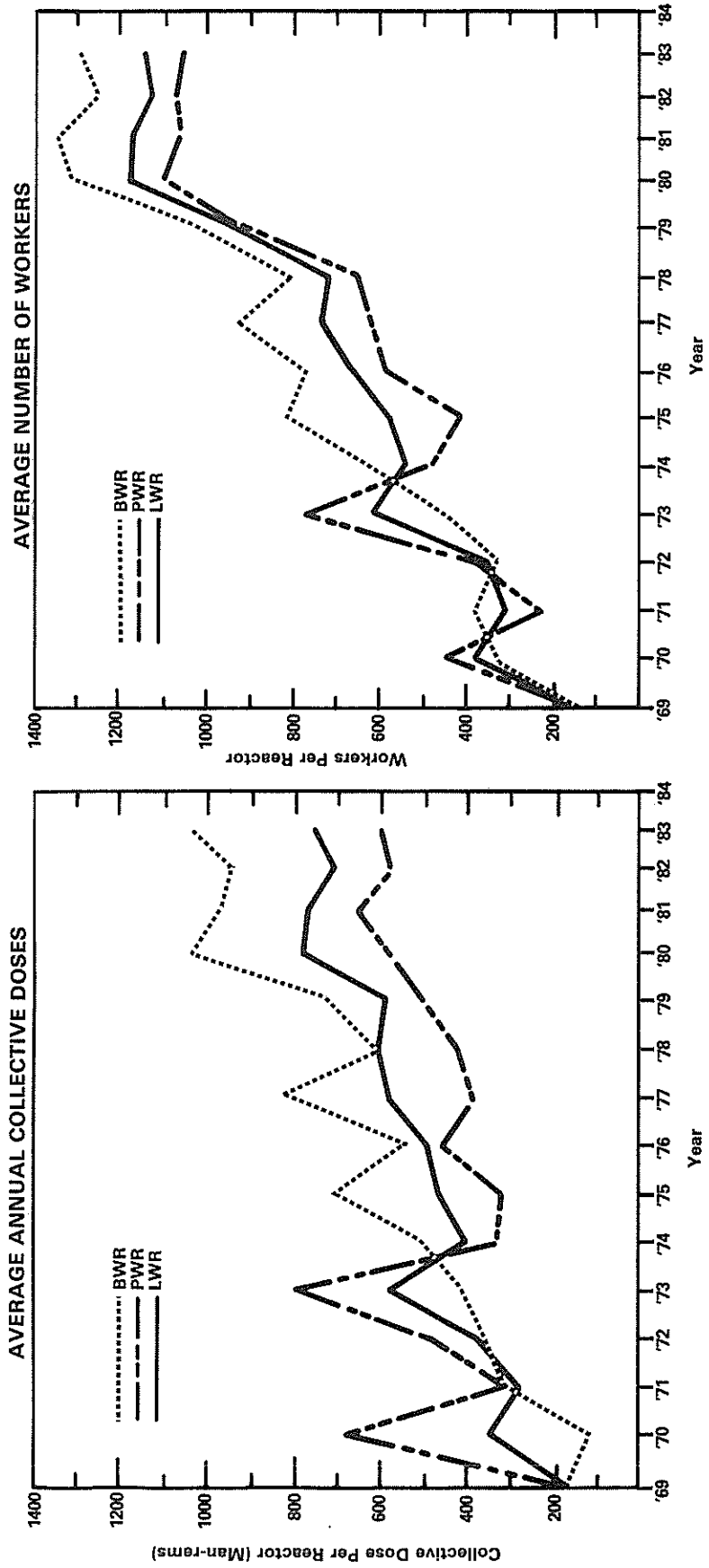
To further assist in the identification of any trends that might exist, Figure 4 displays the average and the median\* values of the collective dose per reactor for BWRs and for PWRs for the years 1973 through 1983. The ranges of the values reported each year are shown by the vertical lines with a small 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. Since the median values are not as greatly affected by the extreme values of the collective doses, one can see that they do not usually fluctuate as much from year to year as do the average values. The median collective dose for PWRs appears to have levelled off at about 500 man-rem (man-cSv),\*\* while for BWRs it has increased to about 1100 man-rem (man-cSv). Nearly every year, 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).

---

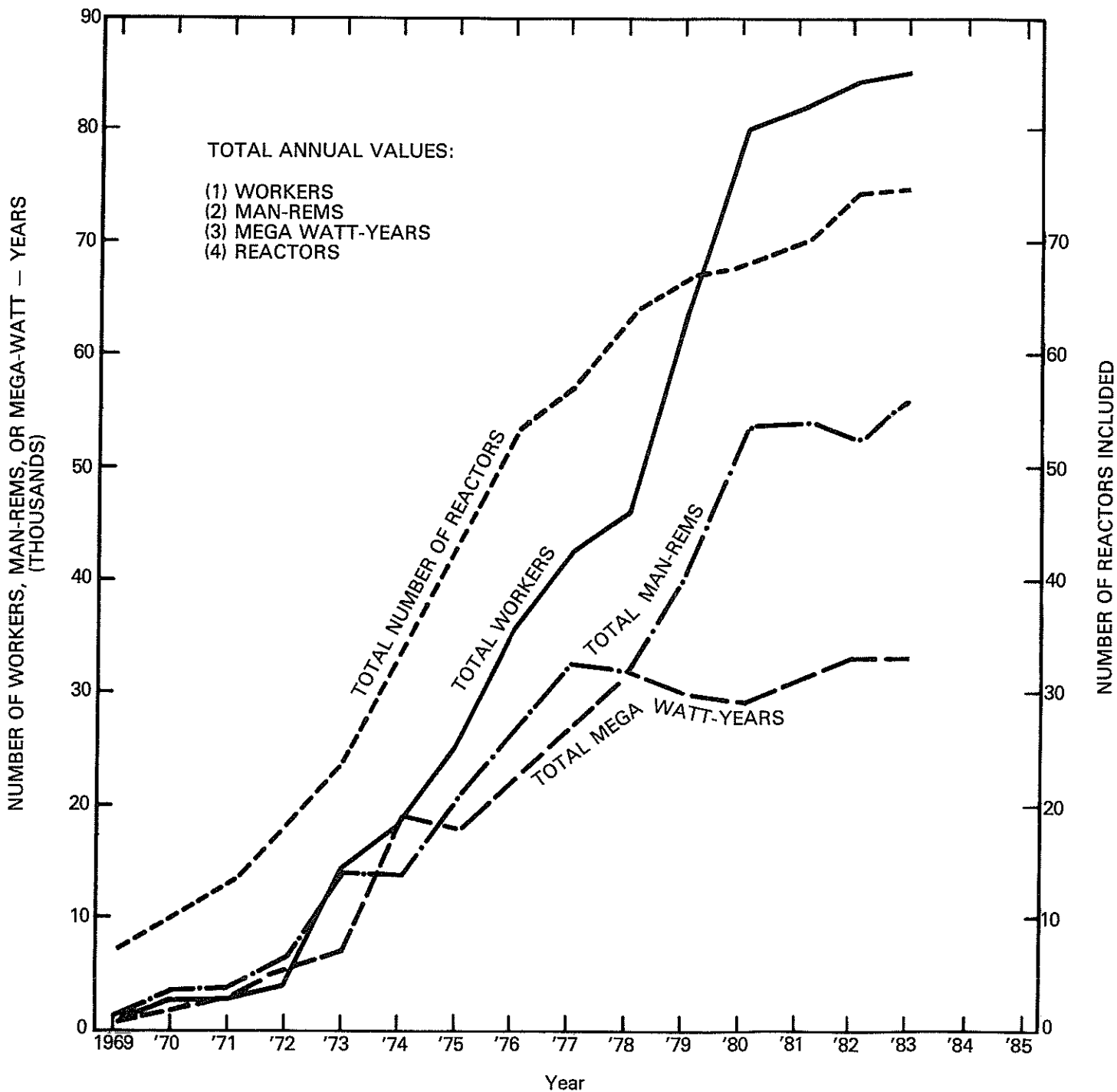
\*The value at which 50% of the reactors reported greater collective doses and the other 50% reported smaller collective doses.

\*\*In the International System of Units, the sievert (Sv) is the name given to the units for dose equivalent. One centisievert (cSv) equals one rem; therefore man-rem becomes man-cSv.

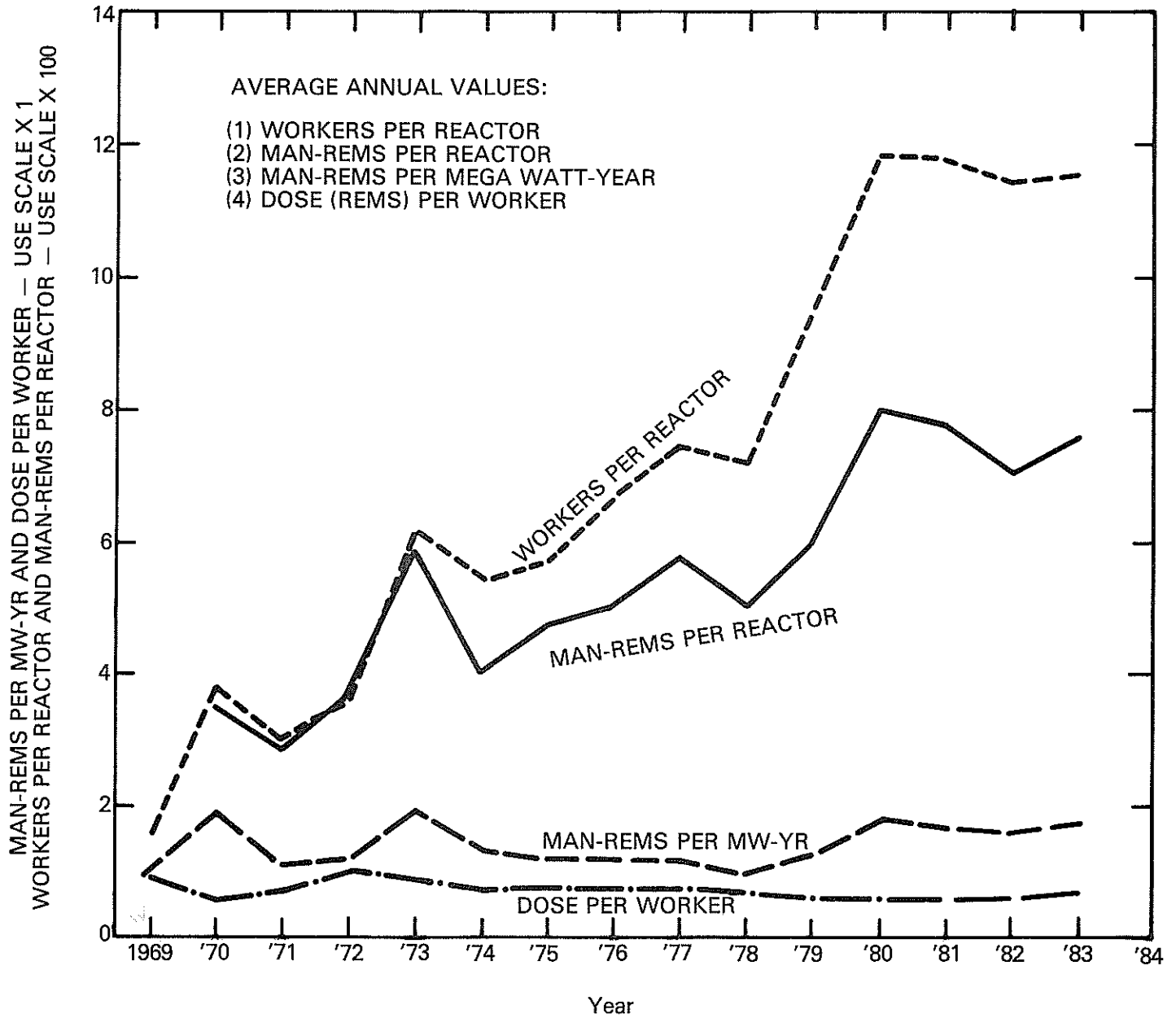
**FIGURE 1**  
**COMMERCIAL LIGHT WATER COOLED REACTORS**  
**1969 - 1983**



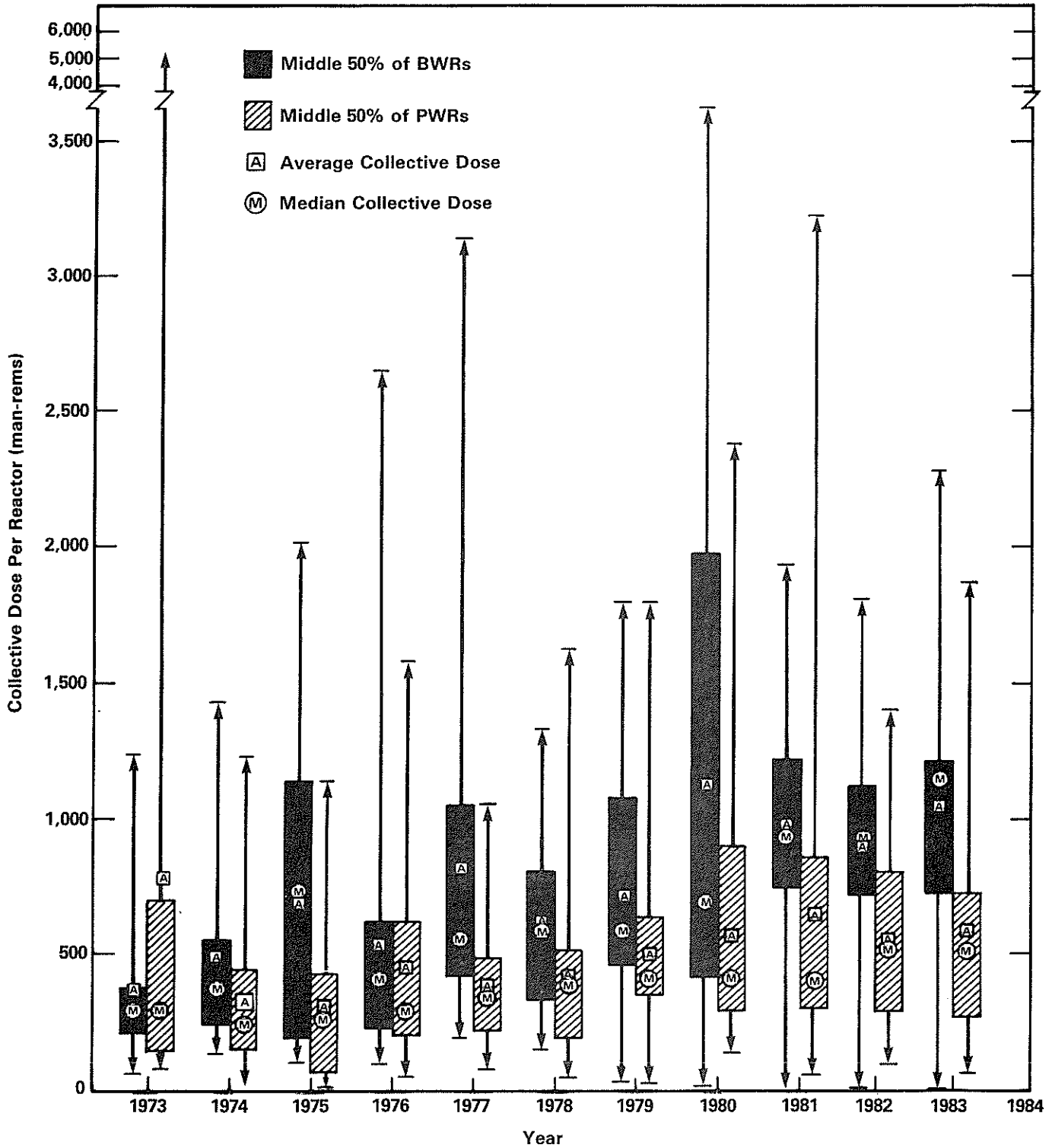
**FIGURE 2**  
**TOTAL ANNUAL VALUES**  
**AT LIGHT WATER COOLED REACTORS**  
**1969 - 1983**



**FIGURE 3**  
**AVERAGE ANNUAL VALUES**  
**AT LIGHT WATER COOLED REACTORS**  
**1969 - 1983**



**FIGURE 4**  
**AVERAGE, MEDIAN AND EXTREME VALUES OF**  
**THE COLLECTIVE DOSE PER REACTOR**  
**1973 - 1983**



### 2.3 Plant Rankings By Collective Dose Per Reactor

The number of reactors from which data have 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-rems per reactor for each of the years 1978 through 1983. Two other parameters, dose per worker and collective dose per megawatt-year, are also given for each plant and could have been used in listing the plants as well. Also shown is a parameter "CR" which is defined to be the ratio of the annual collective dose delivered at individual doses exceeding 1.5 rems (cSv) to the total annual collective dose. This indicates the proportion of the total collective dose at the plant that was received by individuals who incurred higher annual doses, viz., of 1.5 rems (cSv) or greater. CR is one of the parameters that the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) recommended be used in the analysis and comparison of exposure data. The latest UNSCEAR report (Ref. 11) states that, under normal conditions, the values of CR lie between 0.05 and 0.50, and one can see that CR for about half of the U.S. plants fell within this range in 1983.

Table 6 gives the grand totals of the collective dose and megawatt-years of electricity generated for each commercial BWR and PWR based on data reported since 1969. For all but those few plants that began commercial operation before 1969, these totals would be the "lifetime" totals for each site. Dividing the total collective dose by the total megawatt-years generated, the average collective dose per megawatt-year was obtained for each site, and, by dividing the collective dose by the total number of reactor-years for which data were reported, the "lifetime" average collective dose per reactor-year was obtained. The upper half of the table lists the sites in ascending order of man-rems (man-cSv) per reactor-year based on data submitted through 1983, and the lower half lists them similarly based on data submitted through 1982. One can quickly see that the average collective dose per megawatt-year has risen to 2.0 at BWRs and remained at 1.1 at PWRs. The average collective dose per reactor-year also appears to increase at a faster rate at BWRs than at PWRs, and based on data accumulated through 1983, the collective dose per reactor-year was calculated to be 510 and 749 man-rems (man-cSv) per reactor-year for PWRs and BWRs, respectively.

In general, one can see from the listings in Tables 4 through 6 that the plants having the lower values of most of the parameters shown 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 collective dose 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 collective dose to megawatt-year ratio as well, it indicates that extensive maintenance or modifications were undertaken during the year. For example, the PWR facilities reporting high values for these two parameters during the last few years generally have been involved in extensive tube-sleeving jobs related to the repair of steam generators. Other major sources of exposures at PWRs in 1983 were maintenance of reactor vessel internals and



TABLE 4  
BOILING WATER REACTORS  
LISTED IN ASCENDING ORDER OF MAN-REMS PER REACTOR  
1979 - 1983

| 1979                 |                            |                     | 1980                 |                            |                     | 1981                 |                            |                     | 1982                 |                            |                     | 1983                 |                            |                     |                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |       |      |
|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|----------------------------|---------------------|----------------------|-------|------|
| Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. | Site Name            | Man-Rems per Worker (Reas) | Man-Rems per MM-Yr. |                      |       |      |
| Humboldt Bay         | 31                         | 0.23                | Humboldt Bay         | 22                         | 0.15                | Humboldt Bay         | 9                          | 0.12                | Humboldt Bay         | 19                         | 0.27                | Humboldt Bay         | 19                         | 0.27                | Humboldt Bay         | 17                         | 0.20                | Humboldt Bay         | 17                         | 0.20                | Humboldt Bay         | 17                         | 0.20                | Humboldt Bay         | 17    | 0.20 |
| Monticello           | 157                        | 0.42                | La Crosse            | 218                        | 1.75                | La Crosse            | 123                        | 0.66                | La Crosse            | 205                        | 1.39                | La Crosse            | 205                        | 1.39                | La Crosse            | 205                        | 1.39                | La Crosse            | 205                        | 1.39                | La Crosse            | 205                        | 1.39                | La Crosse            | 205   | 1.39 |
| La Crosse            | 186                        | 1.22                | Hatch 1,2            | 449                        | 0.23                | Big Rock Point       | 160                        | 0.33                | Big Rock Point       | 205                        | 0.43                | Vermont Yankee       | 205                        | 0.43                | Vermont Yankee       | 244                        | 0.79                | Monticello           | 244                        | 0.79                | Monticello           | 244                        | 0.79                | Monticello           | 244   | 0.79 |
| Cooper               | 221                        | 0.52                | Big Rock Point       | 354                        | 0.59                | Cooper Station       | 579                        | 0.62                | Cooper Station       | 328                        | 0.44                | Duane Arnold         | 328                        | 0.44                | Duane Arnold         | 263                        | 0.53                | Big Rock Point       | 263                        | 0.53                | Big Rock Point       | 263                        | 0.53                | Big Rock Point       | 263   | 0.53 |
| Duane Arnold         | 275                        | 0.35                | Monticello           | 531                        | 0.48                | Hatch 1,2            | 1,337                      | 0.46                | Hatch 1,2            | 328                        | 0.63                | Big Rock Point       | 328                        | 0.63                | Big Rock Point       | 313                        | 1.96                | La Crosse            | 313                        | 1.96                | La Crosse            | 313                        | 1.96                | La Crosse            | 313   | 1.96 |
| Big Rock Point       | 455                        | 0.73                | Nine Mile Point      | 591                        | 0.50                | Vermont Yankee       | 731                        | 0.58                | Vermont Yankee       | 542                        | 0.73                | Cooper Station       | 542                        | 0.73                | Cooper Station       | 1,259                      | 0.38                | Hatch 1,2            | 1,259                      | 0.38                | Hatch 1,2            | 1,259                      | 0.38                | Hatch 1,2            | 1,259 | 0.38 |
| Oyster Creek         | 467                        | 0.55                | Browns Ferry 1,2,3   | 1,825                      | 0.67                | Duane Arnold         | 790                        | 0.61                | Duane Arnold         | 1,460                      | 0.43                | Hatch 1,2            | 1,460                      | 0.43                | Hatch 1,2            | 860                        | 0.61                | Nine Mile Point      | 860                        | 0.61                | Nine Mile Point      | 860                        | 0.61                | Nine Mile Point      | 860   | 0.61 |
| Browns Ferry 1,2,3   | 1,657                      | 0.62                | Duane Arnold         | 671                        | 0.61                | Browns Ferry 1,2,3   | 2,380                      | 0.70                | Browns Ferry 1,2,3   | 2,220                      | 0.68                | Hatch 1,2            | 2,220                      | 0.68                | Hatch 1,2            | 1,090                      | 0.64                | Fitzpatrick          | 1,090                      | 0.64                | Fitzpatrick          | 1,090                      | 0.64                | Fitzpatrick          | 1,090 | 0.64 |
| Hatch                | 562                        | 0.27                | Dresden 1,2,3        | 2,105                      | 0.77                | Oyster Creek         | 917                        | 0.54                | Oyster Creek         | 865                        | 0.68                | Browns Ferry 1,2,3   | 865                        | 0.68                | Browns Ferry 1,2,3   | 3,363                      | 1.02                | Browns Ferry 1,2,3   | 3,363                      | 1.02                | Browns Ferry 1,2,3   | 3,363                      | 1.02                | Browns Ferry 1,2,3   | 3,363 | 1.02 |
| Dresden 1,2,3        | 1,800                      | 0.75                | Cooper Station       | 859                        | 1.09                | Dresden 1,2,3        | 2,820                      | 1.16                | Dresden 1,2,3        | 929                        | 0.68                | Oyster Creek         | 929                        | 0.68                | Oyster Creek         | 1,135                      | 0.77                | Duane Arnold         | 1,135                      | 0.77                | Duane Arnold         | 1,135                      | 0.77                | Duane Arnold         | 1,135 | 0.77 |
| Peach Bottom 2,3     | 1,380                      | 0.61                | Peach Bottom 2,3     | 2,302                      | 0.83                | Peach Bottom 2,3     | 1,004                      | 0.69                | Peach Bottom 2,3     | 2,923                      | 1.14                | Hillstone Point 1    | 2,923                      | 1.14                | Hillstone Point 1    | 2,923                      | 1.14                | Duane Arnold         | 2,923                      | 1.14                | Duane Arnold         | 2,923                      | 1.14                | Duane Arnold         | 2,923 | 1.14 |
| Fitzpatrick          | 859                        | 1.01                | Vermont Yankee       | 1,338                      | 0.93                | Peach Bottom 2,3     | 2,506                      | 0.88                | Peach Bottom 2,3     | 1,977                      | 0.72                | Dresden 1,2,3        | 1,977                      | 0.72                | Dresden 1,2,3        | 3,582                      | 1.26                | Pilgrim              | 3,582                      | 1.26                | Pilgrim              | 3,582                      | 1.26                | Pilgrim              | 3,582 | 1.26 |
| Pilgrim              | 1,015                      | 0.41                | Oyster Creek         | 1,733                      | 0.88                | Monticello           | 2,638                      | 0.68                | Monticello           | 993                        | 0.76                | Monticello           | 993                        | 0.76                | Monticello           | 2,491                      | 1.38                | Quad Cities 1,2      | 2,491                      | 1.38                | Quad Cities 1,2      | 2,491                      | 1.38                | Quad Cities 1,2      | 2,491 | 1.38 |
| Quad Cities 1,2      | 2,158                      | 1.28                | Brunswick 1,2        | 3,870                      | 1.02                | Brunswick 1,2        | 1,425                      | 0.57                | Brunswick 1,2        | 1,190                      | 0.51                | Cooper Station       | 1,190                      | 0.51                | Cooper Station       | 1,293                      | 0.93                | Cooper Station       | 1,293                      | 0.93                | Cooper Station       | 1,293                      | 0.93                | Cooper Station       | 1,293 | 0.93 |
| Vermont Yankee       | 1,170                      | 0.96                | Fitzpatrick          | 2,040                      | 0.99                | Hillstone Point 1    | 1,496                      | 0.60                | Hillstone Point 1    | 1,264                      | 0.93                | Cooper Station       | 1,264                      | 0.93                | Cooper Station       | 2,963                      | 0.95                | Peach Bottom 2,3     | 2,963                      | 0.95                | Peach Bottom 2,3     | 2,963                      | 0.95                | Peach Bottom 2,3     | 2,963 | 0.95 |
| Brunswick 1,2        | 2,603                      | 0.90                | Hillstone Point 1    | 2,158                      | 0.71                | Quad Cities 1,2      | 3,146                      | 1.40                | Quad Cities 1,2      | 1,539                      | 0.94                | Nine Mile Point      | 1,539                      | 0.94                | Nine Mile Point      | 1,567                      | 1.16                | Vermont Yankee       | 1,567                      | 1.16                | Vermont Yankee       | 1,567                      | 1.16                | Vermont Yankee       | 1,567 | 1.16 |
| Nine Mile Point      | 1,497                      | 1.13                | Quad Cities 1,2      | 4,838                      | 1.57                | Nine Mile Point      | 1,592                      | 0.78                | Nine Mile Point      | 3,757                      | 1.62                | Quad Cities 1,2      | 3,757                      | 1.62                | Quad Cities 1,2      | 3,475                      | 0.62                | Brunswick 1,2        | 3,475                      | 0.62                | Brunswick 1,2        | 3,475                      | 0.62                | Brunswick 1,2        | 3,475 | 0.62 |
| Hillstone Point 1    | 1,793                      | 1.01                | Pilgrim              | 3,626                      | 1.02                | Pilgrim              | 1,836                      | 0.66                | Pilgrim              | 3,792                      | 0.76                | Brunswick 1,2        | 3,792                      | 0.76                | Brunswick 1,2        | 2,257                      | 0.58                | Oyster Creek         | 2,257                      | 0.58                | Oyster Creek         | 2,257                      | 0.58                | Oyster Creek         | 2,257 | 0.58 |
| Averages per Reactor | 733                        | 0.73                | Averages per Reactor | 1,136                      | 0.87                | Averages per Reactor | 980                        | 0.73                | Averages per Reactor | 940                        | 0.76                | Averages per Reactor | 940                        | 0.76                | Averages per Reactor | 1,056                      | 0.82                | Averages per Reactor | 1,056                      | 0.82                | Averages per Reactor | 1,056                      | 0.82                | Averages per Reactor | 1,056 | 0.82 |
|                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |                            |                     |                      |       |      |

For sites with more than one operating reactor, the number of man-rem per reactor is obtained by dividing the number of man-rem for the site by the number of reactors.

CR is the ratio of the annual collective dose delivered at individual doses exceeding 1.5 rems to the total collective dose.

**TABLE 5**  
**PRESSURIZED WATER REACTORS**  
**LISTED IN ASCENDING ORDER OF MAN-REMS PER REACTOR**  
**1979 - 1983**

| 1979                        | 1980                        | 1981                        | 1982                        | 1983                        |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Man-Rems per Worker per Hr. | Man-Rems per Worker per Hr. | Man-Rems per Worker per Hr. | Man-Rems per Worker per Hr. | Man-Rems per Worker per Hr. |
| Site Name                   | Site Name                   | Site Name                   | Site Name                   | Site Name                   |
| Man-Rems per Site           | Man-Rems per Site           | Man-Rems per Site           | Man-Rems per Site           | Man-Rems per Site           |
| Dose per Worker (Rems)      | Dose per Worker (Rems)      | Dose per Worker (Rems)      | Dose per Worker (Rems)      | Dose per Worker (Rems)      |
| %CR                         | %CR                         | %CR                         | %CR                         | %CR                         |
| Davis Besse                 | Davis Besse                 | Davis Besse                 | Kewanee                     | Yankee Rowe                 |
| 30                          | 154                         | 58                          | 101                         | 68                          |
| 0.10                        | 0.12                        | 0.10                        | 0.29                        | 0.17                        |
| 0.1                         | 0.1                         | 0.1                         | 0.2                         | 0.4                         |
| Prairie Island 1,2          | Kewanee                     | Prairie Island 1,2          | Prairie Island 1,2          | Davis Besse                 |
| 180                         | 165                         | 141                         | 229                         | 80                          |
| 0.30                        | 0.41                        | 0.37                        | 0.36                        | 0.11                        |
| 0.2                         | 0.4                         | 0.3                         | 0.2                         | 0.1                         |
| Fort Calhoun                | Prairie Island 1,2          | Prairie Island 1,2          | Haddam Neck                 | Prairie Island 1,2          |
| 126                         | 363                         | 329                         | 126                         | 233                         |
| 0.28                        | 0.36                        | 0.39                        | 0.23                        | 0.36                        |
| 0.3                         | 0.4                         | 0.4                         | 0.2                         | 0.3                         |
| Rancho Seco                 | Three Mile Island 1,2       | Three Mile Island 1,2       | Davis Besse                 | San Onofre 1                |
| 126                         | 394                         | 376                         | 364                         | 155                         |
| 0.44                        | 0.17                        | 0.18                        | 0.12                        | 0.09                        |
| 0.2                         | 0.3                         | 0.3                         | 0.4                         | 0.13                        |
| Kewanee                     | Beaver Valley               | Beaver Valley               | McGuire                     | Maine Yankee                |
| 127                         | 213                         | 229                         | 169                         | 164                         |
| 0.37                        | 0.42                        | 0.42                        | 0.11                        | 0.28                        |
| 0.3                         | 0.3                         | 0.3                         | 0.3                         | 0.4                         |
| Yankee Rowe                 | North Anna 1                | North Anna 1                | Crystal River               | Kewanee                     |
| 127                         | 218                         | 284                         | 177                         | 165                         |
| 0.29                        | 0.10                        | 0.15                        | 0.23                        | 0.37                        |
| 0.8                         | 0.3                         | 0.3                         | 0.3                         | 0.4                         |
| Beaver Valley               | Point Beach 1,2             | Point Beach 1,2             | Fort Calhoun                | Indian Point 1,2            |
| 132                         | 493                         | 556                         | 217                         | 486                         |
| 0.19                        | 0.37                        | 0.3                         | 0.36                        | 0.46                        |
| 0.6                         | 0.4                         | 0.4                         | 0.5                         | 0.3                         |
| San Onofre                  | Yankee Rowe                 | Yankee Rowe                 | Farley 1,2                  | Sequoyah 1,2                |
| 139                         | 598                         | 302                         | 484                         | 581                         |
| 0.27                        | 1.07                        | 2.8                         | 0.33                        | 0.24                        |
| 0.4                         | 0.8                         | 0.43                        | 0.42                        | 0.16                        |
| Maine Yankee                | Indian Point 3              | Indian Point 3              | St. Lucie                   | Trojan                      |
| 154                         | 308                         | 607                         | 279                         | 307                         |
| 0.39                        | 0.32                        | 0.4                         | 0.3                         | 0.32                        |
| 0.3                         | 0.4                         | 0.4                         | 0.4                         | 0.5                         |
| Yankee Rowe                 | Calvert Cliffs 1,2          | Calvert Cliffs 1,2          | Point Beach 1,2             | Cook 1,2                    |
| 257                         | 677                         | 655                         | 609                         | 658                         |
| 0.35                        | 0.45                        | 0.4                         | 0.29                        | 0.46                        |
| 0.4                         | 0.5                         | 0.4                         | 0.8                         | 0.5                         |
| Trojan                      | Cook 1,2                    | Cook 1,2                    | Palisades                   | North Anna 1,2              |
| 644                         | 342                         | 680                         | 337                         | 665                         |
| 1.06                        | 0.28                        | 0.28                        | 0.44                        | 0.30                        |
| 0.8                         | 0.6                         | 0.5                         | 0.8                         | 0.5                         |
| Point Beach 1,2             | Arkansas 1                  | Arkansas 1                  | Rancho Seco                 | Calvert Cliffs 1,2          |
| 1,001                       | 1,055                       | 364                         | 402                         | 668                         |
| 0.6                         | 0.50                        | 0.54                        | 0.52                        | 0.35                        |
| 0.6                         | 0.5                         | 1.0                         | 0.36                        | 0.32                        |
| Oconee 1,2,3                | Rancho Seco                 | Rancho Seco                 | Cook 1,2                    | Oconee 1,2,3                |
| 718                         | 412                         | 424                         | 408                         | 1,207                       |
| 0.50                        | 0.46                        | 0.32                        | 0.36                        | 0.63                        |
| 0.5                         | 0.8                         | 0.8                         | 0.5                         | 0.5                         |
| Cook 1,2                    | Arkansas 1,2,3              | Arkansas 1,2,3              | Trojan                      | Fort Calhoun                |
| 369                         | 421                         | 408                         | 419                         | 433                         |
| 0.28                        | 0.36                        | 0.36                        | 0.45                        | 0.50                        |
| 0.9                         | 0.33                        | 0.33                        | 0.29                        | 0.39                        |
| Calvert Cliffs 1,2          | Palisades                   | Palisades                   | Yankee Rowe                 | Crystal River               |
| 805                         | 424                         | 408                         | 424                         | 552                         |
| 0.56                        | 0.33                        | 0.33                        | 0.49                        | 0.32                        |
| 0.7                         | 0.8                         | 0.8                         | 0.7                         | 0.18                        |
| St. Lucie                   | Farley                      | Farley                      | Three Mile Island 1,2       | Three Mile Island 1,2       |
| 438                         | 449                         | 449                         | 1,004                       | 1,159                       |
| 0.49                        | 0.26                        | 0.26                        | 0.47                        | 0.73                        |
| 0.9                         | 0.7                         | 0.7                         | 0.54                        | 0.57                        |
| North Anna                  | Salem 1                     | Salem 1                     | Farley 1,2                  | Indian Point 3              |
| 449                         | 511                         | 511                         | 1,004                       | 552                         |
| 0.22                        | 0.66                        | 0.66                        | 0.47                        | 0.32                        |
| 0.9                         | 0.6                         | 0.6                         | 0.44                        | 0.18                        |
| Mt. Sterling Point 2        | Zion 1,2                    | Zion 1,2                    | Calvert Cliffs 1,2          | Three Mile Island 1,2       |
| 472                         | 920                         | 920                         | 1,057                       | 1,159                       |
| 0.62                        | 0.59                        | 0.59                        | 0.59                        | 0.52                        |
| 1.1                         | 0.43                        | 0.43                        | 0.8                         | 0.32                        |
| Crystal River               | Maine Yankee                | Maine Yankee                | McGuire                     | Crystal River               |
| 495                         | 462                         | 462                         | 570                         | 552                         |
| 1.1                         | 0.63                        | 0.63                        | 0.47                        | 0.32                        |
| 1.1                         | 0.9                         | 0.9                         | 0.44                        | 0.18                        |
| Salem                       | Indian Point 1,2            | Indian Point 1,2            | Sequoyah                    | Three Mile Island 1,2       |
| 584                         | 971                         | 971                         | 1,792                       | 1,159                       |
| 0.39                        | 0.62                        | 0.62                        | 0.73                        | 0.52                        |
| 2.3                         | 1.1                         | 1.1                         | 1.4                         | 0.32                        |
| Three Mile Island 1,2       | St. Lucie                   | St. Lucie                   | Oconee 1,2,3                | Indian Point 3              |
| 1,170                       | 532                         | 532                         | 1,203                       | 552                         |
| 0.29                        | 0.50                        | 0.50                        | 0.47                        | 0.32                        |
| 4.4                         | 0.9                         | 0.9                         | 0.44                        | 0.18                        |
| Ginna                       | Trojan                      | Trojan                      | Sequoyah                    | Three Mile Island 1,2       |
| 592                         | 553                         | 553                         | 1,792                       | 1,159                       |
| 0.67                        | 0.30                        | 0.30                        | 0.73                        | 0.52                        |
| 1.7                         | 13.9                        | 13.9                        | 1.4                         | 0.32                        |
| Beaver Valley               | Ginna                       | Ginna                       | Oconee 1,2,3                | Indian Point 3              |
| 636                         | 655                         | 655                         | 1,203                       | 552                         |
| 0.79                        | 0.71                        | 0.71                        | 0.47                        | 0.32                        |
| 1.1                         | 0.59                        | 0.59                        | 0.44                        | 0.18                        |
| Indian Point 3              | Beaver Valley               | Beaver Valley               | Sequoyah                    | Three Mile Island 1,2       |
| 1,274                       | 625                         | 625                         | 1,792                       | 1,159                       |
| 0.87                        | 0.59                        | 0.59                        | 0.73                        | 0.52                        |
| 2.2                         | 1.1                         | 1.1                         | 1.4                         | 0.32                        |
| Indian Point 1,2            | Fort Calhoun                | Fort Calhoun                | Oconee 1,2,3                | Indian Point 3              |
| 1,279                       | 668                         | 668                         | 1,203                       | 552                         |
| 0.95                        | 0.75                        | 0.75                        | 0.47                        | 0.32                        |
| 2.2                         | 1.9                         | 1.9                         | 0.44                        | 0.18                        |
| Indian Point 1,2            | St. Lucie                   | St. Lucie                   | Sequoyah                    | Three Mile Island 1,2       |
| 1,660                       | 708                         | 708                         | 1,792                       | 1,159                       |
| 0.84                        | 0.66                        | 0.66                        | 0.73                        | 0.52                        |
| 2.1                         | 1.9                         | 1.9                         | 1.4                         | 0.32                        |
| Turkey Point 3,4            | Ginna                       | Ginna                       | Oconee 1,2,3                | Indian Point 3              |
| 1,660                       | 1,651                       | 1,651                       | 1,203                       | 552                         |
| 0.84                        | 0.92                        | 0.92                        | 0.47                        | 0.32                        |
| 2.1                         | 1.7                         | 1.7                         | 0.44                        | 0.18                        |
| Turkey Point 3,4            | Turkey Point 3,4            | Turkey Point 3,4            | Sequoyah                    | Three Mile Island 1,2       |
| 854                         | 1,353                       | 1,353                       | 1,792                       | 1,159                       |
| 0.53                        | 0.73                        | 0.73                        | 0.73                        | 0.52                        |
| 2.1                         | 3.2                         | 3.2                         | 1.4                         | 0.32                        |
| Haddam Neck                 | Haddam Neck                 | Haddam Neck                 | Oconee 1,2,3                | Indian Point 3              |
| 1,161                       | 1,652                       | 1,652                       | 1,203                       | 552                         |
| 0.95                        | 0.92                        | 0.92                        | 0.47                        | 0.32                        |
| 2.4                         | 4.8                         | 4.8                         | 0.44                        | 0.18                        |
| Haddam Neck                 | Robinson 2                  | Robinson 2                  | Sequoyah                    | Three Mile Island 1,2       |
| 1,188                       | 3,635                       | 3,635                       | 1,792                       | 1,159                       |
| 0.82                        | 0.72                        | 0.72                        | 0.73                        | 0.52                        |
| 2.5                         | 6.8                         | 6.8                         | 1.4                         | 0.32                        |
| San Onofre 1                | San Onofre 1                | San Onofre 1                | Oconee 1,2,3                | Indian Point 3              |
| 3,584                       | 2,387                       | 2,387                       | 1,203                       | 552                         |
| 0.71                        | 0.78                        | 0.78                        | 0.47                        | 0.32                        |
| 10.4                        | 24.5                        | 24.5                        | 0.44                        | 0.18                        |
| Averages per Reactor        | Averages per Reactor        | Averages per Reactor        | Averages per Reactor        | Averages per Reactor        |
| 510                         | 578                         | 652                         | 1,426                       | 592                         |
| 0.55                        | 0.52                        | 0.61                        | 0.71                        | 0.56                        |
| 1.2                         | 1.3                         | 1.4                         | 5.1                         | 1.3                         |
|                             |                             |                             | 1.3                         | 0.49                        |
|                             |                             |                             | Averages per Reactor        | Averages per Reactor        |
|                             |                             |                             | 518                         | 592                         |
|                             |                             |                             | 0.53                        | 0.56                        |
|                             |                             |                             | 1.3                         | 1.3                         |
|                             |                             |                             | 0.49                        | 0.40                        |

\*Indian Point 1 was defueled in 1974.

†For sites with more than one operating reactor, the number of man-rems per reactor is obtained by dividing the number of man-rems for the site by the number of reactors.

%CR is the ratio of the annual collective dose delivered at individual sites exceeding 1.5 rems to the total collective dose.

TABLE 6

## GRAND TOTALS AND AVERAGES

a Light Water Reactors Listed in Ascending Order of Man-rems per Reactor-year (Rx-yr)  
1969 - 1983

| BWRs                | Collective dose (man-rems) | Megawatt years generated | Man-rems per MW-yr | Rx-years reported | Man-rems per Rx-yr | PWRs                  | Collective dose (man-rems) | Megawatt-years generated | Man-rems per MW-yr | Rx-years reported | Man-rems per Rx-yr |
|---------------------|----------------------------|--------------------------|--------------------|-------------------|--------------------|-----------------------|----------------------------|--------------------------|--------------------|-------------------|--------------------|
| La Crosse           | 2,579                      | 347                      | 7.4                | 14                | 184                | Davis Besse           | 534                        | 2,478                    | 0.2                | 6                 | 89                 |
| Big Rock Point      | 3,794                      | 633                      | 6.0                | 15                | 253                | Prairie Island 1,2    | 2,433                      | 7,984                    | 0.3                | 19                | 128                |
| Humboldt Bay        | 4,861                      | 339                      | 14.3               | 15                | 324                | Kewaunee              | 1,290                      | 3,900                    | 0.3                | 9                 | 143                |
| Cooper Station      | 4,316                      | 4,519                    | 1.0                | 9                 | 480                | Yankee Rowe           | 3,116                      | 1,908                    | 1.6                | 15                | 208                |
| Hatch 1,2           | 5,974                      | 5,439                    | 1.1                | 12                | 498                | Point Beach 1,2       | 7,055                      | 9,371                    | 0.7                | 24                | 294                |
| Monticello          | 6,383                      | 4,978                    | 1.3                | 12                | 532                | Cook 1,2              | 3,974                      | 9,526                    | 0.4                | 13                | 306                |
| Duane Arnold        | 4,478                      | 2,338                    | 1.9                | 8                 | 560                | Maine Yankee          | 3,429                      | 6,285                    | 0.6                | 11                | 312                |
| Vermont Yankee      | 6,433                      | 4,203                    | 1.5                | 11                | 585                | Fort Calhoun          | 3,287                      | 3,197                    | 1.0                | 10                | 329                |
| Browns Ferry 1,2,3  | 14,669                     | 14,193                   | 1.0                | 23                | 638                | McGuire               | 690                        | 1,083                    | 0.6                | 2                 | 345                |
| Dresden 1,2,3       | 26,010                     | 13,179                   | 2.0                | 40                | 650                | Calvert Cliffs 1,2    | 4,935                      | 9,011                    | 0.5                | 14                | 352                |
| Nine Mile Point     | 10,525                     | 5,207                    | 2.0                | 14                | 752                | Rancho Seco           | 2,835                      | 3,879                    | 0.7                | 8                 | 354                |
| Peach Bottom 2,3    | 15,557                     | 11,986                   | 1.3                | 18                | 864                | Sequoyah 1,2          | 1,061                      | 2,247                    | 0.5                | 3                 | 354                |
| Oyster Creek        | 14,455                     | 5,244                    | 2.8                | 14                | 1,032              | Trojan                | 2,506                      | 4,205                    | 0.6                | 7                 | 358                |
| Fitzpatrick         | 8,795                      | 3,998                    | 2.2                | 8                 | 1,099              | Beaver Valley         | 2,562                      | 2,382                    | 1.1                | 7                 | 366                |
| Quad Cities 1,2     | 22,790                     | 10,044                   | 2.3                | 20                | 1,140              | Oconee 1,2,3          | 11,027                     | 16,034                   | 0.7                | 28                | 394                |
| Millstone Point 1   | 14,156                     | 5,426                    | 2.6                | 12                | 1,180              | Three Mile Island 1,2 | 5,547                      | 2,827                    | 2.0                | 14                | 396                |
| Brunswick 1,2       | 18,826                     | 5,361                    | 3.5                | 14                | 1,345              | Arkansas 1,2          | 4,768                      | 6,065                    | 0.8                | 12                | 397                |
| Pilgrim             | 17,634                     | 4,443                    | 4.0                | 11                | 1,603              | Salem 1,2             | 3,193                      | 4,402                    | 0.7                | 8                 | 399                |
| Totals and Averages | 202,235                    | 101,877                  | 2.0                | 270               | 749                | Farley 1,2            | 3,202                      | 4,420                    | 0.7                | 8                 | 400                |
|                     |                            |                          |                    |                   |                    | Crystal River         | 2,578                      | 2,699                    | 1.0                | 6                 | 430                |
|                     |                            |                          |                    |                   |                    | North Anna 1,2,       | 3,927                      | 4,547                    | 0.9                | 8                 | 491                |
|                     |                            |                          |                    |                   |                    | Palisades             | 7,191                      | 4,080                    | 1.8                | 14                | 514                |
|                     |                            |                          |                    |                   |                    | Zion 1,2              | 10,102                     | 12,138                   | 0.8                | 19                | 532                |
|                     |                            |                          |                    |                   |                    | St. Lucie             | 3,864                      | 4,181                    | 0.9                | 7                 | 552                |
|                     |                            |                          |                    |                   |                    | Haddam Neck           | 9,330                      | 7,123                    | 1.3                | 15                | 622                |
|                     |                            |                          |                    |                   |                    | Indian Point 3*       | 3,141                      | 1,481                    | 2.1                | 5                 | 628                |
|                     |                            |                          |                    |                   |                    | San Onofre 1          | 10,083                     | 3,979                    | 2.5                | 15                | 672                |
|                     |                            |                          |                    |                   |                    | Ginna                 | 8,886                      | 4,430                    | 2.0                | 13                | 684                |
|                     |                            |                          |                    |                   |                    | Indian Point 1,2*     | 7,102                      | 2,688                    | 2.6                | 10                | 710                |
|                     |                            |                          |                    |                   |                    | Turkey Point 3,4      | 15,042                     | 9,563                    | 1.6                | 21                | 716                |
|                     |                            |                          |                    |                   |                    | Millstone Point 2     | 6,964                      | 4,013                    | 1.7                | 8                 | 871                |
|                     |                            |                          |                    |                   |                    | Robinson              | 10,979                     | 5,676                    | 1.9                | 12                | 915                |
|                     |                            |                          |                    |                   |                    | Indian Point 1,2,3*   | 15,575                     | 4,410                    | 3.5                | 17                | 916                |
|                     |                            |                          |                    |                   |                    | Surry 1,2             | 26,368                     | 9,556                    | 2.8                | 21                | 1,256              |
|                     |                            |                          |                    |                   |                    | Totals and Averages   | 208,576                    | 181,748                  | 1.1                | 409               | 510                |

\*Indian Point 3 began reporting separately in 1979.

b Light Water Reactors Listed in Ascending Order of Man-rems per Reactor-year (Rx-yr)  
1969 - 1982

| BWRs                | Collective dose (Man-rems) | Megawatt years generated | Man-rems per MW-yr | Rx-years reported | Man-rems per Rx-yr | PWRs                  | Collective dose (man-rems) | Megawatt-years generated | Man-rems per MW-yr | Rx-years reported | Man-rems per Rx-yr |
|---------------------|----------------------------|--------------------------|--------------------|-------------------|--------------------|-----------------------|----------------------------|--------------------------|--------------------|-------------------|--------------------|
| LaCrosse            | 2,266                      | 322                      | 7.0                | 13                | 174                | Davis Besse           | 454                        | 1,886                    | 0.2                | 5                 | 91                 |
| Big Rock Point      | 3,531                      | 590                      | 6.0                | 14                | 252                | Prairie Island 1,2    | 2,200                      | 7,063                    | 0.3                | 17                | 129                |
| Humboldt Bay        | 4,844                      | 339                      | 14.3               | 14                | 346                | Kewaunee              | 1,125                      | 3,456                    | 0.3                | 8                 | 141                |
| Cooper Station      | 3,023                      | 4,122                    | 0.7                | 8                 | 378                | McGuire               | 169                        | 525                      | 0.3                | 1                 | 169                |
| Hatch 1,2           | 4,675                      | 4,505                    | 1.0                | 10                | 467                | Yankee Rowe           | 3,048                      | 1,744                    | 1.7                | 14                | 218                |
| Duane Arnold        | 3,343                      | 2,055                    | 1.6                | 7                 | 478                | Point Beach 1,2       | 5,652                      | 8,723                    | 0.7                | 22                | 257                |
| Vermont Yankee      | 4,906                      | 3,857                    | 1.3                | 10                | 491                | Rancho Seco           | 2,048                      | 3,531                    | 0.6                | 7                 | 292                |
| Browns Ferry 1,2,3  | 11,306                     | 12,552                   | 0.9                | 20                | 565                | Cook 1,2              | 3,316                      | 8,069                    | 0.4                | 11                | 301                |
| Monticello          | 6,262                      | 4,483                    | 1.4                | 11                | 569                | Beaver Valley         | 1,790                      | 1,821                    | 1.0                | 6                 | 303                |
| Dresden 1,2,3       | 22,427                     | 12,266                   | 1.8                | 37                | 606                | Fort Calhoun          | 2,854                      | 2,867                    | 1.0                | 9                 | 317                |
| Nine Mile Point     | 9,665                      | 4,878                    | 2.0                | 13                | 743                | Maine Yankee          | 3,265                      | 5,588                    | 0.6                | 10                | 326                |
| Peach Bottom 2,3    | 12,594                     | 11,161                   | 1.1                | 16                | 787                | Arkansas 1,2          | 3,371                      | 5,150                    | 0.6                | 10                | 337                |
| Oyster Creek        | 12,198                     | 5,217                    | 2.3                | 13                | 938                | Calvert Cliffs 1,2    | 4,267                      | 7,614                    | 0.6                | 12                | 356                |
| Fitzpatrick         | 7,705                      | 3,452                    | 2.2                | 7                 | 1,101              | Farley 1,2            | 2,181                      | 3,063                    | 0.7                | 5                 | 364                |
| Quad Cities 1,2     | 20,299                     | 8,955                    | 2.3                | 18                | 1,128              | Three Mile Island 1,2 | 4,388                      | 2,827                    | 1.6                | 12                | 366                |
| Millstone Point 1   | 13,912                     | 4,786                    | 2.9                | 11                | 1,265              | Trojan                | 2,199                      | 3,711                    | 0.6                | 6                 | 366                |
| Brunswick 1,2       | 15,351                     | 4,724                    | 3.2                | 12                | 1,279              | Oconee 1,2,3          | 9,820                      | 13,892                   | 0.7                | 25                | 393                |
| Pilgrim             | 16,472                     | 3,883                    | 4.2                | 10                | 1,647              | Crystal River         | 2,026                      | 2,247                    | 0.9                | 5                 | 405                |
| Totals and Averages | 174,779                    | 92,147                   | 1.9                | 244               | 716                | Salem 1,2             | 2,612                      | 3,660                    | 0.7                | 6                 | 435                |
|                     |                            |                          |                    |                   |                    | St. Lucie             | 2,660                      | 3,891                    | 0.7                | 6                 | 443                |
|                     |                            |                          |                    |                   |                    | Palisades             | 6,214                      | 3,626                    | 1.7                | 13                | 478                |
|                     |                            |                          |                    |                   |                    | Zion 1,2              | 8,791                      | 10,916                   | 0.8                | 17                | 517                |
|                     |                            |                          |                    |                   |                    | North Anna 1,2        | 3,262                      | 3,209                    | 1.0                | 6                 | 544                |
|                     |                            |                          |                    |                   |                    | Haddam Neck           | 7,946                      | 6,669                    | 1.2                | 14                | 568                |
|                     |                            |                          |                    |                   |                    | Sequoyah              | 570                        | 584                      | 1.0                | 1                 | 570                |
|                     |                            |                          |                    |                   |                    | Indian Point 3*       | 2,534                      | 1,472                    | 1.7                | 4                 | 633                |
|                     |                            |                          |                    |                   |                    | Turkey Point 3,4      | 12,361                     | 8,685                    | 1.4                | 19                | 650                |
|                     |                            |                          |                    |                   |                    | Ginna                 | 8,031                      | 4,065                    | 2.0                | 12                | 669                |
|                     |                            |                          |                    |                   |                    | San Onofre            | 9,928                      | 3,979                    | 2.5                | 14                | 709                |
|                     |                            |                          |                    |                   |                    | Millstone Point 2     | 5,083                      | 4,019                    | 1.3                | 7                 | 726                |
|                     |                            |                          |                    |                   |                    | Indian Point 1,2*     | 6,616                      | 1,985                    | 3.3                | 8                 | 827                |
|                     |                            |                          |                    |                   |                    | Robinson 2            | 10,056                     | 5,266                    | 1.9                | 11                | 914                |
|                     |                            |                          |                    |                   |                    | Indian Point 1,2,3*   | 15,575                     | 4,410                    | 3.5                | 17                | 916                |
|                     |                            |                          |                    |                   |                    | Surry 1,2             | 23,148                     | 8,642                    | 2.7                | 19                | 1,218              |
|                     |                            |                          |                    |                   |                    | Totals and Averages   | 179,560                    | 158,270                  | 1.1                | 360               | 499                |

\*Indian Point 3 began reporting separately in 1979.

feedwater nozzle replacement. At BWRs, inspections and repairs of primary piping and pipe welds and Mark I torus modifications have contributed to increased doses. It should be noted that the differences in nuclear plant designs and the ages of plants (Ref. 12) even between plants of a given type affect the nature of these parameters as well, and one should be careful when attempting to draw conclusions from these data.

### 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 1983. This distribution is the sum of the annual dose distributions reported by each licensed LWR each year. The distribution reported by each LWR for 1983 is shown in Appendix B. From Table 7, one can see that, prior to 1973, the reports had a different format such that, for doses less than two rems (cSv), there were only two dose ranges, 0.0 to 1.25 rems (cSv) and 1.25 to 2.0 rems (cSv). 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. However, the values of CR show that the portion of the collective dose due to individual doses greater than 1.5 rems (cSv) has decreased from a high of 0.72 in 1973 and has levelled off at about 0.55 for the last few years.

Since personnel monitoring data have frequently been found to have log-normal distributions (Ref 13), trends in the data may be observed from logprobability plots of the data. If the data are log normally distributed, the data points will form a straight line when plotted on log-probability paper on which cumulative probabilities are laid off on the vertical axis at distances proportional to the corresponding number of standard deviations above or below the median and the dose is plotted on a logarithmic scale on the horizontal axis. Figure 5 displays such plots of the dose distributions of workers at BWRs and PWRs for 1982 and 1983. The positions of the plots for the PWRs above those of the BWRs indicates that a larger portion of workers at PWRs received lower doses, which resulted in lower median doses (point at which the 50 percentile line crosses each plot) and smaller values of CR.

Further examination of the plots reveals that they form fairly straight lines only to about 1.5 rems (cSv) where they start to curve upward. This curve is typical of distributions when there are several workers in the higher dose ranges, (Ref. 11) and indicates that the entire distribution is not a log-normal one. A new theoretical analysis of occupational dose distributions (Ref. 14) has found that these data are far better fitted by a hybrid log-normal distribution. At low doses, this distribution is log-normal, but at higher doses, where radiation control programs require that each worker's total dose be closely monitored so that the frequency of doses approaching the dose limits is reduced, the distribution is normal. This method of analyzing occupational doses may prove to have several valuable applications (Ref. 15) for individuals involved in radiation protection programs.

**TABLE 7 \***  
**SUMMARY DISTRIBUTION OF ANNUAL WHOLE BODY DOSES**  
**AT COMMERCIAL LIGHT-WATER-COOLED REACTORS**  
 1969 - 1983

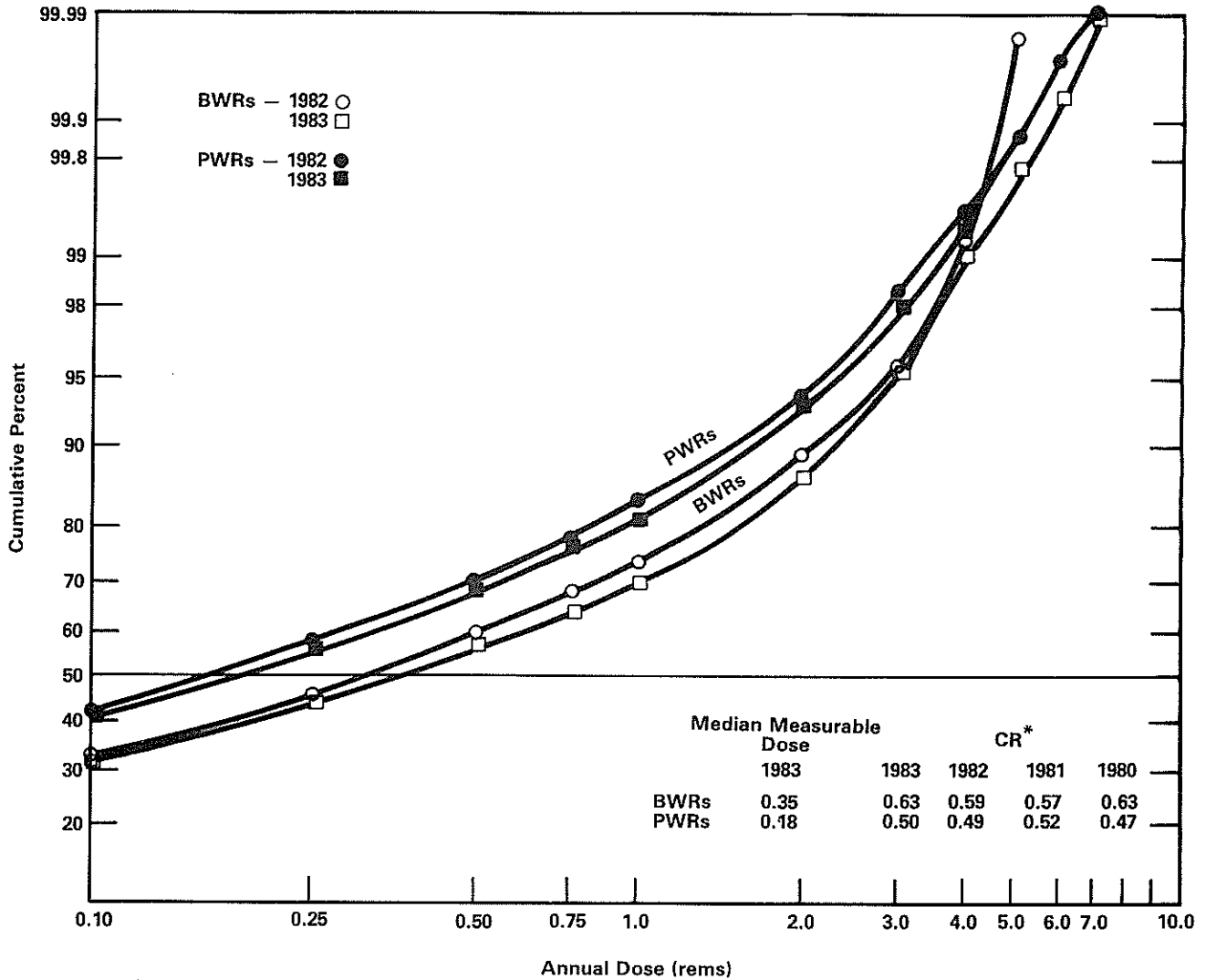
| Year | Number of Individuals with Whole Body Exposures in the Indicated Ranges (Rems) |                   |           |           |           |          |         |         |         |         |         |         |         |         |          |              |          | Total Number Monitored | ** Annual Collective Dose (Man-rem <sup>s</sup> ) | *** CR |
|------|--|-------------------|-----------|-----------|-----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|----------|--------------|----------|------------------------|---|--------|
|      | 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    |          |                        |   |        |
|      |  |                   |           |           |           |          |         |         |         |         |         |         |         |         |          |              | 1.25-2.0 |                        |   |        |
| 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   | 422     | 251     | 125     | 71      | 38      | 16      | 7       |          |              | 33,823   | 13,963                 | 0.72  |        |
| 1974 | 20,472   | 6,735             | 2,887     | 2,056     | 1,182     | 906      | 2,503   | 471     | 226     | 86      | 30      | 6       |         |         |          |              | 38,938   | 13,722                 | 0.63  |        |
| 1975 | 18,854   | 8,841             | 3,674     | 2,750     | 1,685     | 1,339    | 3,948   | 691     | 423     | 169     | 60      | 24      | 12      |         |          | 1            | 44,343   | 20,879                 | 0.65  |        |
| 1976 | 25,704   | 12,821            | 5,130     | 4,135     | 2,520     | 2,030    | 4,880   | 789     | 487     | 188     | 70      | 26      | 11      | 5       | 1        |              | 61,151   | 26,433                 | 0.62  |        |
| 1977 | 24,868   | 13,970            | 6,534     | 5,050     | 3,258     | 2,486    | 6,162   | 2,837   | 1,130   | 569     | 141     | 66      | 36      | 21      | 6        |              | 67,134   | 32,511                 | 0.61  |        |
| 1978 | 30,143   | 16,639            | 6,943     | 5,504     | 3,399     | 2,498    | 6,405   | 2,889   | 1,080   | 418     | 67      | 26      | 8       |         |          | (>12)<br>2   | 76,121   | 31,804                 | 0.50  |        |
| 1979 | 41,191   | 24,512            | 9,881     | 8,090     | 5,147     | 3,426    | 7,898   | 3,306   | 1,255   | 477     | 86      | 28      | 13      | 2       |          | (11-12)<br>1 | 105,313  | 39,981                 | 0.54  |        |
| 1980 | 47,377   | 29,638            | 11,750    | 9,820     | 6,082     | 4,518    | 11,474  | 4,515   | 1,537   | 686     | 192     | 98      | 18      | 3       |          |              | 127,708  | 53,796                 | 0.56  |        |
| 1981 | 42,323   | 29,332            | 12,217    | 10,326    | 6,625     | 4,903    | 11,766  | 4,546   | 1,793   | 486     | 93      | 81      | 11      | 2       | 1        | (12)         | 124,506  | 54,142                 | 0.55  |        |
| 1982 | 44,893   | 31,480            | 12,693    | 10,814    | 6,739     | 4,795    | 10,855  | 4,686   | 1,814   | 432     | 56      | 13      | 4       | 0       | 1        |              | 129,275  | 52,190                 | 0.54  |        |
| 1983 | 51,071   | 31,900            | 12,211    | 10,296    | 6,470     | 4,708    | 12,171  | 5,311   | 1,950   | 544     | 65      | 16      | 4       |         |          |              | 136,717  | 56,471                 | 0.56  |        |

\* 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.

\*\* The collective dose and CR were not reported by the facilities but were calculated by the NRC staff using methods described in this document.

\*\*\* CR is the ratio of the annual collective dose delivered at individual doses exceeding 1.5 rems to the total annual collective dose.

**FIGURE 5**  
**CUMULATIVE PERCENT OF ANNUAL INDIVIDUAL DOSES**  
**1982 & 1983**



**NOTE:** Each point on the curves represent the cumulative percentage of workers with measurable dose who received doses less then the indicated annual dose. The median measurable dose is the dose at the which the curve crosses the fifth percentile.

\*CR is the ratio of the annual collective dose delivered at individual doses exceeding 1.5 rems to the total collective dose.

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 affects the distribution of doses as well as the number of individuals and the average dose, because the individual could 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 4.4.

### 3.2 Dose Distribution by Work and Job Function

Tables 8, 9, and 10 summarize the annual data submitted in accordance with plant technical specifications in a format similar to that shown in Appendix C. 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 1983 is contained in Appendix C. One may 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 these data for the last nine years, and one can see that workers involved in routine and special maintenance activities continue to incur most of the total collective dose. At BWRs (Table 8), workers involved in these activities received 76.7% of the collective dose for BWRs; at PWRs, these workers received 70.8% of the collective dose, each being one percent less than that found for 1982. The portions of the collective dose received by workers during inservice inspection and refueling at BWRs are 7.9% and 4.3%, respectively; at PWRs, such workers received 7.2% and 4.9%, respectively, of the collective dose. Overall, contractor personnel received 63.4% of the collective dose (1.5% more than last year), and the station and utility employees received the remaining 36.6% at LWRs.

Table 10 presents the distribution of the collective dose at all LWRs among five occupations. As expected, maintenance personnel incurred the majority (72.1%) 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 2.7% of the dose, while workers in the remaining three occupations - operations, health physics, and engineering - received 7.9%, 9.8%, and 7.4%, respectively, of the collective dose. All of these values are about the same as those found for 1982. 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 obtained or calculated from the \$20.407 annual reports.

TABLE 8  
ANNUAL COLLECTIVE DOSE  
BY WORK FUNCTION AND PERSONNEL TYPE

1983

| WORK FUNCTION                                | STATION EMPLOYEES |            | UTILITY EMPLOYEES |            | CONTRACT WORKERS & OTHERS |            | TOTAL PER FUNCTION |            |
|--|-------------------|------------|-------------------|------------|---------------------------|------------|--------------------|------------|
|  | MAN-REMS          | % OF TOTAL | MAN-REMS          | % OF TOTAL | MAN-REMS                  | % OF TOTAL | MAN-REMS           | % OF TOTAL |
| <u>BOILING WATER REACTORS</u>                |                   |            |                   |            |                           |            |                    |            |
| <u>REACTOR OPERATIONS &amp; SURVEILLANCE</u> |                   |            |                   |            |                           |            |                    |            |
| ROUTINE MAINTENANCE                          | 1497.612          | 5.7 %      | 163.202           | 0.6 %      | 633.138                   | 2.4 %      | 2293.952           | 8.8 %      |
| INSERVICE INSPECTION                         | 2371.138          | 9.1 %      | 1813.572          | 6.9 %      | 5593.209                  | 21.4 %     | 9777.919           | 37.5 %     |
| SPECIAL MAINTENANCE                          | 179.127           | 0.7 %      | 272.852           | 1.0 %      | 1622.308                  | 6.2 %      | 2074.287           | 7.9 %      |
| WASTE PROCESSING                             | 957.859           | 3.7 %      | 751.254           | 2.9 %      | 8510.735                  | 32.6 %     | 10219.848          | 39.2 %     |
| REFUELING                                    | 575.554           | 2.2 %      | 40.200            | 0.2 %      | 518.469                   | 2.0 %      | 1134.223           | 4.3 %      |
|  | 367.117           | 1.4 %      | 44.355            | 0.2 %      | 191.871                   | 0.7 %      | 603.343            | 2.3 %      |
| TOTALS                                       | 5948.407          | 22.8 %     | 3085.435          | 11.8 %     | 17069.730                 | 65.4 %     | 26103.572          | 100.0 %    |
| <u>*PRESSURIZED WATER REACTORS</u>           |                   |            |                   |            |                           |            |                    |            |
| <u>REACTOR OPERATIONS &amp; SURVEILLANCE</u> |                   |            |                   |            |                           |            |                    |            |
| ROUTINE MAINTENANCE                          | 1813.572          | 6.6 %      | 113.060           | 0.4 %      | 1186.264                  | 4.3 %      | 3112.896           | 11.3 %     |
| INSERVICE INSPECTION                         | 2474.250          | 9.0 %      | 676.988           | 2.5 %      | 3017.435                  | 11.0 %     | 6168.673           | 22.4 %     |
| SPECIAL MAINTENANCE                          | 241.567           | 0.9 %      | 179.508           | 0.7 %      | 1568.947                  | 5.7 %      | 1990.022           | 7.2 %      |
| WASTE PROCESSING                             | 1994.813          | 7.3 %      | 1603.549          | 5.8 %      | 9712.349                  | 35.3 %     | 13310.711          | 48.4 %     |
| REFUELING                                    | 508.421           | 1.8 %      | 30.853            | 0.1 %      | 807.444                   | 2.9 %      | 1346.718           | 4.9 %      |
|  | 706.578           | 2.6 %      | 228.758           | 0.8 %      | 642.109                   | 2.3 %      | 1577.445           | 5.7 %      |
| TOTALS                                       | 7739.201          | 28.1 %     | 2832.716          | 10.3 %     | 16934.548                 | 61.6 %     | 27506.465          | 100.0 %    |
| <u>*ALL LIGHT WATER REACTORS</u>             |                   |            |                   |            |                           |            |                    |            |
| <u>REACTOR OPERATIONS &amp; SURVEILLANCE</u> |                   |            |                   |            |                           |            |                    |            |
| ROUTINE MAINTENANCE                          | 3311.184          | 6.2 %      | 276.262           | 0.5 %      | 1819.402                  | 3.4 %      | 5406.848           | 10.1 %     |
| INSERVICE INSPECTION                         | 4845.388          | 9.0 %      | 2490.560          | 4.6 %      | 8610.644                  | 16.1 %     | 15946.592          | 29.7 %     |
| SPECIAL MAINTENANCE                          | 420.694           | 0.8 %      | 452.360           | 0.8 %      | 3191.255                  | 6.0 %      | 4064.309           | 7.6 %      |
| WASTE PROCESSING                             | 2952.672          | 5.5 %      | 2354.803          | 4.4 %      | 18223.084                 | 34.0 %     | 23530.559          | 43.9 %     |
| REFUELING                                    | 1083.975          | 2.0 %      | 71.053            | 0.1 %      | 1325.913                  | 2.5 %      | 2480.941           | 4.6 %      |
|  | 1073.695          | 2.0 %      | 273.113           | 0.5 %      | 833.980                   | 1.6 %      | 2180.788           | 4.1 %      |
| TOTALS                                       | 13687.608         | 25.5 %     | 5918.151          | 11.0 %     | 34004.278                 | 63.4 %     | 53610.037          | 100.0 %    |

\*Table does not include results from the PWRs at Point Beach 1,2 (1360 man-rems) because of formatting problems.



TABLE 9  
 PERCENTAGES OF ANNUAL COLLECTIVE DOSE  
 AT LWRs BY WORK FUNCTION

| Work Function                       | Percent of Dose Each Year |       |       |       |       |       |       |       |       |
|-------------------------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                     | 1975                      | 1976  | 1977  | 1978  | 1979  | 1980  | 1981  | 1982  | 1983  |
| Reactor Operations and Surveillance | 10.8%                     | 10.2% | 10.5% | 13.3% | 12.2% | 9.5%  | 8.9%  | 9.4%  | 10.1% |
| Routine Maintenance                 | 52.6%                     | 31.0% | 28.1% | 31.5% | 29.2% | 35.5% | 36.1% | 27.9% | 29.7% |
| Inservice Inspection                | 3.0%                      | 6.0%  | 6.4%  | 7.7%  | 9.0%  | 5.5%  | 5.3%  | 6.5%  | 7.6%  |
| Special Maintenance                 | 19.0%                     | 40.0% | 42.5% | 35.9% | 39.4% | 40.6% | 40.5% | 46.8% | 43.9% |
| Waste Processing                    | 6.9%                      | 5.0%  | 5.8%  | 5.0%  | 3.6%  | 3.0%  | 4.2%  | 5.0%  | 4.6%  |
| Refueling                           | 7.7%                      | 7.9%  | 6.7%  | 6.6%  | 6.6%  | 6.1%  | 5.0%  | 4.4%  | 4.1%  |

TABLE 10  
ANNUAL COLLECTIVE DOSE  
BY OCCUPATION AND PERSONNEL TYPE

1983

| OCCUPATION                         | STATION EMPLOYEES |            | UTILITY EMPLOYEES |            | CONTRACT WORKERS & OTHERS |            | TOTAL PER FUNCTION |            |
|------------------------------------|-------------------|------------|-------------------|------------|---------------------------|------------|--------------------|------------|
|                                    | MAN-REMS          | % OF TOTAL | MAN-REMS          | % OF TOTAL | MAN-REMS                  | % OF TOTAL | MAN-REMS           | % OF TOTAL |
| <u>BOILING WATER REACTORS</u>      |                   |            |                   |            |                           |            |                    |            |
| MAINTENANCE                        | 2957.978          | 11.3 %     | 2835.918          | 10.9 %     | 15172.087                 | 58.1 %     | 20965.983          | 80.3 %     |
| OPERATIONS                         | 1407.712          | 5.4 %      | 14.381            | 0.1 %      | 230.856                   | 0.9 %      | 1652.949           | 6.3 %      |
| HEALTH PHYSICS                     | 846.823           | 3.2 %      | 15.048            | 0.1 %      | 885.286                   | 3.4 %      | 1747.157           | 6.7 %      |
| SUPERVISORY                        | 400.670           | 1.5 %      | 39.381            | 0.2 %      | 123.539                   | 0.5 %      | 563.590            | 2.2 %      |
| ENGINEERING                        | 335.224           | 1.3 %      | 180.707           | 0.7 %      | 657.962                   | 2.5 %      | 1173.893           | 4.5 %      |
| TOTALS                             | 5948.407          | 22.8 %     | 3085.435          | 11.8 %     | 17069.730                 | 65.4 %     | 26103.572          | 100.0 %    |
| <u>*PRESSURIZED WATER REACTORS</u> |                   |            |                   |            |                           |            |                    |            |
| MAINTENANCE                        | 3976.465          | 14.5 %     | 1832.525          | 6.7 %      | 11885.746                 | 43.2 %     | 17694.736          | 64.3 %     |
| OPERATIONS                         | 1600.568          | 5.8 %      | 692.102           | 2.5 %      | 311.409                   | 1.1 %      | 2604.079           | 9.5 %      |
| HEALTH PHYSICS                     | 1164.826          | 4.2 %      | 29.248            | 0.1 %      | 2335.980                  | 8.5 %      | 3530.054           | 12.8 %     |
| SUPERVISORY                        | 484.471           | 1.8 %      | 39.060            | 0.1 %      | 343.546                   | 1.2 %      | 867.077            | 3.2 %      |
| ENGINEERING                        | 512.871           | 1.9 %      | 239.781           | 0.9 %      | 2057.867                  | 7.5 %      | 2810.519           | 10.2 %     |
| TOTALS                             | 7739.201          | 28.1 %     | 2832.716          | 10.3 %     | 16934.548                 | 61.6 %     | 27506.465          | 100.0 %    |
| <u>*ALL LIGHT WATER REACTORS</u>   |                   |            |                   |            |                           |            |                    |            |
| MAINTENANCE                        | 6934.443          | 12.9 %     | 4668.443          | 8.7 %      | 27057.833                 | 50.5 %     | 38660.719          | 72.1 %     |
| OPERATIONS                         | 3008.280          | 5.6 %      | 706.483           | 1.3 %      | 542.265                   | 1.0 %      | 4257.028           | 7.9 %      |
| HEALTH PHYSICS                     | 2011.649          | 3.8 %      | 44.296            | 0.1 %      | 3221.266                  | 6.0 %      | 5277.211           | 9.8 %      |
| SUPERVISORY                        | 885.141           | 1.7 %      | 78.441            | 0.1 %      | 467.085                   | 0.9 %      | 1430.667           | 2.7 %      |
| ENGINEERING                        | 848.095           | 1.6 %      | 420.488           | 0.8 %      | 2715.829                  | 5.1 %      | 3984.412           | 7.4 %      |
| TOTALS                             | 13687.608         | 25.5 %     | 5918.151          | 11.0 %     | 34004.278                 | 63.4 %     | 53610.037          | 100.0 %    |

\*Table does not include results from the PWRs at Point Beach 1,2 (1360 man-rems) because of formatting problems.

### 3.3 Health Implications of Average Annual Doses

If any damage to health is caused by exposure to radiation in the work place, it would likely manifest itself as certain types of cancer in the exposed worker or, less likely, as inherited genetic damage in the first few generations of the workers' offspring. However, the likelihood of cancer or genetic damage occurring as a result of radiation exposure experienced by workers in nuclear power plants is small. A vast amount of scientific information is available from which estimates of these risks can be made. Much of this information, however, has been obtained from epidemiologic studies of human populations at levels of exposure considerably 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), published a comprehensive review of the biological effects of ionizing radiation in 1980 (Ref. 16). Based on this report, a large working population receiving one million man-rem (man-cSv) might suffer an estimated 100 to 200 additional cancer deaths over the remaining years of their lives. This risk estimate can be applied to the 56,471 man-rem (man-cSv) (Table 3) and the 85,646 workers who received measurable exposures. The result is that, for the total work force exposed at commercial LWRs in 1983, the expected number of additional cancer deaths that might result from radiation dose received that year would be about ten. These deaths would occur many years following the exposure and would be in addition to the approximately 15,000 cancer deaths that occur normally in a population of 85,000 workers without exposure to this amount of radiation. Perhaps more meaningful to the individual workers are the health implications to the workers receiving the average dose of 0.66 rem (cSv) or the maximum dose of eight or nine rem (cSv) during 1983. The estimated increased cancer death risk is about one chance in 10,000 for the average dose and about one chance in 1,000 for the maximum dose. Should a worker receive 0.66 rem (cSv) per year continuously during his entire working career (working from age 20 until age 65) his risk of dying from cancer could increase by approximately 2% over the normal risk of dying of cancer.† These risks can be compared to the American Cancer Society's estimates of one chance in four of developing cancer and one chance in six of dying of cancer.

The potential genetic effects from a worker population receiving about 60,000 man-rem (man-Sv) is very small compared to genetic damages that occur spontaneously in this population. Based again on the 1980 NAS report,

---

†The use of the linear quadratic dose-response model in making this risk estimate would estimate an increase in the risk of dying of cancer of less than 1%.

less than four serious genetic diseases could be induced in first generation children of the 85,000 exposed\* workers and less than 60 in all future generations. This number can be compared to the approximately 100,000 serious genetic defects that occur normally in one million live births, i.e., an average of about one serious defect in every ten live births. Thus, the total genetic damage in the first generation children of 85,000 workers would be an increase of less than four cases (less than 0.05%) to the expected 8,500 cases that occur normally.

### 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 which was licensed to operate the plant on December 21, 1973. The 330 Mwe (net) rated plant began generating electricity in December 1976. However, the plant did not declare commercial operability until July 1, 1979 and during 1983 the utility restricted the plant to a 70% power level.

As shown in Table 11, annual whole body doses incurred by workers at the plant have, in general, been minimal. For the last three years, everyone monitored has received a whole body dose that was less than 0.10 rem (cSv), and no one has ever exceeded an annual dose of 0.25 rems (cSv). The average dose per worker has remained at about 0.03 rem (cSv) or less for the last several years. For the 10 years ending on December 31, 1983, the total collective dose for workers at the site was about 21 man-rems (man-cSv), and a total of 481 megawatt-years of electricity had been generated. This yields a ten-year average of about 0.04 man-rem (man-cSv) per megawatt-year. The average value of this parameter for PWRs is twenty-six times as much (Table 6).

TABLE 11  
ANNUAL WHOLE BODY DOSES AT FORT ST. VRAIN  
1974 - 1983

| Year | No. of Individuals with Annual Doses in Ranges (Rems) |                       |           | Total No. of Individuals Monitored | Annual Collective Dose (man-rems) | Gross Electricity (MW-yrs) Generated | Average Measurable Dose Per Worker (rems) |
|------|---|-----------------------|-----------|------------------------------------|-----------------------------------|--------------------------------------|---|
|      | No Measurable Dose                                    | Measurable, but <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  | 120                   | 2         | 1,271                              | 6.4                               | 28.6                                 | 0.01                                      |
| 1980 | 902   | 57                    | 1         | 960                                | 3.0                               | 83.2                                 | 0.05                                      |
| 1981 | 1096  | 31                    | 0         | 1,127                              | 1.0                               | 93.6                                 | 0.03                                      |
| 1982 | 978   | 22                    | 0         | 1,000                              | 0.4                               | 72.6                                 | 0.02                                      |
| 1983 | 965   | 48                    | 0         | 1,013                              | 1.0                               | 94.4                                 | 0.02                                      |

\*Assuming that, on the average, each exposed person will have one child in the future, i.e., 85,000 children born to this worker population.

#### 4. TERMINATION DATA SUBMITTED PURSUANT TO 10 CFR §20.408

##### 4.1 Termination Reports, 1969-1983

In 1969, the Atomic Energy Commission (predecessor of the NRC) began requiring operating nuclear power facilities and three other types of licensees\* to submit personal 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 (REIRS) at Oak Ridge, Tennessee. The data are retrievable by several criteria - social security number, name, facility, etc. - which allows statistical analyses of the data as well as the tracing of individual dose histories. During the years that this information has been collected, some 1,040,000 termination records have been received for approximately 280,000 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 individuals terminating during each of the fourteen years and shows that the number of such records has continued to increase each year for which all of the data have been entered into REIRS. Part of this is due to the fact that each annual transient worker (see Section 4.4) has terminated an average of 2.6 times each year since 1978.

##### 4.2 Limitations of the Termination Data

When examining or using the statistics in this report that are based on the termination data, one should keep in mind that these data have various limitations: (1) Some licensees submit a termination report for each monitored non-utility employee at the end of each monitoring period rather than waiting until the individual actually completes his work assignment at the facility. (2) The period(s) of exposure that are reported for terminating individuals may indicate the monitoring period during which he may have been exposed to radiation rather than the actual dates of exposure. (3) Some licensees report cumulative periods of exposure and doses rather than the actual periods and dose incurred during each period. (4) Licensees having more than one licensed facility sometimes include in the termination report submitted when the individual leaves the second facility the dose that he incurred at the first facility

\*Industrial radiographers; fuel processors, fabricators, and reprocessors; and manufacturers and distributors of specified quantities of byproduct material. Three other types of NRC licensees are now required to submit reports pursuant to 10 CFR §§ 20.407 and 20.408: geologic repositories for high-level radioactive waste; receivers of radioactive waste from other persons for land disposal; and independent installations for the storage of spent fuel.

which had already been reported. Although attempts have been made to correct for some of these problems, they are still an additional source of error in any statistics developed from the termination data.

TABLE 12  
 TERMINATION REPORTS SUBMITTED FOR REACTOR PERSONNEL  
 1969 - 1983

| 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   | 81,704                        | 36,864                            |
| 1978   | 85,308                        | 37,359                            |
| 1979   | 118,218                       | 48,305                            |
| 1980   | 162,515                       | 65,092                            |
| 1981*  | 177,832*                      | 66,902*                           |
| 1982** | 153,390**                     | 56,491**                          |
| 1983** | 86,223**                      | 34,563**                          |

\*Data were updated based on more recent compilations.

\*\*Not all of the termination data for individuals terminating during 1982 and 1983 have been entered into the REIRS.

#### 4.3 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, a "transient" worker is defined here as an individual who began and terminated employment at two or more different licensed facilities within one calendar quarter. This allows

one to examine the doses of those workers most likely to approach the quarterly limits without the licensee'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 increasing at a much smaller rate. The top part of Table 13 shows that the average individual dose (which is close to being a quarterly dose for most of these workers) showed a decreasing trend in the earlier years and has remained at about 0.42 rems (cSv) for the last two years.

The bottom half of the table separates the information shown in the top part and presents the doses of the workers employed by two, three, and four or more different reactor licensees. The majority of these workers each year were reported by two different licensees during a quarter. The smaller number of workers terminated by three or more licensees received higher average doses than those terminated by two employers every year except for 1982. Examinations of these records have revealed that some individuals have worked for as many as six different NRC licensees during one calendar quarter. However, on the average, less than two instances per year have been found in which a worker exceeded his quarterly limit of 3 rems (cSv) as a result of his working at two or more different licensed facilities within one calendar quarter. In a few of these instances, the doses that the workers had received while employed by the first utility were revised upward later in the year. The under estimates resulted in quarterly doses that slightly exceeded 3 rems (cSv). A very few quarterly exposure exceeding 3 rems (cSv) may have gone undetected because a worker's dose was received over a period spanning more than one quarter and was reported for the entire period. When this happens, it is not possible to determine the portion of the dose received during each quarter.

#### 4.4 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 so 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 summing each worker's whole body doses. An examination of these data would allow one to determine the number and average dose for the "annual transients." Table 14 presents the number and doses of the transients found among the individuals terminating during the six years 1977 through 1982. A similar collation has not been done for the 1983 data because not all of them have yet been computerized. One can see that the number of these workers increased from about 3,200 workers in 1977 to about 5,400 in 1980 and 1981. The 4,481 workers shown for 1982 may indicate a decreasing trend or may be due to the fact that all of the 1982 termination data have not yet been computerized. The average dose, however, remains at about 1 rem (cSv).

TABLE 13

TRANSIENT WORKERS PER CALENDAR QUARTER  
AT NUCLEAR POWER FACILITIES

1972 - 1982

| Year   | No. of<br>Commercial<br>Reactors | No. of Workers<br>Terminated by |                    | Collective<br>Dose<br>(Man-rems) | Average<br>Dose<br>(Rems) |
|--------|----------------------------------|---------------------------------|--------------------|----------------------------------|---------------------------|
|        |                                  | Two or More<br>Licensees        | Three<br>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   | 68                               | 1,754                           | 802                | 802                              | 0.46                      |
| 1980   | 69                               | 2,218                           | 1,033              | 1,033                            | 0.47                      |
| 1981*  | 71                               | 2,335                           | 952                | 952                              | 0.41                      |
| 1982** | 75                               | 1,922                           | 771                | 771                              | 0.40                      |

| Year   | No. of Workers<br>Terminated by<br>Two Licensees | Collective<br>Dose<br>(Man-rems) | Average<br>Dose<br>(Rems) | No. of Workers<br>Terminated by<br>Three Licensees | Collective<br>Dose<br>(Man-rems) | Average<br>Dose<br>(Rems) | No. of Workers<br>Terminated by<br>>Three Licensees | Collective<br>Dose<br>(Man-rems) | Average<br>Dose<br>(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  | 25                               | 0.51                      |
| 1980   | 1,896  | 856                              | 0.45                      | 259  | 140                              | 0.54                      | 63  | 36                               | 0.57                      |
| 1981*  | 1,967  | 780                              | 0.40                      | 308  | 145                              | 0.47                      | 60  | 27                               | 0.45                      |
| 1982** | 1,659  | 678                              | 0.41                      | 216  | 84                               | 0.39                      | 47  | 9                                | 0.19                      |

\*Revised according to latest compilations.

\*\*Figures for 1982 may be incomplete because all of the 1982 termination data may not have been computerized at this time.



TABLE 14  
TRANSIENT WORKERS PER CALENDAR YEAR  
AT NUCLEAR POWER FACILITIES

1977 - 1982

| Year   | No. of Commercial Reactors | No. of Workers Terminated by |                       | Collective Dose (Man-rem) | Average Dose (Rems) |
|--------|----------------------------|------------------------------|-----------------------|---------------------------|---------------------|
|        |                            | Two or More Licensees        | Two or More Licensees |                           |                     |
| 1977   | 57                         | 3,161                        | 3,776                 | 1.19                      |                     |
| 1978   | 64                         | 3,202                        | 3,231                 | 1.01                      |                     |
| 1979   | 68                         | 3,938                        | 3,891                 | 0.99                      |                     |
| 1980   | 69                         | 5,463                        | 6,028                 | 1.10                      |                     |
| 1981*  | 71                         | 5,425                        | 5,381                 | 0.99                      |                     |
| 1982** | 75                         | 4,481                        | 4,954                 | 1.11                      |                     |

| 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 or More Licensees | Collective Dose (Man-rem) | Average Dose (Rems) |
|--------|--|---------------------------|---------------------|--|---------------------------|---------------------|---|---------------------------|---------------------|
|        |  |                           |                     |  |                           |                     |   |                           |                     |
| 1978   | 2,119                                      | 1,490                     | 0.70                | 621  | 792                       | 1.28                | 462   | 949                       | 2.05                |
| 1979   | 2,761                                      | 2,097                     | 0.76                | 688  | 805                       | 1.17                | 489   | 989                       | 2.02                |
| 1980   | 3,772                                      | 3,444                     | 0.91                | 959  | 1,245                     | 1.30                | 732   | 1,339                     | 1.83                |
| 1981*  | 3,745                                      | 3,033                     | 0.81                | 924  | 1,172                     | 1.27                | 756   | 1,176                     | 1.56                |
| 1982** | 3,059                                      | 3,025                     | 0.99                | 829  | 1,055                     | 1.27                | 596   | 874                       | 1.47                |

\*Revised according to latest compilations.

\*\*Figures for 1982 may be incomplete because all of the 1982 termination data may not have been computerized at this time.

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 the year. The average dose of workers employed by two licensees increased to 0.99 rem (cSv) in 1982, while the average dose of those employed by three licensees remained at 1.27 rems (cSv). The average dose of workers employed by four or more licensees has continued to decline from a value of 2.24 rems (cSv) in 1977 to a value of 1.47 rems (cSv) in 1982.

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 annual summary (Table 7) for all nuclear power facilities (one of the problems 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 each of the years shown, each of the transient workers was counted an average of 2.6 times. This was not surprising because some individuals were reported by as many as nine different facilities.

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 years 1978 through 1982. Since each nuclear power facility reports the distribution of the doses received by workers while monitored by the particular facility during the year, one would expect that a summation 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 number of workers, their dose distribution and average dose would be affected by this multiple reporting. This was found to be true because too few workers were reported in the higher dose ranges. For example, in 1982 the compiled annual reports indicated that 84,404 workers received a measurable dose, 74 of whom received doses greater than 5 rems (cSv). After accounting for those individuals that were reported more than once, the adjusted distribution indicated that there were only 79,697 workers that received a measurable dose and that 125 of them received doses greater than five rems (cSv). This resulted in an average measurable dose of 0.71 rem (cSv) rather than the 0.66 rem (cSv) obtained from the compiled reports.

Since the number of transient workers receiving measurable doses is only about five percent of the total number of workers 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. However, when examining the distribution of doses over five rems, one finds that the adjusted statistical distribution indicates that the number of workers who received doses over five rems (cSv) each year was between 50 and 80 more than the number found in the compiled statistical distribution. This is

TABLE 15a  
ACTUAL AND COMPILED DOSE DISTRIBUTIONS OF  
TRANSIENT WORKERS PER CALENDAR YEAR AT POWER REACTORS

| Type of Distribution and Year              | Number of Individuals with Whole Body Doses in the Ranges (Rems) |                |           |           |           |           |           |           |           |           |           |           |           |           |            |     |  | Total Individuals | Avg. Dose (Rems)   | Avg. Meas. Dose (Rems) |      |
|--|--|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----|--|-------------------|--------------------|------------------------|------|
|  | Less than Measurable   | Meas'ble <0.10 | 0.10-0.25 | 0.25-0.50 | 0.50-0.75 | 0.75-1.00 | 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 |  |                   |                    |                        |      |
|  |  |                |           |           |           |           |           |           |           |           |           |           |           |           |            |     |  |                   |                    |                        |      |
| Actual Distribution of Transients - 1978   | 308  | 885            | 317       | 282       | 177       | 131       | 463       | 307       | 168       | 107       | 42        | 13        | 1         | 0         | 1          |     |  | 3,202             | b <sub>3,231</sub> | 1.01                   | 1.12 |
| Compiled Distribution of Transients - 1978 | 2,079  | 2,423          | 918       | 788       | 488       | 382       | 873       | 262       | 51        | 11        | 0         | 2         |           |           |            |     |  | 8,277             | b <sub>3,231</sub> | 0.39                   | 0.52 |
| Actual Distribution of Transients - 1979   | 373  | 883            | 398       | 358       | 281       | 240       | 678       | 410       | 195       | 71        | 32        | 14        | 4         | 1         |            |     |  | 3,938             | b <sub>3,868</sub> | 0.99                   | 1.09 |
| Compiled Distribution of Transients - 1979 | 2,130  | 2,676          | 1,259     | 1,048     | 673       | 460       | 1,040     | 313       | 46        | 3         | 1         |           |           |           |            |     |  | 9,649             | b <sub>3,868</sub> | 0.40                   | 0.52 |
| Actual Distribution of Transients - 1980   | 533  | 1,175          | 565       | 482       | 388       | 277       | 829       | 595       | 353       | 174       | 47        | 25        | 15        | 4         | 1          |     |  | 5,463             | b <sub>6,028</sub> | 1.10                   | 1.22 |
| Compiled Distribution of Transients - 1980 | 3,207  | 3,910          | 1,639     | 1,398     | 900       | 661       | 1,632     | 503       | 74        | 29        | 4         | 4         |           |           |            |     |  | 13,956            | b <sub>6,028</sub> | 0.43                   | 0.56 |
| Actual Distribution of Transients - 1981   | 562  | 1,271          | 482       | 422       | 380       | 310       | 954       | 614       | 275       | 107       | 30        | 17        | 0         | 1         |            |     |  | 5,425             | b <sub>5,381</sub> | 0.99                   | 1.08 |
| Compiled Distribution of Transients - 1981 | 3,640  | 3,767          | 1,473     | 1,418     | 963       | 716       | 1,550     | 349       | 69        | 8         | 1         | 1         |           |           |            |     |  | 13,955            | b <sub>5,381</sub> | 0.39                   | 0.52 |
| Actual Distribution of Transients - 1982   | 494  | 1,048          | 359       | 337       | 263       | 240       | 731       | 485       | 307       | 164       | 34        | 18        | 0         | 0         | 0          | 1   |  | 4,481             | b <sub>4,954</sub> | 1.11                   | 1.24 |
| Compiled Distribution of Transients - 1982 | 3,030  | 2,964          | 1,469     | 1,079     | 708       | 578       | 1,328     | 472       | 78        | 17        | 1         |           |           |           |            |     |  | 11,724            | b <sub>4,954</sub> | 0.42                   | 0.57 |

TABLE 15b  
EFFECTS OF TRANSIENT WORKERS ON ANNUAL STATISTICAL COMPILATIONS

|   |        |        |        |        |       |       |        |       |       |     |     |     |    |   |   |   |  |         |        |      |      |
|---|--------|--------|--------|--------|-------|-------|--------|-------|-------|-----|-----|-----|----|---|---|---|--|---------|--------|------|------|
| <sup>a</sup> Compiled Statistical Distribution - 1978 | 31,039 | 16,673 | 6,943  | 5,504  | 3,399 | 2,498 | 6,405  | 2,989 | 1,080 | 418 | 67  | 26  | 8  | 0 | 0 | 2 |  | 77,051  | 31,806 | 0.41 | 0.69 |
| <sup>c</sup> Adjusted Statistical Distribution - 1978 | 29,268 | 15,135 | 6,342  | 4,998  | 3,088 | 2,247 | 5,955  | 3,034 | 1,197 | 514 | 109 | 37  | 9  | 0 | 1 | 2 |  | 71,976  | 31,668 | 0.45 | 0.74 |
| <sup>a</sup> Compiled Statistical Distribution - 1979 | 42,340 | 24,632 | 9,883  | 8,090  | 5,147 | 3,426 | 7,898  | 3,306 | 1,255 | 477 | 86  | 28  | 13 | 2 | 0 | 1 |  | 106,584 | 39,987 | 0.38 | 0.62 |
| <sup>c</sup> Adjusted Statistical Distribution - 1979 | 40,583 | 22,831 | 9,022  | 7,400  | 4,755 | 3,206 | 7,536  | 3,403 | 1,404 | 545 | 117 | 42  | 17 | 3 | 0 | 1 |  | 100,873 | 39,525 | 0.39 | 0.66 |
| <sup>a</sup> Compiled Statistical Distribution - 1980 | 47,377 | 29,695 | 11,751 | 9,820  | 6,082 | 4,518 | 11,474 | 4,615 | 1,537 | 686 | 192 | 98  | 18 | 3 |   |   |  | 128,668 | 53,799 | 0.42 | 0.67 |
| <sup>c</sup> Adjusted Statistical Distribution - 1980 | 44,703 | 26,960 | 10,677 | 8,904  | 5,570 | 4,134 | 10,671 | 4,607 | 1,816 | 831 | 235 | 119 | 29 | 7 | 1 |   |  | 120,166 | 53,626 | 0.45 | 0.72 |
| <sup>a</sup> Compiled Statistical Distribution - 1981 | 42,323 | 29,332 | 12,217 | 10,326 | 6,625 | 4,903 | 11,766 | 4,546 | 1,763 | 486 | 93  | 81  | 11 | 2 | 1 | 1 |  | 124,506 | 54,142 | 0.43 | 0.66 |
| <sup>c</sup> Adjusted Statistical Distribution - 1981 | 39,245 | 26,836 | 11,226 | 9,330  | 6,042 | 4,497 | 11,170 | 4,811 | 1,969 | 585 | 122 | 91  | 11 | 3 | 1 | 1 |  | 115,946 | 54,142 | 0.47 | 0.71 |
| <sup>a</sup> Compiled Statistical Distribution - 1982 | 45,871 | 31,502 | 12,693 | 10,814 | 6,739 | 4,795 | 10,855 | 4,686 | 1,814 | 432 | 56  | 13  | 4  | 0 | 1 |   |  | 130,275 | 52,191 | 0.40 | 0.62 |
| <sup>c</sup> Adjusted Statistical Distribution - 1982 | 43,335 | 29,586 | 11,583 | 10,072 | 6,294 | 4,457 | 10,258 | 4,699 | 2,043 | 579 | 89  | 30  | 4  | 0 | 1 | 1 |  | 123,032 | 52,191 | 0.42 | 0.65 |

<sup>a</sup>Includes data from Fort St. Vrain.

<sup>b</sup>Collective dose found by summing the actual doses reported for those 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.

more clearly shown in Table 16, where it can also be seen that in 1982 the number of workers receiving doses greater than five rems (cSv) fell to 125, 0.2% of the work force. Similar corrections and tables for the 1983 annual data will be presented in a subsequent report.

TABLE 16  
ANNUAL WHOLE BODY DOSES EXCEEDING FIVE REMS (cSv)

| Year  | Compiled Number<br>>5 Rems | Adjusted Number<br>>5 Rems | Percent of<br>Workers |
|-------|----------------------------|----------------------------|-----------------------|
| 1977  | 270                        | 351                        | 0.9                   |
| 1978  | 103                        | 158                        | 0.4                   |
| 1979  | 130                        | 180                        | 0.3                   |
| 1980  | 311                        | 391                        | 0.5                   |
| 1981  | 189                        | 235                        | 0.3                   |
| 1982* | 74                         | 125                        | 0.2                   |

#### 4.5 Temporary Workers Per Calendar Year

To complete the examination of the doses received by the short-term workers employed at nuclear power facilities, Table 17 summarizes the data compiled on "temporary workers". For purpose of this report, temporary workers were defined to be those individuals who began and ended their employment at only one nuclear power facility during the calendar year. Table 17 shows that the number of these individuals has grown each year except for 1982 when the number receiving measurable doses decreased by about 4,000 to around 24,000 workers. Comparison of these figures with those in Table 15b reveals that these workers comprised 31% of the total number of workers (76,701) receiving a measurable dose in 1982, while their collective dose was only 25% of the total collective dose. Their average measurable dose of 0.57 rem (cSv) was also less than the overall average of 0.65 rem (cSv).

TABLE 17  
TEMPORARY WORKERS PER CALENDAR YEAR  
(Individuals terminated by only one employer)

| YEAR  | No. of<br>Reactors | Total No.<br>Monitored | No. with<br>Meas'ble Dose | Collective<br>Dose<br>(man-rems) | Avg. Dose<br>(rems) | Avg. Meas'ble<br>Dose (rems) |
|-------|--------------------|------------------------|---------------------------|----------------------------------|---------------------|------------------------------|
| 1977  | 57                 | 29,090                 | 19,094                    | 11,373                           | 0.39                | 0.60                         |
| 1978  | 64                 | 28,864                 | 17,110                    | 9,821                            | 0.34                | 0.57                         |
| 1979  | 68                 | 38,347                 | 21,491                    | 9,488                            | 0.25                | 0.44                         |
| 1980  | 69                 | 48,383                 | 28,305                    | 16,168                           | 0.33                | 0.57                         |
| 1981  | 71                 | 48,265                 | 28,675                    | 16,755                           | 0.35                | 0.58                         |
| 1982* | 75                 | 40,264                 | 24,049                    | 13,723                           | 0.34                | 0.57                         |

\*Figures for 1982 may be incomplete because all of the 1982 termination data have not yet been computerized.

## 5. OVEREXPOSURES TO RADIATION

The term "overexposure" as used in this report refers to exposures to radiation or radioactive material that exceeded quarterly control limits established by NRC regulations. When these limits are exceeded for any reason, licensees are required to report the occurrence to the NRC, thus providing for investigations and corrective action as necessary. The term "overexposure" is not necessarily intended to indicate that a worker has been subjected to an unacceptable biological risk. The "overexposures" reported in 1983 are cases in point.

In 1983 there were seven individuals reported as being overexposed; the largest dose being 3.9 rems (cSv). Doses of five individuals exceeded the 1.25-rem (cSv) quarterly limit; the doses of the two others exceeded the 3-rem (cSv) quarterly limit.\* All seven cases occurred because of dose-tracking errors. Five "overexposures" occurred during the second quarter of 1983 at the Surry nuclear plant when five contract workers received whole body doses between 1.6 and 2.4 rems (cSv). These were reportable exposures because forms indicating their previous radiation exposures because forms indicating their previous radiation exposure histories had not yet been completed, and the 3-rem (cSv) per quarter limit therefore could not be used. Similar dose-tracking errors at the Browns Ferry and the H. B. Robinson nuclear plants resulted in workers receiving quarterly. Table 18 presents the number and types of exposures exceeding NRC limits that have been reported by power reactors pursuant to 10 CFR § 20.403 and § 20.405 since 1971.

---

\*Three rems (cSv) per quarter are allowed if the workers occupational dose history has been obtained and his accumulated dose indicates an annual average of 5 rems (cSv) or less.

TABLE 18  
OVEREXPOSURES AT POWER REACTORS

1971 - 1983

| Year | Number of Workers Overexposed to External Radiation | Sum of Whole Body Doses (man-rems) | 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 rems (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 rems (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 | 23  | 43.4                               | 10.1                           | 0   | ---                |
| 1980 | 73  | 266.2                              | 4.9                            | 0   | ---                |
| 1981 | 7   | 35.4                               | 21                             | 0   | ---                |
| 1982 | 2   | 14.4                               | 9.4                            | 0   | ---                |
| 1983 | 7   | 17.2                               | 3.9                            | 0   | ---                |

## REFERENCES

1. U. S. Nuclear Regulatory Commission, "Licensed Operating Reactors Status Summary Report," USNRC Report NUREG-0020, 1975-1982.\*
2. U. S. Energy Research and Development Administration, "Operating History, U. S. Central Station Nuclear Power Plants, 1976," USERDA Report ERDA-77-125.
3. U. S. Atomic Energy Commission, "Nuclear Power Plant Operating Experience During 1973," USAEC Report OOE-ES-004, December 1974.\*
4. U. S. Nuclear Regulatory Commission, "Nuclear Power Plant Operating Experience 1974-1975," USNRC Report NUREG-0227, April 1977.\*
5. U. S. Nuclear Regulatory Commission, "Nuclear Power Plant Operating Experience 1976," USNRC Report NUREG-0366, December 1977.\*
6. M. R. Beebe, "Nuclear Power Plant Operating Experience 1977," USNRC Report NUREG-0483, February 1979.\*
7. "Nuclear Power Plant Operating Experience 1978," USNRC Report NUREG-0618, December 1979.\*
8. "Nuclear Power Plant Operating Experience - 1979," USNRC Report NUREG/CR-1496, May 1981.\*
9. "Nuclear Power Plant Operating Experience - 1980," USNRC Report NUREG/CR-2378, ORNL/NSIC-191, October, 1982.\*
10. "Nuclear Power Plant Operating Experience - 1981," USNRC Report NUREG/CR-3430, ORNL/NSIC-215, vol. 1, December, 1983.\*
11. United Nations, "Report of the Scientific Committee on the Effects of Atomic Radiation," Annex H, General Assembly of Official Records, 1982, United Nations, New York.
12. "Trends in Nuclear Power Plant Man-Rem Per Megawatt-Year," L. A. Cross, A. P. Cross, presented to American Nuclear Society-European Nuclear Society International Conference, Washington, D.C., November 17-20, 1980.
13. Brodsky, A., R. Specht, B. Brooks, et. al., "Log-Normal Distributions of Occupational Exposure in Medicine and Industry." Presented at the 9th Midyear Topical Symposium of the Health Physics Society, 1976.

---

\*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.

14. Kumazawa, S. and T. Numakunai, "A New Theoretical Analysis of Occupational Dose Distributions Indicating the Effect of Dose Limits," Health Physics, Vol. 41, No. 3, 1981.
15. Kumazawa, S. and T. Numakunai, "A Method for Implementation of ALARA for Occupational Exposure Using the Hybrid Lognormal Model." Presented at the 27th Annual Meeting of the Health Physics Society, July 1, 1982.
16. National Academy of Sciences, "The Effects on Populations of Exposure to Low Levels of Ionizing Radiation: 1980," Committee on the Biological Effects of Ionizing Radiations, July 1980. Available from the National Academy Press, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.



APPENDIX A\*

Personnel, Dose and Power Generation Summary

1969 - 1983

---

\*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-rems | Man-rems per Work Function |                 | Man-rems per Contractor | Man-rems per Station & Utility | Average Dose per Worker (Rems) | Man-rems per MW-Yr |
|---|--|------------------------|--------------------------|---------------------------------------|----------------|----------------------------|-----------------|-------------------------|--------------------------------|--------------------------------|--------------------|
|   |  |                        |                          |                                       |                | Operations                 | Maint. & Others |                         |                                |                                |                    |
| ARKANSAS 1, 2<br>Docket 50-313; DPR-51, NPF-6<br>1st commercial operation 12/74, -<br>Type - PWR<br>Capacity - 836, 858 MWe | 1975   | 588.0                  | 76.5                     | 147                                   | 21             | 27                         | 262             | 100                     | 189                            | 0.14                           | 0.0                |
|   | 1976   | 464.6                  | 56.6                     | 476                                   | 289            | 28                         | 228             | 111                     | 145                            | 0.61                           | 0.6                |
|   | 1977   | 610.3                  | 76.8                     | 601                                   | 296            | 32                         | 157             | 109                     | 80                             | 0.43                           | 0.4                |
|   | 1978   | 627.2                  | 77.5                     | 722                                   | 189            | 54                         | 315             | 252                     | 117                            | 0.26                           | 0.3                |
|   | 1979   | 397.0                  | 55.3                     | 1321                                  | 369            | 81                         | 261             | 213                     | 129                            | 0.28                           | 0.9                |
|   | 1980   | 452.8                  | 63.7                     | 1233                                  | 342            | 130                        | 972             | 843                     | 259                            | 0.28                           | 0.8                |
|   | 1981   | 1104.7                 | 68.3                     | 2225                                  | 1102           | 97                         | 706             | 505                     | 298                            | 0.50                           | 1.0                |
|   | 1982   | 905.4                  | 58.6                     | 1608                                  | 803            | 97                         | 1300            | 1145                    | 252                            | 0.50                           | 0.9                |
|   | 1983   | 915.0                  | 54.6                     | 2109                                  | 1397           | 97                         | 1300            | 1145                    | 252                            | 0.66                           | 1.5                |
|   | BEAVER VALLEY 1<br>Docket 50-334; DPR-66<br>1st commercial operation 10/76<br>Type - PWR<br>Capacity - 810 MWe | 1977                   | 355.6                    | 57.0                                  | 331            | 87                         | 8               | 79                      | 58                             | 29                             | 0.26               |
| 1978  | 304.2  | 40.8                   | 646                      | 190                                   | 11             | 179                        | 152             | 152                     | 38                             | 0.29                           | 0.6                |
| 1979  | 221.0  | 40.0                   | 704                      | 132                                   | 22             | 110                        | 67              | 67                      | 65                             | 0.19                           | 0.6                |
| 1980  | 39.8   | 6.8                    | 1817                     | 553                                   | 76             | 477                        | 477             | 477                     | 76                             | 0.30                           | 13.9               |
| 1981  | 573.4  | 73.6                   | 1237                     | 229                                   | 38             | 191                        | 142             | 142                     | 87                             | 0.19                           | 1.4                |
| 1982  | 326.7  | 41.6                   | 1755                     | 599                                   | 126            | 473                        | 481             | 481                     | 118                            | 0.34                           | 1.8                |
| 1983  | 561.2  | 68.2                   | 1485                     | 772                                   | 158            | 614                        | 614             | 615                     | 157                            | 0.52                           | 1.4                |
| BIG ROCK POINT<br>Docket 50-155, DPR-6<br>1st commercial operation 3/63<br>Type - BWR<br>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              | 42                      | 234                            | 0.98                           | 6.8                |
| 1975  | 35.1   | 59.8                   | 300                      | 180                                   | 58             | 122                        | 20              | 20                      | 160                            | 0.60                           | 5.1                |
| 1976  | 29.5   | 50.1                   | 488                      | 289                                   | 82             | 207                        | 105             | 105                     | 184                            | 0.59                           | 9.8                |
| 1977  | 43.6   | 73.4                   | 465                      | 334                                   | 94             | 240                        | 60              | 60                      | 274                            | 0.72                           | 7.7                |
| 1978  | 48.5   | 77.9                   | 285                      | 175                                   | 93             | 82                         | 9               | 9                       | 166                            | 0.61                           | 3.6                |
| 1979  | 13.0   | 23.5                   | 623                      | 455                                   | 89             | 366                        | 102             | 102                     | 353                            | 0.73                           | 35.0               |

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 Contract | Man-rem per Personnel Type Station & Utility | Average Dose per Worker (Rems) | Man-rem per MW-Yr |
|---|--|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|----------------------|--|--------------------------------|-------------------|
|   |  |                        |                          |                                       |               | Operations                | Maint. & Others |                      |  |                                |                   |
| BIG ROCK POINT (Continued)  | 1980   | 48.9                   | 79.0                     | 599                                   | 354           | 16                        | 338             | 91                   | 263  | 0.59                           | 7.2               |
|   | 1981   | 56.9                   | 90.6                     | 479                                   | 160           | 58                        | 102             | 38                   | 122  | 0.33                           | 2.8               |
|   | 1982   | 43.6                   | 70.8                     | 521                                   | 328           | 129                       | 199             | 68                   | 260  | 0.63                           | 7.5               |
|   | 1983   | 42.3                   | 71.0                     | 493                                   | 263           | 32                        | 231             | 55                   | 208  | 0.53                           | 6.9               |
| BROWNS FERRY 1, 2, 3<br>Docket 50-259, 50-260, 50-296;<br>DPR-33, -52, -68<br>1st commercial operation 8/74,<br>3/75, 3/77<br>Type - BWR<br>Capacity - 1065, 1065, 1065 MWe | 1975   | 161.7                  | 17.8                     | 2380                                  | 325           |                           |                 |                      |  | 0.14                           | 2.0               |
|   | 1976   | 337.6                  | 26.9                     | 2207                                  | 234           |                           |                 |                      |  | 0.11                           | 0.7               |
|   | 1977   | 1327.5                 | 73.0                     | 1858                                  | 863           | 60                        | 803             | 249                  | 614  | 0.46                           | 0.6               |
|   | 1978   | 1992.1                 | 73.5                     | 2376                                  | 1792          | 4                         | 1788            | 259                  | 1533   | 0.75                           | 0.9               |
|   | 1979   | 2393.0                 | 79.1                     | 2689                                  | 1667          | 0                         | 1667            | 289                  | 1378   | 0.62                           | 0.7               |
|   | 1980   | 2182.1                 | 73.6                     | 2712                                  | 1825          | 4                         | 1821            | 49                   | 1776   | 0.67                           | 0.8               |
|   | 1981   | 2132.9                 | 69.5                     | 3379                                  | 2380          | 100                       | 2280            | 404                  | 1976   | 0.70                           | 1.1               |
|   | 1982   | 2025.4                 | 67.6                     | 3277                                  | 2220          | 181                       | 2039            | 317                  | 1903   | 0.68                           | 1.1               |
|   | 1983   | 1641.0                 | 54.3                     | 3302                                  | 3363          | 276                       | 3087            | 908                  | 2454   | 1.02                           | 2.0               |
|   | BRUNSWICK 2, 1<br>Docket 50-324, 50-325; DPR-62, -71<br>1st commercial operation 11/75,<br>3/77<br>Type - BWR<br>Capacity - 790, 790 MWe | 1976                   | 297.2                    | 56.0                                  | 1265          | 326                       | 15              | 311                  | 222  | 104                            | 0.26              |
| 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               |
| 1981  |  | 925.2                  | 56.9                     | 3854                                  | 2638          | 159                       | 2479            | 1890                 | 748  | 0.68                           | 2.9               |
| 1982  |  | 540.3                  | 50.3                     | 4957                                  | 3792          | 162                       | 3630            | 2841                 | 951  | 0.76                           | 6.5               |
| 1983  | 636.7  | 40.6                   | 5602                     | 3475                                  | 152           | 3323                      | 2428            | 1047                 | 0.62   | 5.5                            |                   |
| CALVERT CLIFFS 1, 2<br>Docket 50-317, 50-318; DPR-53,<br>-69  | 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               |

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 Station & Utility | Average Dose per Worker (REMS) | Man-REMS per MW-Yr |
|--|------|------------------------|--------------------------|---------------------------------------|----------------|----------------------------|-----------------|-------------------------|--------------------------------|--------------------------------|--------------------|
|  |      |                        |                          |                                       |                | Operations                 | Maint. & Others |                         |                                |                                |                    |
| CALVERT CLIFFS 1, 2 (Continued)<br>1st commercial operation 5/75,<br>4/77<br>Type - PWR<br>Capacity 825, 825 MWe                 | 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                |
|  | 1981 | 1379.7                 | 83.1                     | 1555                                  | 607            | 29                         | 578             | 378                     | 229                            | 0.39                           | 0.4                |
|  | 1982 | 1238.3                 | 73.7                     | 1805                                  | 1057           | 84                         | 973             | 402                     | 655                            | 0.59                           | 0.8                |
|  | 1983 | 1397.2                 | 81.6                     | 1915                                  | 668            | 5                          | 663             | 143                     | 525                            | 0.35                           | 0.5                |
| COOK 1, 2<br>Docket 50-315; DPR-58, -74<br>1st commercial operation 8/75,<br>7/78<br>Type - PWR<br>Capacity - 1020 MWe, 1060 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                |
|  | 1981 | 1557.3                 | 73.4                     | 1341                                  | 655            | 48                         | 607             | 442                     | 213                            | 0.49                           | 0.4                |
|  | 1982 | 1461.6                 | 69.8                     | 1527                                  | 699            | 67                         | 632             | 472                     | 227                            | 0.46                           | 0.5                |
|  | 1983 | 1456.5                 | 71.2                     | 1418                                  | 658            | 50                         | 608             | 467                     | 191                            | 0.46                           | 0.5                |
| COOPER STATION<br>Docket 50-298; DPR-46<br>1st commercial operation 7/74<br>Type - BWR<br>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                |
|  | 1981 | 457.1                  | 71.2                     | 935                                   | 579            | 63                         | 516             | 382                     | 197                            | 0.62                           | 1.3                |
|  | 1982 | 622.3                  | 84.6                     | 743                                   | 542            | 66                         | 476             | 361                     | 181                            | 0.73                           | 0.9                |
|  | 1983 | 396.6                  | 63.3                     | 1383                                  | 1293           | 57                         | 1236            | 1081                    | 212                            | 0.93                           | 3.3                |

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 Operations | Man-rems per Function Maint. & Others | Man-rems per Contractor | Man-rems per Personnel Type Station & Utility | Average Dose per Worker (Rems) | Man-rems per MW-Yr |
|--|--------|------------------------|--------------------------|---------------------------------------|----------------|------------------------------|---------------------------------------|-------------------------|---|--------------------------------|--------------------|
| CRYSTAL RIVER 3<br>Docket 50-302; DPR-72<br>1st commercial operation 3/77<br>Type - PWR<br>Capacity - 811 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                |
|  | 1981   | 490.4                  | 62.2                     | 1120                                  | 408            | 18                           | 340                                   | 236                     | 172   | 0.36                           | 0.8                |
|  | 1982   | 589.8                  | 76.0                     | 780                                   | 177            | 9                            | 168                                   | 116                     | 61  | 0.23                           | 0.3                |
|  | 1983   | 452.1                  | 58.8                     | 1720                                  | 552            | 71                           | 481                                   | 353                     | 199   | 0.32                           | 1.2                |
| DAVIS-BESSE 1<br>Docket 50-346; NPF-3<br>1st commercial operation 11/77<br>Type - PWR<br>Capacity - 874 MWe  | 1978   | 326.4                  | 48.7                     | 421                                   | 48             | 13                           | 35                                    | 14                      | 34  | 0.11                           | 0.1                |
|  | 1979   | 381.0                  | 67.0                     | 304                                   | 30             | 8                            | 22                                    | 5                       | 25  | 0.10                           | 0.1                |
|  | 1980   | 256.4                  | 36.2                     | 1283                                  | 154            | 4                            | 150                                   | 121                     | 33  | 0.12                           | 0.6                |
|  | 1981   | 531.4                  | 67.4                     | 578                                   | 58             | 1                            | 57                                    | 32                      | 26  | 0.10                           | 0.1                |
|  | 1982   | 390.8                  | 51.5                     | 1350                                  | 164            | 12                           | 152                                   | 139                     | 25  | 0.12                           | 0.4                |
|  | 1983   | 592.1                  | 73.0                     | 718                                   | 80             | 6                            | 74                                    | 46                      | 34  | 0.11                           | 0.1                |
| DRESDEN 1,* 2, 3<br>Docket 50-010, 50-237, 50-249;<br>DPR-2, -19, -25<br>1st commercial operation 7/60,<br>7/70, 11/71<br>Type - BWR<br>Capacity - 197, 772, 773 MWe | 1969   | 99.7                   |                          |                                       | 286            |                              |                                       |                         |   |                                | 2.9                |
|  | 1970   | 163.1                  |                          |                                       | 143            |                              |                                       |                         |   |                                | 0.9                |
|  | 1971   | 394.5                  |                          |                                       | 715            |                              |                                       |                         |   |                                | 1.8                |
|  | 1972   | 1243.7                 |                          |                                       | 728            |                              |                                       |                         |   |                                | 0.6                |
|  | 1973   | 1112.2                 |                          | 1341                                  | 939            | 143                          | 796                                   | 344                     | 595   | 0.70                           | 0.8                |
|  | 1974   | 842.5                  | 54.9                     | 1594                                  | 1662           |                              |                                       | 57                      | 1605  | 1.04                           | 2.0                |
|  | 1975   | 708.1                  | 54.6                     | 2310                                  | 3423           | 271                          | 3152                                  | 2252                    | 1171  | 1.48                           | 4.8                |
|  | 1976   | 1127.2                 | 80.8                     | 1746                                  | 1680           | 228                          | 1452                                  | 749                     | 931   | 0.96                           | 1.5                |
|  | 1977   | 1132.9                 | 77.0                     | 1862                                  | 1693           | 316                          | 1377                                  | 693                     | 1000  | 0.91                           | 1.5                |
|  | 1978   | 1242.2                 | 79.5                     | 1946                                  | 1529           | 204                          | 1325                                  | 619                     | 910   | 0.79                           | 1.2                |
|  | 1979   | 1013.0                 | 74.7                     | 2407                                  | 1800           | 191                          | 1609                                  | 641                     | 1159  | 0.75                           | 1.8                |
|  | 1980   | 1074.4                 | 55.0                     | 2717                                  | 2105           | 236                          | 1869                                  | 1093                    | 1012  | 0.77                           | 2.0                |
|  | 1981   | 1035.7                 | 51.5                     | 2408                                  | 2802           | 120                          | 2682                                  | 1850                    | 952   | 1.16                           | 2.7                |
| 1982   | 1085.3 | 77.9                   | 2572                     | 2923                                  | 136            | 2787                         | 1731                                  | 1192                    | 1.14  | 2.7                            |                    |
| 1983   | 913.6  | 65.6                   | 2854                     | 3582                                  | 176            | 3406                         | 2127                                  | 1455                    | 1.26  | 3.9                            |                    |

\*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-rem | Man-rem per Work Function |                 | Man-rem per Personnel |                   | Average Dose per Worker (Rems) | Man-rem per MW-Yr |
|---|------|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|-----------------------|-------------------|--------------------------------|-------------------|
|   |      |                        |                          |                                       |               | Operations                | Maint. & Others | Contractor            | Station & Utility |                                |                   |
| DUANE ARNOLD<br>Docket 50-331; DPR-49<br>1st commercial operation 2/75<br>Type - BWR<br>Capacity - 515 MWe                          | 1976 | 305.2                  | 78.0                     | 350                                   | 105           | 14                        | 91              | 62                    | 43                | 0.30                           | 0.3               |
|   | 1977 | 353.6                  | 78.9                     | 538                                   | 299           | 36                        | 263             | 220                   | 79                | 0.56                           | 0.8               |
|   | 1978 | 149.2                  | 33.2                     | 1112                                  | 974           | 59                        | 915             | 932                   | 42                | 0.88                           | 6.5               |
|   | 1979 | 352.0                  | 78.0                     | 757                                   | 275           | 35                        | 240             | 219                   | 56                | 0.36                           | 0.8               |
|   | 1980 | 339.1                  | 73.3                     | 1108                                  | 671           | 32                        | 639             | 570                   | 101               | 0.61                           | 2.0               |
|   | 1981 | 277.7                  | 69.8                     | 1286                                  | 790           | 56                        | 734             | 598                   | 192               | 0.61                           | 2.8               |
|   | 1982 | 278.5                  | 74.7                     | 524                                   | 229           | 18                        | 211             | 175                   | 54                | 0.44                           | 0.8               |
|   | 1983 | 283.0                  | 62.9                     | 1468                                  | 1135          | 42                        | 1093            | 1016                  | 119               | 0.77                           | 4.0               |
| FARLEY 1, 2<br>Docket 50-348, 50-364; NPF-2, -8<br>1st commercial operation 12/77,<br>7/81<br>Type - PWR<br>Capacity - 804, 814 MWe | 1978 | 713.8                  | 86.5                     | 527                                   | 108           | 39                        | 69              | 34                    | 74                | 0.20                           | 0.1               |
|   | 1979 | 211.0                  | 28.6                     | 1227                                  | 643           | 108                       | 535             | 460                   | 183               | 0.52                           | 3.0               |
|   | 1980 | 557.3                  | 69.3                     | 1330                                  | 435           | 106                       | 329             | 185                   | 250               | 0.33                           | 0.8               |
|   | 1981 | 310.2                  | 41.4                     | 1331                                  | 511           | 96                        | 415             | 270                   | 241               | 0.38                           | 1.6               |
|   | 1982 | 1271.5                 | 79.2                     | 1453                                  | 484           | 155                       | 329             | 196                   | 288               | 0.33                           | 0.4               |
|   | 1983 | 1356.5                 | 82.9                     | 1938                                  | 1021          | 241                       | 780             | 479                   | 542               | 0.53                           | 0.8               |
|   | 1983 | 1356.5                 | 82.9                     | 1938                                  | 1021          | 241                       | 780             | 479                   | 542               | 0.53                           | 0.8               |
| FITZPATRICK<br>Docket 50-333; DPR-59<br>1st commercial operation 7/75<br>Type - BWR<br>Capacity - 810 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          | 187                       | 1238            | 1072                  | 353               | 0.99                           | 4.0               |
|   | 1981 | 562.9                  | 74.7                     | 2490                                  | 1425          | 136                       | 1054            | 862                   | 328               | 0.57                           | 2.5               |
|   | 1982 | 583.6                  | 75.0                     | 2322                                  | 1190          | 158                       | 932             | 667                   | 423               | 0.51                           | 2.0               |
|   | 1983 | 546.2                  | 70.6                     | 1715                                  | 1090          | 158                       | 932             | 667                   | 423               | 0.64                           | 2.0               |

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 |                             |                                |                    |     |
| FORT CALHOUN<br>Docket 50-285; DPR-40<br>1st commercial operation 9/73<br>Type - PWR<br>Capacity - 438 MWe | 1974  | 294.0                  | 83.5                     | 327                                   | 71             |                            |                 | 24                          | 0.22                           | 0.2                |     |
|  | 1975  | 252.3                  | 67.4                     | 469                                   | 294            |                            |                 | 92                          | 0.63                           | 1.2                |     |
|  | 1976  | 265.9                  | 69.5                     | 516                                   | 313            |                            | 285             | 38                          | 0.61                           | 1.2                |     |
|  | 1977  | 351.8                  | 79.4                     | 535                                   | 297            | 28                         | 264             | 72                          | 0.56                           | 0.8                |     |
|  | 1978  | 342.3                  | 75.1                     | 596                                   | 410            | 33                         | 351             | 151                         | 0.69                           | 1.2                |     |
|  | 1979  | 440.0                  | 95.7                     | 451                                   | 126            | 19                         | 107             | 47                          | 0.28                           | 0.3                |     |
|  | 1980  | 242.3                  | 60.4                     | 891                                   | 668            | 38                         | 630             | 426                         | 0.75                           | 2.8                |     |
|  | 1981  | 260.9                  | 72.3                     | 822                                   | 458            | 61                         | 397             | 254                         | 0.56                           | 1.8                |     |
|  | 1982  | 418.0                  | 89.7                     | 604                                   | 217            | 44                         | 173             | 99                          | 0.36                           | 0.5                |     |
|  | 1983  | 330.4                  | 73.1                     | 860                                   | 433            | 66                         | 367             | 205                         | 0.50                           | 1.3                |     |
|  | GINNA<br>Docket 50-244; DPR-18<br>1st commercial operation 7/70<br>Type - PWR<br>Capacity - 470 MWe | 1971                   | 327.8                    |                                       | 340            | 430                        | 69              | 361                         | 108                            | 1.26               | 1.3 |
|  |   | 1972                   | 293.6                    |                                       | 677            | 1032                       | 71              | 961                         | 278                            | 1.52               | 3.5 |
|  |   | 1973                   | 409.5                    |                                       | 319            | 224                        | 55              | 169                         | 84                             | 0.70               | 0.5 |
| 1974   |   | 253.7                  | 62.4                     | 884                                   | 1225           |                            |                 |                             | 1.39                           | 4.8                |     |
| 1975   |   | 365.2                  | 76.7                     | 685                                   | 538            |                            | 607             | 210                         | 0.78                           | 1.5                |     |
| 1976   |   | 248.8                  | 58.2                     | 758                                   | 636            | 29                         | 386             | 120                         | 0.84                           | 2.5                |     |
| 1977   |   | 365.6                  | 85.5                     | 530                                   | 401            | 15                         | 430             | 281                         | 0.76                           | 1.1                |     |
| 1978   |   | 386.5                  | 80.6                     | 657                                   | 450            | 20                         | 524             | 98                          | 0.68                           | 1.2                |     |
| 1979   |   | 355.0                  | 72.8                     | 878                                   | 592            | 68                         | 644             | 385                         | 0.67                           | 1.7                |     |
| 1980   |   | 370.5                  | 76.0                     | 1073                                  | 708            | 64                         | 606             | 302                         | 0.66                           | 1.9                |     |
| 1981   |   | 399.0                  | 82.1                     | 925                                   | 655            | 49                         | 1060            | 251                         | 0.71                           | 1.6                |     |
| 1982   |   | 289.0                  | 58.8                     | 1117                                  | 1140           | 80                         | 813             | 546                         | 1.02                           | 3.9                |     |
| 1983   |   | 365.0                  | 74.6                     | 969                                   | 855            | 42                         |                 | 378                         | 0.88                           | 2.3                |     |

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-rem | Man-rem per Work Function Operations | Man-rem per Maintenance & Others | Man-rem per Contractor | Man-rem per Station & Utility | Average Dose per Worker (Rems) | Man-rem per MW-Yr |     |
|--|--|------------------------|--------------------------|---------------------------------------|---------------|--------------------------------------|----------------------------------|------------------------|-------------------------------|--------------------------------|-------------------|-----|
| HADDAM NECK (CONN. YANKEE)<br>Docket 50-213; DPR-61<br>1st commercial operation 1/68<br>Type - PWR<br>Capacity - 569 MWe | 1969   | 438.5                  |                          | 138                                   | 106           |                                      |                                  | 27                     | 79                            | 0.77                           | 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                              | 18                     | 99                            | 0.72                           | 1.3               |     |
|  | 1978   | 563.4                  | 98.6                     | 216                                   | 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                             | 809                    | 227                           | 0.73                           | 3.2               |     |
|  | 1981   | 487.5                  | 84.3                     | 1554                                  | 1036          | 174                                  | 862                              | 22                     | 104                           | 0.67                           | 2.1               |     |
|  | 1982   | 543.9                  | 93.4                     | 559                                   | 126           | 46                                   | 80                               |                        |                               | 0.23                           | 0.2               |     |
|  | 1983   | 453.7                  | 77.8                     | 1645                                  | 1384          | 106                                  | 1278                             | 1017                   | 367                           | 0.84                           | 3.1               |     |
|  | HATCH 1, 2<br>Docket 50-321, 50-366; DPR-57;<br>NPF-05<br>1st commercial operation 12/75,<br>9/79<br>Type - BWR<br>Capacity - 764, 771 MWe | 1976                   | 496.3                    | 83.8                                  | 630           | 134                                  | 79                               | 55                     | 4                             | 130                            | 0.21              | 0.3 |
|  |  | 1977                   | 446.8                    | 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               |     |
| 1981   |  | 870.9                  | 64.3                     | 2899                                  | 1337          | 200                                  | 1137                             | 792                    | 545                           | 0.46                           | 1.5               |     |
| 1982   |  | 768.0                  | 56.6                     | 3418                                  | 1460          | 218                                  | 1242                             | 1064                   | 396                           | 0.43                           | 1.9               |     |
| 1983   |  | 934.7                  | 68.6                     | 3428                                  | 1299          | 253                                  | 1046                             | 851                    | 448                           | 0.38                           | 1.4               |     |
| 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               |     |

<sup>a</sup>Humboldt Bay is shutdown indefinitely. It is 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-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 |                                |                   |      |
| HUMBOLDT BAY (Continued)<br>1st commercial operation 8/63<br>Type - BWR<br>Capacity - 63 MWe | 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             | 112                        | 227               | 1.28                           | 7.5               |      |
|  | 1976   | 23.5                   | 46.4                     | 523                                   | 683           | 37                        | 646             | 50                         | 633               | 1.31                           | 29.1              |      |
|  | 1977   | 0                      |                          | 1063                                  | 1904          | 24                        | 1880            | 973                        | 931               | 1.79                           | -                 |      |
|  | 1978   | 0                      | 0                        | 320                                   | 335           | 13                        | 322             | 145                        | 190               | 1.05                           | -                 |      |
|  | 1979   | 0                      | 0                        | 135                                   | 31            | 11                        | 20              | 2                          | 29                | 0.23                           | -                 |      |
|  | 1980   | 0                      | 0                        | 142                                   | 22            | 10                        | 12              | 3                          | 19                | 0.15                           | -                 |      |
|  | 1981   | 0                      | 0                        | 75                                    | 9             |                           |                 |                            |                   | 0.12                           | -                 |      |
|  | 1982   | 0                      | 0                        | 71                                    | 19            | 5                         | 14              | 0                          | 19                | 0.27                           | -                 |      |
|  | 1983   | 0                      | 0                        | 84                                    | 17            | 4                         | 13              | 0                          | 17                | 0.20                           | -                 |      |
|  | INDIAN POINT 1, * 2, 3**<br>Docket 50-3, 50-247, 50-286;<br>DPR-5, -26, -64<br>1st commercial operation 10/62,<br>8/73, 8/76<br>Type - PWR | 1969                   | 206.2                    |                                       | 298           | 298                       |                 |                            |                   |                                |                   | 1.4  |
|  |  | 1970                   | 43.3                     |                                       | 1639          | 1639                      |                 |                            |                   |                                |                   | 37.8 |
|  |  | 1971                   | 154.0                    |                                       | 768           | 768                       |                 |                            |                   |                                |                   | 5.0  |
|  |  | 1972                   | 142.3                    |                                       | 967           | 967                       |                 |                            |                   |                                |                   | 6.8  |
|  |  | 1973                   | 0                        |                                       | 2998          | 5262                      | 709             | 4553                       | 2847              | 2415                           | 1.75              | -    |
| 1974   |  | 556.1                  | 59.4                     | 1019                                  | 910           |                           |                 |                            |                   | 0.89                           | 1.6               |      |
| 1975   |  | 584.4                  | 74.8                     | 891                                   | 705           | 166                       | 539             | 47                         | 658               | 0.79                           | 1.2               |      |
| 1976   |  | 273.9                  | 34.8                     | 1590                                  | 1950          | 154                       | 1796            | 172                        | 1778              | 1.23                           | 7.1               |      |
| 1977   |  | 1278.3                 | 75.3                     | 1391                                  | 1070          | 189                       | 881             | 383                        | 687               | 0.77                           | 0.8               |      |
| 1978   |  | 1172.3                 | 67.8                     | 1909                                  | 2006          | 260                       | 1746            | 759                        | 1247              | 1.05                           | 1.7               |      |

\*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<br>Docket 50-3, 50-247,<br>DPR-5, -26<br>1st commercial operation 10/62,<br>8/73<br>Type - PWR<br>Capacity - 0,864 MWe | 1979  | 574.0                  | 71.4                     | 1349                                  | 1279          | 209                       | 1070            | 612                        | 667               | 0.95                           | 2.2               |
|   | 1980  | 510.8                  | 64.8                     | 1577                                  | 971           | 181                       | 790             | 398                        | 573               | 0.62                           | 1.9               |
|   | 1981  | 367.5                  | 46.0                     | 2595                                  | 2731          | 237                       | 2494            | 1595                       | 1137              | 1.05                           | 7.4               |
|   | 1982  | 532.4                  | 65.4                     | 2144                                  | 1635          | 343                       | 1292            | 883                        | 752               | 0.76                           | 3.1               |
|   | 1983  | 702.6                  | 84.0                     | 1057                                  | 486           | 200                       | 286             | 217                        | 269               | 0.46                           | 0.7               |
| INDIAN POINT 3**<br>Docket 50-286; DPR-64<br>1st commercial operation 8/76<br>Type - PWR<br>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               |
|   | 1981  | 365.8                  | 59.8                     | 677                                   | 364           | 46                        | 318             | 255                        | 109               | 0.54                           | 1.0               |
|   | 1982  | 171.5                  | 22.5                     | 1477                                  | 1226          | 42                        | 1184            | 1094                       | 132               | 0.83                           | 7.1               |
|   | 1983  | 7.8                    | 2.6                      | 941                                   | 607           | 38                        | 569             | 494                        | 113               | 0.65                           | 77.8              |
| KEWAUNEE<br>Docket 50-305; DPR-43<br>1st commercial operation 6/74<br>Type - PWR<br>Capacity - 503 MWe                                    | 1975  | 401.9                  | 88.2                     | 104                                   | 28            | 1                         | 27              | 12                         | 16                | 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               |
|   | 1981  | 451.8                  | 86.7                     | 383                                   | 141           | 7                         | 134             | 94                         | 47                | 0.37                           | 0.3               |
|   | 1982  | 458.4                  | 87.6                     | 353                                   | 101           | 5                         | 96              | 51                         | 50                | 0.29                           | 0.2               |
| 1983  | 444.1 | 83.7                   | 445                      | 165                                   | 10            | 155                       | 119             | 46                         | 0.37              | 0.4                            |                   |

\*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 Contractor | Man-rem per Station & Utility | Average Dose per Worker (Rems) | Man-rem per MW-Yr |     |
|--|---|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|------------------------|-------------------------------|--------------------------------|-------------------|-----|
|  |   |                        |                          |                                       |               | Operations                | Maint. & Others |                        |                               |                                |                   |     |
| LACROSSE<br>Docket 50-409; DPR-45<br>1st commercial operation 11/69<br>Type - BWR<br>Capacity - 48 MWe | 1970  | 15.3                   |                          |                                       | 111           |                           |                 | 40                     | 71                            |                                | 7.2               |     |
|  | 1971  | 33.1                   |                          | 218                                   | 158           |                           |                 |                        |                               | 0.72                           | 4.8               |     |
|  | 1972  | 29.2                   |                          | 151                                   | 172           |                           |                 |                        |                               | 1.14                           | 5.9               |     |
|  | 1973  | 24.4                   |                          | 157                                   | 221           |                           |                 |                        |                               | 1.41                           | 9.1               |     |
|  | 1974  | 37.9                   | 81.0                     | 115                                   | 139           | 89                        | 50              | 6                      | 133                           | 1.21                           | 3.7               |     |
|  | 1975  | 32.0                   | 69.6                     | 165                                   | 234           |                           |                 |                        |                               | 1.42                           | 7.3               |     |
|  | 1976  | 21.2                   | 47.6                     | 118                                   | 111           | 40                        | 71              | 6                      | 105                           | 0.94                           | 5.2               |     |
|  | 1977  | 11.3                   | 33.7                     | 141                                   | 224           | 60                        | 164             | 8                      | 216                           | 1.59                           | 19.8              |     |
|  | 1978  | 21.6                   | 62.0                     | 182                                   | 164           | 69                        | 95              | 6                      | 158                           | 0.90                           | 7.6               |     |
|  | 1979  | 24.0                   | 71.8                     | 153                                   | 186           | 65                        | 121             | 21                     | 165                           | 1.22                           | 7.7               |     |
|  | 1980  | 26.4                   | 68.5                     | 124                                   | 218           | 63                        | 155             | 11                     | 207                           | 1.76                           | 8.3               |     |
|  | 1981  | 29.6                   | 76.0                     | 187                                   | 123           | 62                        | 61              | 3                      | 120                           | 0.66                           | 4.2               |     |
|  | 1982  | 17.2                   | 44.6                     | 148                                   | 205           | 65                        | 140             | 16                     | 189                           | 1.39                           | 11.9              |     |
|  | 1983  | 24.8                   | 59.7                     | 160                                   | 313           | 103                       | 210             | 31                     | 282                           | 1.96                           | 12.6              |     |
|  | MAINE YANKEE<br>Docket 50-309; DPR-36<br>1st commercial operation 12/72<br>Type - PWR<br>Capacity - 810 MWe | 1973                   | 408.7                    |                                       | 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                    | 95.0                                  | 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               |     |
| 1981   |   | 624.2                  | 78.2                     | 868                                   | 424           | 11                        | 413             | 308                    | 116                           | 0.49                           | 0.7               |     |
| 1982   |   | 542.5                  | 69.1                     | 1295                                  | 619           | 33                        | 586             | 462                    | 157                           | 0.48                           | 1.1               |     |
| 1983   | 677.1   | 83.6                   | 592                      | 164                                   | 40            | 124                       | 72              | 92                     | 0.28                          | 0.2                            |                   |     |

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-rems | Man-rems per Work Operations | Man-rems per Function Maint. & Others | Man-rems per Contractor | Man-rems per Station & Utility | Average Dose per Worker (Rems) | Man-rems per MW-Yr |
|---|--|------------------------|--------------------------|---------------------------------------|----------------|------------------------------|---------------------------------------|-------------------------|--------------------------------|--------------------------------|--------------------|
| MCGUIRE 1<br>Docket 50-369; NPF-9<br>1st commercial operation 12/81<br>Type - PWR<br>Capacity - 1180 MWe        | 1982   | 524.9                  | 80.4                     | 1560                                  | 169            | 26                           | 143                                   | 29                      | 140                            | 0.11                           | 0.3                |
|   | 1983   | 558.3                  | 55.4                     | 1751                                  | 521            | 35                           | 486                                   | 123                     | 398                            | 0.30                           | 0.9                |
| MILLSTONE POINT 1<br>Docket 50-245; DPR-21<br>1st commercial operation 3/71<br>Type - BWR<br>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                     | 2587                                  | 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                |
|   | 1981   | 304.3                  | 51.6                     | 2506                                  | 1496           | 96                           | 1400                                  | 1201                    | 295                            | 0.60                           | 4.9                |
|   | 1982   | 490.2                  | 79.9                     | 1370                                  | 929            | 78                           | 851                                   | 587                     | 342                            | 0.68                           | 1.9                |
|   | 1983   | 640.1                  | 95.6                     | 309                                   | 244            | 63                           | 181                                   | 74                      | 170                            | 0.79                           | 0.4                |
|   | MILLSTONE POINT 2<br>Docket 50-336; DPR-65<br>1st commercial operation 12/75<br>Type-PWR<br>Capacity - 860 MWe | 1976                   | 545.7                    | 78.7                                  | 620            | 168                          | 26                                    | 142                     | 73                             | 95                             | 0.27               |
| 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                |
| 1981  |  | 722.4                  | 82.6                     | 890                                   | 531            | 44                           | 487                                   | 393                     | 138                            | 0.60                           | 0.7                |
| 1982  |  | 595.9                  | 70.6                     | 2083                                  | 1413           | 27                           | 1386                                  | 1219                    | 194                            | 0.68                           | 2.4                |
| 1983  |  | 294.0                  | 34.2                     | 2383                                  | 1881           | 170                          | 1711                                  | 1548                    | 333                            | 0.79                           | 6.4                |

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 Contractor | Man-rem per Station & Utility |                   | Average Dose per Worker (Rems) | Man-rem per MW-Yr |
|--|--|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|----------------------------------|-------------------------------|-------------------|--------------------------------|-------------------|
|  |  |                        |                          |                                       |               | Operations                | Maint. & Others |                                  | Personnel                     | Station & Utility |                                |                   |
| MONTICELLO<br>Docket 50-263; DPR-22<br>1st commercial operation 6/71<br>Type - BWR<br>Capacity - 525 MWe | 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                            |                   |
|  | 1975   | 344.8                  | 72.2                     | 1353                                  | 263           |                           |                 |                                  |                               | 1.00              | 3.9                            |                   |
|  | 1976   | 476.4                  | 91.5                     | 325                                   | 1000          | 59                        | 204             | 51                               | 212                           | 0.81              | 0.5                            |                   |
|  | 1977   | 425.6                  | 79.9                     | 860                                   | 375           | 62                        | 865             | 661                              | 339                           | 1.16              | 2.3                            |                   |
|  | 1978   | 459.4                  | 87.2                     | 679                                   | 157           | 62                        | 313             | 165                              | 210                           | 0.55              | 0.8                            |                   |
|  | 1979   | 522.0                  | 97.6                     | 372                                   | 531           | 62                        | 95              | 51                               | 106                           | 0.42              | 0.3                            |                   |
|  | 1980   | 411.8                  | 78.2                     | 1114                                  | 1004          | 82                        | 449             | 248                              | 283                           | 0.48              | 1.3                            |                   |
|  | 1981   | 389.3                  | 72.6                     | 1446                                  | 993           | 101                       | 903             | 756                              | 248                           | 0.69              | 2.6                            |                   |
|  | 1982   | 291.1                  | 63.3                     | 1307                                  | 121           | 130                       | 863             | 760                              | 233                           | 0.76              | 3.4                            |                   |
|  | 1983   | 494.6                  | 96.3                     | 416                                   |               | 57                        | 64              | 23                               | 98                            | 0.29              | 0.2                            |                   |
|  | NINE MILE POINT 1<br>Docket 50-220; DPR-63<br>1st commercial operation 12/69<br>Type - BWR<br>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                                   | 314           | 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                            |                   |
| 1981   |  | 385.2                  | 66.0                     | 2029                                  | 1592          | 144                       | 1448            | 1064                             | 528                           | 0.78              | 4.1                            |                   |
| 1982   |  | 133.5                  | 21.4                     | 1352                                  | 1264          | 63                        | 1201            | 944                              | 320                           | 0.93              | 9.5                            |                   |
| 1983   | 329.8  | 56.2                   | 1405                     | 860                                   | 50            | 810                       | 576             | 284                              | 0.61                          | 2.6               |                                |                   |

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 Contractor | Man-rem per Station & Utility | Average Dose per Worker (Rems) | Man-rem per MW-Yr |     |
|--|---|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|------------------------|-------------------------------|--------------------------------|-------------------|-----|
|  |   |                        |                          |                                       |               | Operations                | Maint. & Others |                        |                               |                                |                   |     |
| NORTH ANNA 1, 2<br>Docket 50-338; NPF-04, - 09<br>1st commercial operation 6/78,<br>12/80<br>Type - PWR<br>Capacity - 877, 890 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               |     |
|  | 1981  | 1241.9                 | 71.5                     | 2416                                  | 680           | 188                       | 492             | 343                    | 337                           | 0.28                           | 0.5               |     |
|  | 1982  | 777.7                  | 45.8                     | 2872                                  | 1915          | 78                        | 1837            | 1207                   | 708                           | 0.67                           | 2.5               |     |
|  | 1983  | 1338.4                 | 76.1                     | 2228                                  | 665           | 129                       | 536             | 296                    | 369                           | 0.30                           | 0.5               |     |
| OCONEE 1, 2, 3<br>Docket 50-269, 50-270, 50-287;<br>DPR-38, -47, -55<br>1st commercial operation 7/73<br>9/74, 12/74<br>Type - PWR<br>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               |     |
|  | 1981  | 1661.5                 | 66.8                     | 2445                                  | 1211          | 113                       | 1098            | 275                    | 936                           | 0.50                           | 0.7               |     |
|  | 1982  | 1293.1                 | 52.5                     | 2445                                  | 1792          | 97                        | 1695            | 364                    | 1428                          | 0.73                           | 1.4               |     |
|  | 1983  | 2141.5                 | 82.2                     | 1902                                  | 1207          | 88                        | 1119            | 316                    | 891                           | 0.63                           | 0.6               |     |
|  | OYSTER CREEK<br>Docket 50-219; DPR-16<br>1st commercial operation 12/69<br>Type - BWR<br>Capacity - 620 MWe | 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                    | 491                           | 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                     | 842                                   | 467           | 95                        | 372             | 135                    | 332                           | 0.55                           | 0.9               |     |
| 1980   | 232.9   | 41.4                   | 1966                     | 1733                                  | 97            | 1636                      | 1182            | 551                    | 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 |                   | Average Dose per Worker (Rems) | Man-rem per MW-Yr |
|---|-------|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|-----------------------|-------------------|--------------------------------|-------------------|
|   |       |                        |                          |                                       |               | Operations                | Maint. & Others | Contractor            | Station & Utility |                                |                   |
| OYSTER CREEK (Continued)  | 1981  | 314.8                  | 59.8                     | 1689                                  | 917           | 48                        | 869             | 479                   | 438               | 0.54                           | 2.9               |
|   | 1982  | 242.7                  | 62.5                     | 1270                                  | 865           | 33                        | 832             | 491                   | 374               | 0.68                           | 3.6               |
|   | 1983  | 27.9                   | 11.5                     | 2303                                  | 2257          | 65                        | 2192            | 1863                  | 394               | 0.98                           | 80.9              |
| PALISADES<br>Docket 50-255; DPR-20<br>1st commercial operation 12/71<br>Type - PWR<br>Capacity - 635 MWe                                      | 1972  | 216.8                  |                          | 975                                   | 78            | 16                        | 1117            | 661                   | 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           |                           |                 |                       |                   | 0.94                           | 1.0               |
|   | 1976  | 346.9                  | 55.2                     | 849                                   | 696           | 23                        | 673             | 109                   | 587               | 0.30                           | 2.0               |
|   | 1977  | 616.6                  | 91.4                     | 1599                                  | 100           | 13                        | 87              | 23                    | 77                | 0.90                           | 0.2               |
|   | 1978  | 320.2                  | 49.7                     | 1307                                  | 764           | 52                        | 712             | 173                   | 591               | 0.30                           | 2.4               |
|   | 1979  | 415.0                  | 59.9                     | 2151                                  | 854           | 99                        | 755             | 360                   | 494               | 0.53                           | 2.1               |
|   | 1980  | 288.3                  | 42.9                     | 1554                                  | 424           | 191                       | 233             | 312                   | 112               | 0.32                           | 1.5               |
|   | 1981  | 418.2                  | 57.2                     | 2167                                  | 902           | 167                       | 735             | 737                   | 165               | 0.42                           | 2.2               |
|   | 1982  | 404.3                  | 54.7                     |                                       | 330           | 73                        | 257             | 203                   | 127               | 0.21                           | 0.8               |
| 1983  | 454.4 | 60.3                   |                          | 977                                   | 145           | 832                       | 494             | 483                   | 0.45              | 2.2                            |                   |
| PEACH BOTTOM 2, 3<br>Docket 50-277, 50-278; DPR-44, -56<br>1st commercial operation 7/74,<br>12/74<br>Type - BWR<br>Capacity - 1051, 1035 MWe | 1975  | 1234.3                 | 80.9                     | 971                                   | 228           | 180                       | 660             | 434                   | 406               | 0.23                           | 0.2               |
|   | 1976  | 1379.2                 | 73.0                     | 2136                                  | 840           | 223                       | 1813            | 1374                  | 662               | 0.39                           | 0.6               |
|   | 1977  | 1052.4                 | 58.7                     | 2827                                  | 2036          | 162                       | 1155            | 709                   | 608               | 0.72                           | 1.9               |
|   | 1978  | 1636.3                 | 84.0                     | 2244                                  | 1317          | 245                       | 1143            | 717                   | 671               | 0.59                           | 0.8               |
|   | 1979  | 1740.0                 | 84.5                     | 2276                                  | 1388          | 311                       | 1991            | 1596                  | 706               | 0.61                           | 0.8               |
|   | 1980  | 1374.2                 | 66.3                     | 2774                                  | 2302          | 273                       | 2233            | 1880                  | 626               | 0.83                           | 1.7               |
|   | 1981  | 1161.8                 | 58.0                     | 2857                                  | 2506          | 313                       | 1664            | 1347                  | 630               | 0.88                           | 2.2               |
|   | 1982  | 1583.3                 | 76.9                     | 2734                                  | 1977          | 331                       | 2632            | 2422                  | 541               | 0.92                           | 1.2               |
|   | 1983  | 824.7                  | 40.5                     | 3107                                  | 2963          | 331                       |                 |                       |                   | 0.95                           | 3.6               |

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-REMs | Man-REMs per Work Function |                 | Man-REMs per Contractor | Man-REMs per Station & Utility | Average Dose per Worker (REMs) | Man-REMs per MW-Yr |     |
|---|---|------------------------|--------------------------|---------------------------------------|----------------|----------------------------|-----------------|-------------------------|--------------------------------|--------------------------------|--------------------|-----|
|   |   |                        |                          |                                       |                | Operations                 | Maint. & Others |                         |                                |                                |                    |     |
| PILGRIM I.<br>Docket 50-293; DPR-35<br>1st commercial operation 12/72<br>Type - BWR<br>Capacity - 670 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             | 412                     | 386                            | 1.69                           | 2.6                |     |
|   | 1976  | 287.8                  | 60.7                     | 1317                                  | 2648           | 66                         | 2582            | 2270                    | 378                            | 2.01                           | 9.2                |     |
|   | 1977  | 316.6                  | 61.4                     | 1875                                  | 3142           | 146                        | 2996            | 2176                    | 966                            | 1.68                           | 9.9                |     |
|   | 1978  | 519.5                  | 83.1                     | 1667                                  | 1327           | 157                        | 1170            | 895                     | 432                            | 0.80                           | 2.5                |     |
|   | 1979  | 574.0                  | 89.4                     | 2458                                  | 1015           | 131                        | 884             | 516                     | 499                            | 0.41                           | 1.8                |     |
|   | 1980  | 360.3                  | 56.2                     | 3549                                  | 3626           | 207                        | 3419            | 3076                    | 550                            | 1.02                           | 10.1               |     |
|   | 1981  | 408.9                  | 65.9                     | 2803                                  | 1836           | 70                         | 1766            | 1418                    | 418                            | 0.66                           | 4.5                |     |
|   | 1982  | 389.9                  | 63.9                     | 2854                                  | 1539           | 314                        | 1225            | 1094                    | 445                            | 0.54                           | 3.9                |     |
|   | 1983  | 559.5                  | 87.2                     | 2326                                  | 1162           | 296                        | 886             | 776                     | 386                            | 0.50                           | 2.1                |     |
|   | POINT BEACH 1, 2<br>Docket 50-266, 50-301; DPR-24, -27<br>1st commercial operation 12/70,<br>10/72<br>Type - PWR<br>Capacity - 495, 495 MWe | 1971                   | 393.4                    |                                       |                | 164                        |                 |                         |                                |                                |                    | 0.4 |
|   |   | 1972                   | 378.3                    |                                       |                | 580                        |                 |                         |                                |                                |                    | 1.5 |
|   |   | 1973                   | 693.7                    |                                       | 501            | 588                        | 72              | 516                     |                                |                                | 1.17               | 0.8 |
| 1974  |   | 760.2                  | 81.3                     | 400                                   | 295            | 70                         | 225             | 81                      | 214                            | 0.74                           | 0.4                |     |
| 1975  |   | 801.2                  | 82.9                     | 339                                   | 459            |                            |                 |                         |                                | 1.35                           | 0.6                |     |
| 1976  |   | 857.3                  | 86.7                     | 313                                   | 370            | 58                         | 312             | 107                     | 263                            | 1.18                           | 0.4                |     |
| 1977  |   | 873.9                  | 87.3                     | 417                                   | 429            | 63                         | 366             | 212                     | 217                            | 1.03                           | 0.5                |     |
| 1978  |   | 914.4                  | 90.9                     | 336                                   | 320            | 71                         | 249             | 111                     | 209                            | 0.95                           | 0.3                |     |
| 1979  |   | 808.0                  | 80.8                     | 610                                   | 644            | 65                         | 579             | 449                     | 195                            | 1.06                           | 0.8                |     |
| 1980  |   | 727.2                  | 82.5                     | 561                                   | 598            | 60                         | 538             | 420                     | 178                            | 1.07                           | 0.8                |     |
| 1981  | 760.4   | 83.6                   | 773                      | 596                                   | 83             | 513                        | 364             | 232                     | 0.77                           | 0.8                            |                    |     |
| 1982  | 757.2   | 84.3                   | 767                      | 609                                   | 72             | 537                        | 375             | 234                     | 0.79                           | 0.8                            |                    |     |
| 1983  | 648.2   | 72.7                   | 1702                     | 1403                                  | 81             | 1322                       | 1179            | 224                     | 0.82                           | 2.2                            |                    |     |



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 Operations | Man-rem per Maint. & Others | Man-rem per Contractor | Man-rem per Personnel Type Station & Utility | Average Dose per Worker (Rems) | Man-rem per MW-Yr |     |
|--|---|------------------------|--------------------------|---------------------------------------|---------------|-----------------------------|-----------------------------|------------------------|--|--------------------------------|-------------------|-----|
| PRAIRIE ISLAND 1, 2<br>Docket 50-282, 50-306; DPR-42, -60<br>1st commercial operation 12/73,<br>12/74<br>Type - PWR<br>Capacity - 503, 500 MWe | 1974  | 181.9                  | 43.9                     | 150                                   | 18            |                             |                             | 5                      | 13   | 0.12                           | 0.1               |     |
|  | 1975  | 836.0                  | 83.3                     | 477                                   | 123           |                             |                             |                        |  | 0.26                           | 0.1               |     |
|  | 1976  | 725.2                  | 76.6                     | 818                                   | 447           | 68                          | 379                         | 235                    | 212  | 0.55                           | 0.6               |     |
|  | 1977  | 922.9                  | 87.2                     | 718                                   | 300           | 73                          | 227                         | 60                     | 240  | 0.42                           | 0.3               |     |
|  | 1978  | 941.1                  | 92.2                     | 546                                   | 221           | 43                          | 178                         | 48                     | 173  | 0.40                           | 0.2               |     |
|  | 1979  | 865.0                  | 86.0                     | 594                                   | 180           | 29                          | 151                         | 49                     | 131  | 0.30                           | 0.2               |     |
|  | 1980  | 800.7                  | 79.9                     | 983                                   | 353           | 40                          | 313                         | 141                    | 212  | 0.36                           | 0.4               |     |
|  | 1981  | 844.9                  | 80.5                     | 836                                   | 329           | 153                         | 176                         | 128                    | 201  | 0.39                           | 0.4               |     |
|  | 1982  | 944.9                  | 90.4                     | 645                                   | 229           | 30                          | 199                         | 68                     | 161  | 0.36                           | 0.4               |     |
|  | 1983  | 921.1                  | 86.8                     | 654                                   | 233           | 14                          | 219                         | 73                     | 160  | 0.35                           | 0.3               |     |
|  | QUAD CITIES 1, 2<br>Docket 50-254, 50-265; DPR-29, -30<br>1st commercial operation 2/73,<br>3/73<br>Type - BWR<br>Capacity - 769, 769 MWe | 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          | 100                         | 3046                        | 3657                   | 1181   | 1.57                           | 5.6               |     |
| 1981   |   | 1156.9                 | 81.1                     | 2246                                  | 3146          | 177                         | 3580                        | 2623                   | 523  | 1.40                           | 2.7               |     |
| 1982   |   | 1018.7                 | 76.0                     | 2314                                  | 3757          | 166                         | 2325                        | 2653                   | 1104   | 1.62                           | 3.7               |     |
| 1983   |   | 1088.5                 | 79.2                     | 1802                                  | 2491          |                             |                             | 1937                   | 554  | 1.38                           | 2.3               |     |
| RANCHO SECO<br>Docket 50-312; DPR-54<br>1st commercial operation 4/75<br>Type - PWR<br>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               |     |
|  | 1981  | 321.2                  | 40.2                     | 772                                   | 402           | 83                          | 319                         | 266                    | 137  | 0.52                           | 1.3               |     |
|  | 1982  | 409.5                  | 53.3                     | 766                                   | 337           | 49                          | 288                         | 217                    | 120  | 0.44                           | 0.8               |     |
|  | 1983  | 347.9                  | 46.8                     | 1338                                  | 787           | 158                         | 629                         | 604                    | 183  | 0.59                           | 2.3               |     |

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-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<br>Docket 50-261; DPR-23<br>1st commercial operation 3/71<br>Type - PWR<br>Capacity - 665 MWe   | 1972  | 580.0                  |                          | 245                                   | 215           | 42                        | 173             | 137                    | 78   | 0.88                           | 0.4               |     |
|  | 1973  | 455.1                  |                          | 831                                   | 695           |                           |                 |                        |  | 0.84                           | 1.5               |     |
|  | 1974  | 578.1                  | 83.3                     | 853                                   | 672           | 185                       | 487             |                        |  | 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             | 223                    | 232  | 0.72                           | 0.9               |     |
|  | 1978  | 480.5                  | 72.0                     | 943                                   | 963           | 63                        | 900             | 529                    | 434  | 1.02                           | 2.0               |     |
|  | 1979  | 482.0                  | 70.8                     | 1454                                  | 1188          | 60                        | 1128            | 794                    | 394  | 0.82                           | 2.5               |     |
|  | 1980  | 387.3                  | 62.2                     | 2009                                  | 1852          | 79                        | 1773            | 1379                   | 473  | 0.92                           | 4.8               |     |
|  | 1981  | 426.6                  | 73.0                     | 1462                                  | 733           | 45                        | 688             | 513                    | 220  | 0.50                           | 1.7               |     |
|  | 1982  | 277.5                  | 48.9                     | 2011                                  | 1426          | 128                       | 1298            | 945                    | 481  | 0.71                           | 5.1               |     |
|  | 1983  | 409.8                  | 75.5                     | 2244                                  | 923           | 96                        | 827             | 628                    | 295  | 0.41                           | 2.3               |     |
|  | SALEM 1, 2<br>Docket 50-272,-311; DPR-70,-75<br>1st commercial operation 6/77,<br>10/81<br>Type - PWR<br>Capacity - 1079, 1106, MWe | 1978                   | 546.4                    | 55.6                                  | 574           | 122                       | 28              | 94                     | 32   | 90                             | 0.21              | 0.2 |
|  |   | 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               |     |
| 1981   |   | 743.0                  | 78.1                     | 1652                                  | 254           | 4                         | 250             | 152                    | 102  | 0.15                           | 0.3               |     |
| 1982   |   | 1440.4                 | 72.6                     | 3228                                  | 1203          | 66                        | 1137            | 846                    | 357  | 0.37                           | 0.8               |     |
| 1983   |   | 742.0                  | 35.4                     | 2383                                  | 581           | 10                        | 571             | 463                    | 118  | 0.24                           | 0.8               |     |
| SAN ONOFRE 1<br>Docket 50-206; DPR-13<br>1st commercial operation 1/68<br>Type - PWR<br>Capacity - 436 MWe | 1969  | 314.1                  |                          | 123                                   | 42            | 10                        | 32              | 5                      | 37   | 0.34                           | 0.1               |     |
|  | 1970  | 365.9                  |                          | 251                                   | 155           | 13                        | 142             | 59                     | 96   | 0.62                           | 0.4               |     |
|  | 1971  | 362.1                  |                          | 121                                   | 50            | 12                        | 38              | 3                      | 47   | 0.41                           | 0.1               |     |
|  | 1972  | 338.5                  |                          | 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                            |                   |     |

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                  | Station & Utility |                                |                    |
| SAN ONDFRE I (Continued)   | 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                        | 2168            | 2018                        | 369               | 0.78                           | 24.5               |
|  | 1981 | 95.9                   | 26.7                     | 2902                                  | 3223           | 100                        | 3123            | 3104                        | 119               | 1.11                           | 33.6               |
|  | 1982 | 61.6                   | 15.7                     | 3055                                  | 832            | 81                         | 751             | 729                         | 102               | 0.27                           | 13.5               |
|  | 1983 | 0.0                    | 0.0                      | 1701                                  | 155            | 31                         | 124             | 113                         | 42                | 0.09                           | -                  |
|  | 1982 | 583.5                  | 52.8                     | 1965                                  | 570            | 67                         | 503             | 57                          | 513               | 0.29                           | 1.0                |
|  | 1983 | 1663.7                 | 75.0                     | 1772                                  | 491            | 74                         | 417             | 46                          | 445               | 0.28                           | 0.3                |
| SEQUOYAH 1, 2<br>Docket 50-327, -328; DPR-77, -79<br>1st commercial operation 7/81,<br>6/82<br>Type - PWR<br>Capacity - 1148, 1148 MWe | 1977 | 649.1                  | 84.7                     | 445                                   | 152            | 26                         | 126             | 92                          | 60                | 0.34                           | 0.2                |
|  | 1978 | 606.4                  | 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                |
|  | 1981 | 599.1                  | 72.7                     | 1473                                  | 929            | 20                         | 909             | 556                         | 373               | 0.63                           | 1.6                |
|  | 1982 | 816.8                  | 94.0                     | 1045                                  | 272            | 17                         | 255             | 105                         | 167               | 0.26                           | 0.3                |
|  | 1983 | 290.3                  | 15.4                     | 2211                                  | 1204           | 5                          | 1199            | 924                         | 280               | 0.54                           | 4.2                |
| ST. LUCIE 1<br>Docket 50-335; DPR-67<br>1st commercial operation 12/76<br>Type - PWR<br>Capacity - 822 MWe                             | 1977 | 649.1                  | 84.7                     | 445                                   | 152            | 26                         | 126             | 92                          | 60                | 0.34                           | 0.2                |
|  | 1978 | 606.4                  | 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                |
|  | 1981 | 599.1                  | 72.7                     | 1473                                  | 929            | 20                         | 909             | 556                         | 373               | 0.63                           | 1.6                |
|  | 1982 | 816.8                  | 94.0                     | 1045                                  | 272            | 17                         | 255             | 105                         | 167               | 0.26                           | 0.3                |
|  | 1983 | 290.3                  | 15.4                     | 2211                                  | 1204           | 5                          | 1199            | 924                         | 280               | 0.54                           | 4.2                |

\*Sequoyah was counted for the first time in 1983.

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<br>Docket 50-280, 50-281; DPR-32, -37<br>1st commercial operation 12/72,<br>5/73<br>Type - PWR<br>Capacity - 775, 775 MWe | 1973  | 420.6                  | 49.8                     | 936                                   | 152           | 72                        | 812             |                        |                               | 0.16                           | 0.4               |     |
|  | 1974  | 717.4                  | 70.8                     | 1715                                  | 884           | 27                        | 1622            |                        |                               | 0.51                           | 1.2               |     |
|  | 1975  | 1079.0                 | 60.4                     | 1948                                  | 1649          | 444                       | 2721            | 1065                   | 584                           | 0.85                           | 1.5               |     |
|  | 1976  | 930.7                  | 72.2                     | 2753                                  | 3165          | 348                       | 1959            | 1873                   | 1292                          | 1.15                           | 3.4               |     |
|  | 1977  | 1139.0                 | 77.2                     | 1860                                  | 2307          | 726                       | 1111            | 1380                   | 927                           | 1.24                           | 2.0               |     |
|  | 1978  | 1210.6                 | 42.3                     | 2203                                  | 1837          | 173                       | 3411            | 1029                   | 808                           | 0.83                           | 1.5               |     |
|  | 1979  | 343.0                  | 40.3                     | 5065                                  | 3584          | 353                       | 3483            | 2975                   | 609                           | 0.71                           | 10.4              |     |
|  | 1980  | 568.2                  | 59.3                     | 5317                                  | 3836          | 428                       | 3816            | 3117                   | 719                           | 1.13                           | 6.6               |     |
|  | 1981  | 907.6                  | 88.5                     | 3753                                  | 4244          | 399                       | 3816            | 3040                   | 1204                          | 0.79                           | 4.7               |     |
|  | 1982  | 1323.3                 | 61.3                     | 1878                                  | 1490          | 571                       | 1091            | 506                    | 984                           | 0.79                           | 1.1               |     |
|  | 1983  | 916.2                  |                          | 2754                                  | 3220          |                           | 2649            | 1786                   | 1434                          | 1.17                           | 3.5               |     |
|  | *THREE MILE ISLAND 1, 2<br>Docket 50-289; DPR-50, -73<br>1st commercial operation-9/74,<br>12/78<br>Type - PWR<br>Capacity - 776, 880 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                    | 69                            | 217                            | 0.35              | 0.5 |
| 1977   |   | 664.5                  | 80.9                     | 1122                                  | 359           | 23                        | 481             | 128                    | 231                           | 0.32                           | 0.5               |     |
| 1978   |   | 690.0                  | 85.1                     | 1929                                  | 504           | 197                       | 1195            | 235                    | 269                           | 0.26                           | 0.7               |     |
| 1979   |   | 266.0                  | 21.9                     | 4024                                  | 1392          | 29                        | 365             | 907                    | 485                           | 0.35                           | 5.2               |     |
| 1980   |   | 0.0                    | 0.0                      | 2328                                  | 394           | 50                        | 326             | 234                    | 160                           | 0.17                           | -                 |     |
| 1981   |   | 0.0                    | 0.0                      | 2103                                  | 376           | 62                        | 942             | 190                    | 186                           | 0.18                           | -                 |     |
| 1982   |   | 0.0                    | 0.0                      | 2123                                  | 1004          | 79                        | 1080            | 433                    | 571                           | 0.47                           | -                 |     |
| 1983   |   | 0.0                    | 0.0                      | 1592                                  | 1159          |                           |                 | 637                    | 522                           | 0.73                           | -                 |     |
| 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                            |                   |     |
| 1981   | 775.6   | 74.1                   | 1311                     | 609                                   | 113           | 496                       | 363             | 246                    | 0.46                          | 0.8                            |                   |     |
| 1982   | 579.5   | 60.8                   | 977                      | 419                                   | 76            | 343                       | 168             | 251                    | 0.42                          | 0.7                            |                   |     |
| 1983   | 494.2   | 62.4                   | 969                      | 307                                   | 35            | 272                       | 129             | 178                    | 0.32                          | 0.6                            |                   |     |

\*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 |                 | Man-rems per Contractor | Man-rems per Personnel Type Station & Utility | Average Dose per Worker (Rems) | Man-rems per MW-Yr |     |
|--|---|------------------------|--------------------------|---------------------------------------|----------------|----------------------------|-----------------|-------------------------|---|--------------------------------|--------------------|-----|
|  |   |                        |                          |                                       |                | Operations                 | Maint. & Others |                         |   |                                |                    |     |
| TURKEY POINT 3, 4<br>Docket 50-250, 50-251; DPR-31, -41<br>1st commercial operation 12/72, 9/73<br>Type - PWR<br>Capacity - 666, 666 MWe | 1973  | 401.9                  |                          | 444                                   | 78             | 88                         | 366             | 202                     | 252   | 0.18                           | 0.2                |     |
|  | 1974  | 953.6                  | 74.9                     | 794                                   | 454            | 270                        | 606             | 559                     | 317   | 0.57                           | 0.5                |     |
|  | 1975  | 1003.7                 | 71.2                     | 1176                                  | 876            | 89                         | 1095            | 868                     | 316   | 0.74                           | 0.9                |     |
|  | 1976  | 974.2                  | 72.1                     | 1647                                  | 1184           | 94                         | 942             | 522                     | 514   | 0.72                           | 1.2                |     |
|  | 1977  | 979.5                  | 78.8                     | 1319                                  | 1036           | 90                         | 942             | 546                     | 486   | 0.78                           | 1.1                |     |
|  | 1978  | 1000.2                 | 62.4                     | 1336                                  | 1032           | 299                        | 1381            | 997                     | 683   | 0.77                           | 1.0                |     |
|  | 1979  | 811.0                  | 73.6                     | 2002                                  | 1680           | 232                        | 1419            | 1218                    | 433   | 0.84                           | 2.1                |     |
|  | 1980  | 990.6                  | 46.8                     | 1803                                  | 1651           | 274                        | 1977            | 1854                    | 397   | 0.92                           | 1.7                |     |
|  | 1981  | 654.0                  | 65.2                     | 2932                                  | 2251           | 197                        | 1922            | 1656                    | 463   | 0.77                           | 3.4                |     |
|  | 1982  | 915.7                  | 62.8                     | 2956                                  | 2119           | 272                        | 2409            | 2119                    | 562   | 0.72                           | 2.3                |     |
|  | 1983  | 878.4                  |                          | 2930                                  | 2681           |                            |                 |                         |   | 0.92                           | 3.1                |     |
|  | VERMONT YANKEE<br>Docket 50-271; DPR-28<br>1st commercial operation 11/72<br>Type - BWR<br>Capacity - 504 MWe | 1973                   | 222.1                    |                                       | 244            | 85                         | 24              | 192                     | 103   | 113                            | 0.35               | 0.4 |
|  |   | 1974                   | 303.5                    | 87.8                                  | 357            | 216                        | 70              | 83                      | 63  | 90                             | 0.60               | 0.7 |
| 1975   |   | 429.0                  | 77.1                     | 282                                   | 153            | 36                         | 375             | 246                     | 165   | 0.54                           | 0.4                |     |
| 1976   |   | 389.6                  | 85.1                     | 815                                   | 411            | 83                         | 175             | 90                      | 168   | 0.50                           | 1.0                |     |
| 1977   |   | 423.5                  | 75.9                     | 641                                   | 258            | 78                         | 261             | 158                     | 181   | 0.40                           | 0.6                |     |
| 1978   |   | 387.5                  | 82.1                     | 934                                   | 339            | 546                        | 624             | 542                     | 528   | 0.36                           | 0.9                |     |
| 1979   |   | 414.0                  | 71.5                     | 1220                                  | 1170           | 141                        | 1197            | 926                     | 412   | 0.96                           | 2.8                |     |
| 1980   |   | 357.8                  | 84.6                     | 1443                                  | 1338           | 121                        | 610             | 408                     | 323   | 0.93                           | 3.7                |     |
| 1981   |   | 429.1                  | 96.0                     | 1264                                  | 731            | 60                         | 145             | 80                      | 125   | 0.58                           | 1.7                |     |
| 1982   |   | 501.0                  | 69.3                     | 781                                   | 205            | 215                        | 1312            | 787                     | 740   | 0.43                           | 0.4                |     |
| 1983   |   | 346.1                  |                          | 1316                                  | 1527           |                            |                 |                         |   | 1.16                           | 4.4                |     |
| YANKEE ROWE<br>Docket 50-29; DPR-3<br>1st commercial operation 7/61<br>Type - PWR<br>Capacity - 169 MWe                                  |   | 1969                   | 138.3                    |                                       | 193            | 215                        | 83              | 132                     | 78  | 133                            | 1.11               | 1.5 |
|  |   | 1970                   | 146.1                    |                                       | 355            | 255                        | 90              | 165                     | 158   | 97                             | 0.72               | 1.7 |
|  | 1971  | 173.5                  |                          | 155                                   | 90             | 46                         | 44              | 19                      | 71  | 0.58                           | 0.5                |     |
|  | 1972  | 78.7                   |                          | 282                                   | 255            | 63                         | 192             | 146                     | 109   | 0.90                           | 3.2                |     |
|  | 1973  | 127.1                  |                          | 133                                   | 99             |                            |                 | 47                      | 52  | 0.74                           | 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 Personnel Type | Average Dose per Worker (Rems) | Man-rem per MW-Yr |     |
|-------------------------|---|------------------------|--------------------------|---------------------------------------|---------------|---------------------------|-----------------|----------------------------|--------------------------------|-------------------|-----|
|                         |   |                        |                          |                                       |               | Operations                | Maint. & Others |                            |                                |                   |     |
| YANKEE ROWE (Continued) | 1974  | 111.3                  |                          | 243                                   | 205           |                           |                 | 106                        | 0.84                           | 1.8               |     |
|                         | 1975  | 145.1                  | 82.4                     | 249                                   | 116           | 52                        | 64              | 50                         | 0.47                           | 0.8               |     |
|                         | 1976  | 152.2                  | 89.8                     | 152                                   | 59            | 17                        | 42              | 55                         | 0.39                           | 0.4               |     |
|                         | 1977  | 124.6                  | 73.9                     | 725                                   | 356           | 28                        | 328             | 182                        | 0.49                           | 2.9               |     |
|                         | 1978  | 145.0                  | 81.0                     | 565                                   | 282           | 26                        | 256             | 187                        | 0.50                           | 1.9               |     |
|                         | 1979  | 149.0                  | 81.6                     | 441                                   | 127           | 16                        | 111             | 75                         | 0.29                           | 0.9               |     |
|                         | 1980  | 35.6                   | 22.0                     | 502                                   | 213           | 6                         | 207             | 90                         | 0.42                           | 6.0               |     |
|                         | 1981  | 109.0                  | 74.4                     | 515                                   | 302           | 8                         | 294             | 166                        | 0.59                           | 2.8               |     |
|                         | 1982  | 108.6                  | 73.4                     | 814                                   | 474           | 6                         | 468             | 259                        | 0.54                           | 4.4               |     |
|                         | 1983  | 163.5                  | 91.4                     | 395                                   | 68            | 19                        | 49              | 64                         | 0.17                           | 0.4               |     |
|                         | ZION 1, 2<br>Docket 50-295, 50-304; DPR-39, -48<br>1st commercial operation 12/73,<br>9/74<br>Type - PWR<br>Capacity - 1040 MWe | 1974                   | 425.3                    | 71.1                                  | 306           | 56                        |                 |                            | 43                             | 0.18              | 0.1 |
|                         |   | 1975                   | 1181.5                   | 74.9                                  | 436           | 127                       | 17              | 110                        | 78                             | 0.29              | 0.1 |
|                         |   | 1976                   | 1134.9                   | 61.9                                  | 774           | 571                       | 64              | 507                        | 314                            | 0.74              | 0.5 |
|                         |   | 1977                   | 1358.6                   | 75.0                                  | 784           | 1003                      | 43              | 960                        | 442                            | 1.28              | 0.7 |
| 1978                    |   | 1613.5                 | 80.2                     | 1104                                  | 1017          | 150                       | 867             | 599                        | 0.92                           | 0.6               |     |
| 1979                    |   | 1238.0                 | 67.6                     | 1472                                  | 1274          | 168                       | 1106            | 527                        | 0.87                           | 1.0               |     |
| 1980                    |   | 1411.2                 | 74.1                     | 1363                                  | 920           | 97                        | 823             | 360                        | 0.67                           | 0.7               |     |
| 1981                    |   | 1366.9                 | 72.3                     | 1754                                  | 1720          | 50                        | 1670            | 564                        | 0.98                           | 1.3               |     |
| 1982                    |   | 1186.4                 | 64.3                     | 1575                                  | 2103          | 42                        | 2061            | 415                        | 1.34                           | 1.8               |     |
| 1983                    |   | 1222.3                 | 66.8                     | 1285                                  | 1311          | 118                       | 1193            | 406                        | 1.02                           | 1.1               |     |

**APPENDIX B**

**Annual Whole Body Doses at Licensed Nuclear Power Facilities**

**1983**

APPENDIX B  
1983  
**ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES**

| PLANT NAME AND TYPE | Number of Individuals with Whole Body Doses in the Following Range (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 | 10.0 - 12.0 | > 12.0 |
| Arkansas 1,2        | PWR   | 869   | 788         | 292         | 238         | 146        | 118       | 314       | 196       | 15        | 2         |           |           |           |                        |                                 |                | 2978       | 2109        | 1397   |
| Beaver Valley       | PWR   | 1008  | 582         | 238         | 183         | 114        | 86        | 220       | 61        | 1         |           |           |           |           |                        |                                 |                | 2493       | 1485        | 772    |
| Big Rock Point      | BWR   | 86    | 232         | 44          | 52          | 36         | 33        | 71        | 21        | 4         |           |           |           |           |                        |                                 |                | 579        | 493         | 263    |
| Browns Ferry 1,2,3  | BWR   | 3699  | 580         | 390         | 471         | 310        | 270       | 681       | 419       | 141       | 29        | 9         | 2         |           |                        |                                 |                | 7001       | 3302        | 3363*  |
| Brunswick 1,2       | BWR   | 1418  | 2730        | 515         | 354         | 302        | 282       | 853       | 417       | 149       |           |           |           |           |                        |                                 |                | 7020       | 5602        | 3475*  |
| Calvert Cliffs 1,2  | PWR   | 160   | 1109        | 230         | 156         | 105        | 66        | 232       | 17        |           |           |           |           |           |                        |                                 |                | 2075       | 1915        | 668    |
| Cook 1,2            | PWR   | 1543  | 473         | 289         | 241         | 143        | 87        | 145       | 32        | 6         | 2         |           |           |           |                        |                                 |                | 2961       | 1418        | 658    |
| Cooper Station      | BWR   | 2239  | 548         | 67          | 75          | 57         | 48        | 355       | 201       | 31        | 1         |           |           |           |                        |                                 |                | 3622       | 1383        | 1293   |
| Crystal River       | PWR   | 776   | 587         | 443         | 312         | 172        | 99        | 98        | 8         | 1         |           |           |           |           |                        |                                 |                | 2496       | 1720        | 552*   |
| Davis-Besse         | PWR   | 986   | 468         | 169         | 58          | 18         | 1         | 4         |           |           |           |           |           |           |                        |                                 |                | 1704       | 718         | 80*    |
| Dresden 1,2,3       | BWR   | 648   | 561         | 269         | 286         | 232        | 157       | 634       | 380       | 294       | 39        | 1         | 1         |           |                        |                                 |                | 3502       | 2854        | 3582   |
| Duane Arnold        | BWR   | 1267  | 419         | 165         | 195         | 144        | 111       | 292       | 113       | 26        | 3         |           |           |           |                        |                                 |                | 2735       | 1468        | 1135   |
| Farley 1,2          | PWR   | 192   | 576         | 430         | 328         | 180        | 114       | 214       | 76        | 19        | 1         |           |           |           |                        |                                 |                | 2130       | 1938        | 1021   |
| Fitzpatrick         | BWR   | 725   | 644         | 243         | 215         | 128        | 87        | 237       | 107       | 52        | 2         |           |           |           |                        |                                 |                | 2440       | 1715        | 1090*  |
| Fort Calhoun        | PWR   | 128   | 352         | 115         | 112         | 80         | 64        | 105       | 25        | 4         | 3         |           |           |           |                        |                                 |                | 988        | 860         | 433    |
| Ginna               | PWR   | 407   | 239         | 97          | 106         | 96         | 82        | 251       | 71        | 21        | 6         |           |           |           |                        |                                 |                | 1376       | 969         | 855    |

\*These plants provided their actual collective dose in their 20,407 reports. The collective dose shown for the other plants is calculated by NRC staff.



APPENDIX B  
1983  
**ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES**

| PLANT NAME AND TYPE | Number of Individuals with Whole Body Doses in the Following Range (Items) |                   |  |             |             |            |           |           |           |           |           |           |           |           |            |             | Total Number Monitored | Number with Measurable Exposure | Total Man-Rems |        |       |
|---------------------|--|-------------------|--|-------------|-------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-------------|------------------------|---------------------------------|----------------|--------|-------|
|                     | No Measurable Exposure   | Measurable < 0.10 | Number of Individuals with Whole Body Doses in the Following Range (Items) |             |             |            |           |           |           |           |           |           |           |           |            |             |                        |                                 |                |        |       |
|                     |  |                   | 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 - 12.0 |                        |                                 |                | > 12.0 |       |
| Haddam Neck         | PMR  | 482               | 379  | 184         | 166         | 170        | 199       | 349       | 168       | 23        | 7         |           |           |           |            |             |                        |                                 | 2127           | 1645   | 1384* |
| Hatch 1,2           | BWR  | 950               | 1310   | 771         | 584         | 286        | 162       | 245       | 56        | 11        | 3         |           |           |           |            |             |                        |                                 | 4378           | 3428   | 1299  |
| Humboldt Bay        | BWR  | 68                | 38   | 25          | 16          | 3          | 0         | 2         |           |           |           |           |           |           |            |             |                        |                                 | 152            | 84     | 17    |
| Indian Point 1,2    | PMR  | 484               | 424  | 241         | 137         | 65         | 42        | 92        | 41        | 14        | 1         |           |           |           |            |             |                        |                                 | 1541           | 1057   | 486   |
| Indian Point 3      | PMR  | 832               | 301  | 166         | 125         | 79         | 54        | 135       | 67        | 14        |           |           |           |           |            |             |                        |                                 | 1773           | 941    | 607   |
| Kewaunee            | PMR  | 289               | 174  | 78          | 58          | 45         | 40        | 49        | 0         | 1         |           |           |           |           |            |             |                        |                                 | 734            | 445    | 165*  |
| La Crosse           | BWR  | 62                | 37   | 10          | 10          | 4          | 3         | 25        | 27        | 14        | 18        | 12        |           |           |            |             |                        |                                 | 222            | 160    | 313   |
| Maine Yankee        | PMR  | 230               | 309  | 89          | 79          | 62         | 23        | 30        |           |           |           |           |           |           |            |             |                        |                                 | 822            | 592    | 164   |
| McGuire             | PMR  | 1789              | 955  | 326         | 191         | 89         | 45        | 113       | 32        |           |           |           |           |           |            |             |                        |                                 | 3540           | 1751   | 521   |
| Millstone Point 1   | BWR  | 133               | 98   | 39          | 35          | 27         | 16        | 51        | 32        | 7         | 4         |           |           |           |            |             |                        |                                 | 442            | 309    | 244*  |
| Millstone Point 2   | PMR  | 1024              | 756  | 303         | 267         | 205        | 123       | 393       | 249       | 57        | 30        |           |           |           |            |             |                        |                                 | 3407           | 2383   | 1881* |
| Monticello          | BWR  | 1150              | 196  | 78          | 67          | 35         | 16        | 23        | 1         |           |           |           |           |           |            |             |                        |                                 | 1566           | 416    | 121   |
| Nine Mile Point     | BWR  | 765               | 438  | 240         | 185         | 139        | 89        | 236       | 66        | 11        | 1         |           |           |           |            |             |                        |                                 | 2170           | 1405   | 860   |
| North Anna 1,2      | PMR  | 505               | 1532   | 151         | 154         | 110        | 92        | 136       | 37        | 14        | 2         |           |           |           |            |             |                        |                                 | 2733           | 2228   | 665   |
| Oconee 1,2,3        | PMR  | 917               | 594  | 285         | 266         | 185        | 126       | 332       | 95        | 19        |           |           |           |           |            |             |                        |                                 | 2819           | 1902   | 1207  |
| Oyster Creek        | BWR  | 943               | 441  | 300         | 365         | 230        | 155       | 446       | 210       | 130       | 26        |           |           |           |            |             |                        |                                 | 3246           | 2303   | 2257  |

\*These plants provided their actual collective dose in their 20,407 reports. The collective dose shown for the other plants is calculated by NRC staff.

# ANNUAL WHOLE BODY DOSES AT LICENSED NUCLEAR POWER FACILITIES

1983

| PLANT NAME AND TYPE       | Number of Individuals with Whole Body Doses in the Following Range (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 | 10.0 - 12.0 |
| Palisades PWR             | 198   | 1227              | 256         | 179         | 107         | 79         | 181       | 98        | 29        | 11        |           |           |           |           |                        |                                 | 2365           | 2167       | 977         |
| Peach Bottom 2,3 BWR      | 1843  | 781               | 494         | 434         | 227         | 211        | 499       | 215       | 124       | 64        | 41        | 13        | 4         |           |                        |                                 | 4950           | 3107       | 2963        |
| Pilgrim BWR               | 0   | 919               | 370         | 393         | 213         | 89         | 200       | 110       | 26        | 6         |           |           |           |           |                        |                                 | 2326           | 2326       | 1162        |
| Point Beach 1,2 PWR       | 233   | 470               | 177         | 183         | 145         | 123        | 455       | 124       | 23        | 2         |           |           |           |           |                        |                                 | 1935           | 1702       | 1403        |
| Prairie Island 1,2 PWR    | 331   | 262               | 136         | 122         | 48          | 19         | 64        | 3         |           |           |           |           |           |           |                        |                                 | 985            | 654        | 233         |
| Quad Cities 1,2 BWR       | 835   | 369               | 120         | 123         | 103         | 92         | 453       | 344       | 170       | 28        |           |           |           |           |                        |                                 | 2637           | 1802       | 2491        |
| Rancho Seco 1 PWR         | 220   | 435               | 200         | 170         | 142         | 107        | 232       | 46        | 6         |           |           |           |           |           |                        |                                 | 1558           | 1338       | 787         |
| Robinson 2 PWR            | 1148  | 1314              | 221         | 156         | 119         | 99         | 255       | 63        | 17        |           |           |           |           |           |                        |                                 | 3392           | 2244       | 923         |
| Salem 1,2 PWR             | 1480  | 1201              | 528         | 363         | 135         | 66         | 76        | 13        | 1         |           |           |           |           |           |                        |                                 | 3863           | 2383       | 581         |
| San Onofre 1 PWR          | 8001  | 1397              | 135         | 93          | 32          | 21         | 21        | 2         |           |           |           |           |           |           |                        |                                 | 9702           | 1701       | 155*        |
| Sequoyah 1,2** PWR        | 1579  | 684               | 415         | 351         | 178         | 65         | 75        | 3         | 1         |           |           |           |           |           |                        |                                 | 3351           | 1772       | 491*        |
| St. Lucie 1 PWR           | 2089  | 781               | 426         | 319         | 167         | 114        | 271       | 107       | 24        | 2         |           |           |           |           |                        |                                 | 4300           | 2211       | 1204        |
| Surry 1,2 PWR             | 588   | 775               | 404         | 242         | 135         | 138        | 400       | 277       | 202       | 180       | 1         |           |           |           |                        |                                 | 3342           | 2754       | 3220        |
| Three Mile Island 1,2 PWR | 1115  | 612               | 156         | 175         | 110         | 103        | 288       | 94        | 33        | 21        |           |           |           |           |                        |                                 | 2707           | 1592       | 1159        |
| Trojan PWR                | 108   | 479               | 172         | 131         | 72          | 46         | 57        | 9         | 3         |           |           |           |           |           |                        |                                 | 1077           | 969        | 307         |
| Turkey Point 3,4 PWR      | 1478  | 652               | 386         | 400         | 278         | 201        | 617       | 263       | 100       | 33        |           |           |           |           |                        |                                 | 4408           | 2930       | 2681        |

\*These plants provided their actual collective dose in their 20,407 reports. The collective dose shown for the other plants is calculated by NRC staff.  
 \*\*Sequoyah Unit 2 was counted for the first time in 1983.

APPENDIX B  
**ANNUAL WHOLEBODY DOSES AT LICENSED NUCLEAR POWER FACILITIES**  
 1983

| PLANT NAME AND TYPE | Number of Individuals with Whole Body Doses in the Following Range (Rems) |                   |             |             |             |            |           |           |           |           |           |           |           |           |            |             | Total Number Montored | 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 | 10.0 - 12.0 |                       |                                 |                | > 12.0 |
| Vermont Yankee BWR  | 890   | 134               | 177         | 176         | 131         | 104        | 356       | 171       | 62        | 5         |           |           |           |           |            |             |                       | 2206                            | 1316           | 1527*  |
| Yankee Rowe PWR     | 1247  | 281               | 32          | 36          | 21          | 9          | 15        | 1         |           |           |           |           |           |           |            |             |                       | 1642                            | 395            | 68*    |
| Zion 1,2 PWR        | 914   | 257               | 124         | 163         | 110         | 132        | 293       | 143       | 50        | 12        | 1         |           |           |           |            |             |                       | 2199                            | 1285           | 1311   |
| Totals - BWRs       | 17721   | 10475             | 4317        | 4036        | 2607        | 1925       | 5659      | 2890      | 1252      | 229       | 63        | 16        | 4         |           |            |             |                       | 51194                           | 33473          | 27455  |
| Totals - PWRs       | 33350   | 21425             | 7894        | 6260        | 3863        | 2783       | 6512      | 2421      | 698       | 315       | 2         |           |           |           |            |             |                       | 85523                           | 52173          | 29016  |
| Grand Totals - LWRS | 51071   | 31900             | 12211       | 10296       | 6470        | 4708       | 12171     | 5311      | 1950      | 544       | 65        | 16        | 4         |           |            |             |                       | 136717                          | 85646          | 56471  |

\*These plants provided their actual collective dose in their 20,407 reports. The collective dose shown for the other plants is calculated by NRC staff.



**APPENDIX C**  
**Number of Personnel and Man-remS by Work and Job Function**  
**1983**

**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 1,2 (PWR)

1983

| REACTOR OPERATIONS & SURV.   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL             |             | STATION        |              | TOTAL             |              | TOTAL MAN-REMS    |                   |
|------------------------------|----------------------------------|-------------------|-------------------|-------------|----------------|--------------|-------------------|--------------|-------------------|-------------------|
|                              | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS     | EMPLOYEES      | EMPLOYEES    | CONTRACT & OTHERS | EMPLOYEES    | UTILITY EMPLOYEES | CONTRACT & OTHERS |
| MAINTENANCE PERSONNEL        | 21                               | 0                 | 39                |             | 4,523          | 0.000        | 14,333            | 0.000        | 0.000             | 0.000             |
| OPERATING PERSONNEL          | 68                               | 0                 | 0                 |             | 25,345         | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL     | 32                               | 0                 | 49                |             | 14,949         | 0.000        | 25,351            | 0.000        | 0.000             | 0.000             |
| SUPERVISORY PERSONNEL        | 0                                | 0                 | 0                 |             | 0.000          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| ENGINEERING PERSONNEL        | 0                                | 0                 | 2                 |             | 0.000          | 0.000        | 0.223             | 0.000        | 0.000             | 0.223             |
| <b>TOTAL</b>                 | <b>121</b>                       | <b>0</b>          | <b>90</b>         | <b>211</b>  | <b>44,817</b>  | <b>0.000</b> | <b>39,907</b>     | <b>0.000</b> | <b>0.000</b>      | <b>84,724</b>     |
| <b>ROUTINE MAINTENANCE</b>   |                                  |                   |                   |             |                |              |                   |              |                   |                   |
| MAINTENANCE PERSONNEL        | 91                               | 3                 | 71                |             | 41,296         | 0.963        | 34,648            | 0.963        | 0.000             | 0.000             |
| OPERATING PERSONNEL          | 2                                | 0                 | 0                 |             | 0.230          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL     | 23                               | 0                 | 4                 |             | 4,725          | 0.000        | 0.515             | 0.000        | 0.000             | 0.000             |
| SUPERVISORY PERSONNEL        | 0                                | 0                 | 1                 |             | 0.000          | 0.000        | 0.105             | 0.000        | 0.000             | 0.000             |
| ENGINEERING PERSONNEL        | 0                                | 0                 | 4                 |             | 0.000          | 0.000        | 1.043             | 0.000        | 0.000             | 0.000             |
| <b>TOTAL</b>                 | <b>116</b>                       | <b>3</b>          | <b>80</b>         | <b>199</b>  | <b>46,251</b>  | <b>0.963</b> | <b>36,311</b>     | <b>0.963</b> | <b>0.000</b>      | <b>83,525</b>     |
| <b>IN-SERVICE INSPECTION</b> |                                  |                   |                   |             |                |              |                   |              |                   |                   |
| MAINTENANCE PERSONNEL        | 0                                | 1                 | 45                |             | 0.000          | 0.130        | 22,097            | 0.130        | 0.000             | 0.000             |
| OPERATING PERSONNEL          | 5                                | 0                 | 0                 |             | 1,356          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL     | 3                                | 0                 | 5                 |             | 0.665          | 0.000        | 1.402             | 0.000        | 0.000             | 0.000             |
| SUPERVISORY PERSONNEL        | 0                                | 0                 | 0                 |             | 0.000          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| ENGINEERING PERSONNEL        | 0                                | 1                 | 15                |             | 0.000          | 0.227        | 4,710             | 0.227        | 0.000             | 0.000             |
| <b>TOTAL</b>                 | <b>8</b>                         | <b>2</b>          | <b>65</b>         | <b>75</b>   | <b>2,021</b>   | <b>0.357</b> | <b>28,209</b>     | <b>0.357</b> | <b>0.000</b>      | <b>30,587</b>     |
| <b>SPECIAL MAINTENANCE</b>   |                                  |                   |                   |             |                |              |                   |              |                   |                   |
| MAINTENANCE PERSONNEL        | 108                              | 8                 | 749               |             | 63,476         | 2,511        | 784,483           | 2,511        | 0.000             | 0.000             |
| OPERATING PERSONNEL          | 7                                | 0                 | 0                 |             | 1,538          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL     | 28                               | 0                 | 35                |             | 16,359         | 0.000        | 17,564            | 0.000        | 0.000             | 0.000             |
| SUPERVISORY PERSONNEL        | 1                                | 0                 | 1                 |             | 0.115          | 0.000        | 0.321             | 0.000        | 0.000             | 0.000             |
| ENGINEERING PERSONNEL        | 2                                | 4                 | 45                |             | 0.391          | 1.053        | 27,841            | 1.053        | 0.000             | 0.000             |
| <b>TOTAL</b>                 | <b>146</b>                       | <b>12</b>         | <b>830</b>        | <b>988</b>  | <b>81,879</b>  | <b>3,564</b> | <b>830,209</b>    | <b>3,564</b> | <b>0.000</b>      | <b>915,652</b>    |
| <b>WASTE PROCESSING</b>      |                                  |                   |                   |             |                |              |                   |              |                   |                   |
| MAINTENANCE PERSONNEL        | 1                                | 0                 | 31                |             | 0.592          | 0.000        | 28,704            | 0.000        | 0.000             | 0.000             |
| OPERATING PERSONNEL          | 2                                | 0                 | 0                 |             | 1,020          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL     | 8                                | 0                 | 5                 |             | 2,579          | 0.000        | 1,111             | 0.000        | 0.000             | 0.000             |
| SUPERVISORY PERSONNEL        | 0                                | 0                 | 0                 |             | 0.000          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| ENGINEERING PERSONNEL        | 0                                | 0                 | 0                 |             | 0.000          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| <b>TOTAL</b>                 | <b>11</b>                        | <b>0</b>          | <b>36</b>         | <b>47</b>   | <b>4,191</b>   | <b>0.000</b> | <b>29,815</b>     | <b>0.000</b> | <b>0.000</b>      | <b>34,006</b>     |
| <b>REFUELING</b>             |                                  |                   |                   |             |                |              |                   |              |                   |                   |
| MAINTENANCE PERSONNEL        | 54                               | 6                 | 57                |             | 30,511         | 2,395        | 27,893            | 2,395        | 0.000             | 0.000             |
| OPERATING PERSONNEL          | 12                               | 0                 | 0                 |             | 2,306          | 0.000        | 0.000             | 0.000        | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL     | 3                                | 0                 | 4                 |             | 1,123          | 0.000        | 1,028             | 0.000        | 0.000             | 0.000             |
| SUPERVISORY PERSONNEL        | 0                                | 0                 | 1                 |             | 0.000          | 0.000        | 0.720             | 0.000        | 0.000             | 0.000             |
| ENGINEERING PERSONNEL        | 1                                | 0                 | 12                |             | 0.221          | 0.000        | 5,687             | 0.000        | 0.000             | 0.000             |
| <b>TOTAL</b>                 | <b>70</b>                        | <b>6</b>          | <b>74</b>         | <b>150</b>  | <b>34,161</b>  | <b>2,395</b> | <b>35,328</b>     | <b>2,395</b> | <b>0.000</b>      | <b>71,884</b>     |
| <b>TOTAL BY JOB FUNCTION</b> |                                  |                   |                   |             |                |              |                   |              |                   |                   |
| MAINTENANCE PERSONNEL        | 275                              | 18                | 992               | 1285        | 140,398        | 5,999        | 912,158           | 5,999        | 0.000             | 1058,555          |
| OPERATING PERSONNEL          | 96                               | 0                 | 0                 | 96          | 31,795         | 0.000        | 0.000             | 0.000        | 0.000             | 31,795            |
| HEALTH PHYSICS PERSONNEL     | 97                               | 0                 | 102               | 199         | 40,400         | 0.000        | 46,971            | 0.000        | 0.000             | 87,371            |
| SUPERVISORY PERSONNEL        | 1                                | 0                 | 3                 | 4           | 0.115          | 0.000        | 1,146             | 0.000        | 0.000             | 1,261             |
| ENGINEERING PERSONNEL        | 3                                | 5                 | 78                | 86          | 0.612          | 1,280        | 39,504            | 1,280        | 0.000             | 41,396            |
| <b>GRAND TOTAL</b>           | <b>472</b>                       | <b>23</b>         | <b>1175</b>       | <b>1670</b> | <b>213,320</b> | <b>7,279</b> | <b>999,779</b>    | <b>7,279</b> | <b>0.000</b>      | <b>1220,378</b>   |

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

APPENDIX C

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

1983

PLANT: BEAVER VALLEY (PWR)

| WORK & JOB FUNCTION & SURV. | STATION EMPLOYEES |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS | STATION EMPLOYEES |                   | TOTAL MAN-REMS    |                |
|-----------------------------|-------------------|-------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|----------------|
|                             | EMPLOYEES         | UTILITY EMPLOYEES | EMPLOYEES                        | CONTRACT & OTHERS |               | EMPLOYEES         | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS |
| REACTOR OPERATIONS & SURV.  |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 15                | 0                 | 65                               |                   |               | 0.730             | 0.000             | 4.705             |                |
| OPERATING PERSONNEL         | 47                | 0                 | 0                                |                   |               | 11.825            | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL    | 31                | 0                 | 97                               |                   |               | 17.575            | 0.000             | 76.378            |                |
| SUPERVISORY PERSONNEL       | 24                | 0                 | 7                                |                   |               | 5.186             | 0.000             | 2.405             |                |
| ENGINEERING PERSONNEL       | 44                | 0                 | 38                               |                   |               | 8.410             | 0.000             | 11.225            |                |
| TOTAL                       | 161               | 0                 | 207                              |                   | 368           | 43.726            | 0.000             | 94.713            | 138.439        |
| ROUTINE MAINTENANCE         |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 89                | 0                 | 324                              |                   |               | 52.738            | 0.000             | 215.742           |                |
| OPERATING PERSONNEL         | 22                | 0                 | 0                                |                   |               | 3.273             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL    | 23                | 0                 | 45                               |                   |               | 0.999             | 0.000             | 6.309             |                |
| SUPERVISORY PERSONNEL       | 15                | 0                 | 4                                |                   |               | 3.655             | 0.000             | 0.415             |                |
| ENGINEERING PERSONNEL       | 30                | 0                 | 31                               |                   |               | 5.729             | 0.000             | 4.495             |                |
| TOTAL                       | 179               | 0                 | 404                              |                   | 583           | 66.394            | 0.000             | 226.961           | 293.355        |
| IN-SERVICE INSPECTION       |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 16                | 0                 | 96                               |                   |               | 1.465             | 0.000             | 25.085            |                |
| OPERATING PERSONNEL         | 9                 | 0                 | 0                                |                   |               | 0.590             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL    | 8                 | 0                 | 15                               |                   |               | 1.395             | 0.000             | 6.550             |                |
| SUPERVISORY PERSONNEL       | 0                 | 0                 | 0                                |                   |               | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL       | 12                | 0                 | 60                               |                   |               | 1.355             | 0.000             | 61.665            |                |
| TOTAL                       | 45                | 0                 | 171                              |                   | 216           | 4.805             | 0.000             | 93.300            | 98.105         |
| SPECIAL MAINTENANCE         |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 30                | 0                 | 145                              |                   |               | 3.800             | 0.000             | 51.210            |                |
| OPERATING PERSONNEL         | 0                 | 0                 | 0                                |                   |               | 0.000             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL    | 2                 | 0                 | 11                               |                   |               | 0.425             | 0.000             | 0.515             |                |
| SUPERVISORY PERSONNEL       | 0                 | 0                 | 5                                |                   |               | 0.000             | 0.000             | 2.075             |                |
| ENGINEERING PERSONNEL       | 10                | 0                 | 37                               |                   |               | 1.430             | 0.000             | 23.995            |                |
| TOTAL                       | 42                | 0                 | 198                              |                   | 240           | 5.655             | 0.000             | 77.795            | 83.450         |
| WASTE PROCESSING            |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 31                | 0                 | 38                               |                   |               | 1.685             | 0.000             | 4.330             |                |
| OPERATING PERSONNEL         | 4                 | 0                 | 0                                |                   |               | 0.870             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL    | 9                 | 0                 | 17                               |                   |               | 0.195             | 0.000             | 0.565             |                |
| SUPERVISORY PERSONNEL       | 1                 | 0                 | 0                                |                   |               | 0.460             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL       | 3                 | 0                 | 0                                |                   |               | 0.575             | 0.000             | 0.000             |                |
| TOTAL                       | 48                | 0                 | 55                               |                   | 103           | 3.785             | 0.000             | 4.895             | 8.680          |
| REFUELING                   |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 48                | 0                 | 93                               |                   |               | 10.175            | 0.000             | 29.140            |                |
| OPERATING PERSONNEL         | 1                 | 0                 | 0                                |                   |               | 0.020             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL    | 0                 | 0                 | 4                                |                   |               | 0.000             | 0.000             | 0.250             |                |
| SUPERVISORY PERSONNEL       | 10                | 0                 | 3                                |                   |               | 0.650             | 0.000             | 1.280             |                |
| ENGINEERING PERSONNEL       | 8                 | 0                 | 14                               |                   |               | 2.145             | 0.000             | 10.980            |                |
| TOTAL                       | 67                | 0                 | 114                              |                   | 181           | 12.990            | 0.000             | 41.650            | 54.640         |
| TOTAL BY JOB FUNCTION       |                   |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL       | 229               | 0                 | 761                              |                   | 990           | 70.593            | 0.000             | 330.212           | 400.805        |
| OPERATING PERSONNEL         | 83                | 0                 | 0                                |                   | 83            | 16.578            | 0.000             | 0.000             | 16.578         |
| HEALTH PHYSICS PERSONNEL    | 73                | 0                 | 189                              |                   | 262           | 20.589            | 0.000             | 90.567            | 111.156        |
| SUPERVISORY PERSONNEL       | 50                | 0                 | 19                               |                   | 69            | 9.951             | 0.000             | 6.175             | 16.126         |
| ENGINEERING PERSONNEL       | 107               | 0                 | 180                              |                   | 287           | 19.644            | 0.000             | 112.360           | 132.004        |
| GRAND TOTAL                 | 542               | 0                 | 1149                             |                   | 1691          | 137.355           | 0.000             | 539.314           | 676.669        |

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

**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
**1983**

PLANT: <sup>1</sup>BIG ROCK POINT (BWR) NUMBER OF PERSONNEL (>100 M-REM)

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS |                   | STATION EMPLOYEES |                   | UTILITY CONTRACT & OTHERS |                   | TOTAL MAN-REMS |                   |
|---------------------------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|---------------------------|-------------------|----------------|-------------------|
|                                       | EMPLOYEES                        | CONTRACT & OTHERS | EMPLOYEES     | CONTRACT & OTHERS | EMPLOYEES         | CONTRACT & OTHERS | EMPLOYEES                 | CONTRACT & OTHERS | EMPLOYEES      | CONTRACT & OTHERS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.309             | 0.121             | 0.021                     |                   |                |                   |
| OPERATING PERSONNEL                   | 32                               | 5                 | 1             | 5                 | 20.614            | 0.174             | 2.820                     |                   |                |                   |
| HEALTH PHYSICS PERSONNEL              | 11                               | 0                 | 0             | 0                 | 3.599             | 0.406             | 0.047                     |                   |                |                   |
| SUPERVISORY PERSONNEL                 | 3                                | 1                 | 0             | 1                 | 0.848             | 0.022             | 0.589                     |                   |                |                   |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.516             | 0.000             | 0.000                     |                   |                |                   |
| <b>TOTAL</b>                          | <b>46</b>                        | <b>6</b>          | <b>1</b>      | <b>6</b>          | <b>25.886</b>     | <b>0.751</b>      | <b>3.477</b>              |                   |                | <b>30.114</b>     |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 24                               | 3                 | 40            | 3                 | 13.139            | 18.590            | 1.676                     |                   |                |                   |
| OPERATING PERSONNEL                   | 1                                | 0                 | 1             | 0                 | 0.543             | 0.721             | 0.000                     |                   |                |                   |
| HEALTH PHYSICS PERSONNEL              | 12                               | 3                 | 5             | 3                 | 5.071             | 1.389             | 0.000                     |                   |                |                   |
| SUPERVISORY PERSONNEL                 | 9                                | 0                 | 0             | 0                 | 3.248             | 0.153             | 0.045                     |                   |                |                   |
| ENGINEERING PERSONNEL                 | 2                                | 0                 | 1             | 0                 | 0.457             | 0.862             | 0.000                     |                   |                |                   |
| <b>TOTAL</b>                          | <b>48</b>                        | <b>6</b>          | <b>47</b>     | <b>6</b>          | <b>22.458</b>     | <b>22.007</b>     | <b>3.110</b>              |                   |                | <b>47.575</b>     |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 0                                | 46                | 38            | 46                | 0.080             | 43.606            | 27.131                    |                   |                |                   |
| OPERATING PERSONNEL                   | 1                                | 3                 | 0             | 3                 | 0.254             | 1.700             | 0.540                     |                   |                |                   |
| HEALTH PHYSICS PERSONNEL              | 13                               | 9                 | 5             | 9                 | 5.459             | 1.943             | 3.912                     |                   |                |                   |
| SUPERVISORY PERSONNEL                 | 0                                | 1                 | 1             | 1                 | 0.217             | 0.690             | 0.323                     |                   |                |                   |
| ENGINEERING PERSONNEL                 | 1                                | 16                | 5             | 16                | 0.167             | 2.011             | 6.061                     |                   |                |                   |
| <b>TOTAL</b>                          | <b>15</b>                        | <b>75</b>         | <b>49</b>     | <b>75</b>         | <b>6.177</b>      | <b>49.950</b>     | <b>37.967</b>             |                   |                | <b>94.094</b>     |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 17                               | 12                | 36            | 12                | 14.083            | 18.202            | 4.008                     |                   |                |                   |
| OPERATING PERSONNEL                   | 1                                | 0                 | 0             | 0                 | 1.848             | 0.147             | 0.000                     |                   |                |                   |
| HEALTH PHYSICS PERSONNEL              | 12                               | 3                 | 4             | 3                 | 6.364             | 1.383             | 0.652                     |                   |                |                   |
| SUPERVISORY PERSONNEL                 | 7                                | 0                 | 2             | 0                 | 1.826             | 0.917             | 0.000                     |                   |                |                   |
| ENGINEERING PERSONNEL                 | 1                                | 1                 | 2             | 1                 | 0.217             | 0.721             | 0.291                     |                   |                |                   |
| <b>TOTAL</b>                          | <b>38</b>                        | <b>16</b>         | <b>44</b>     | <b>16</b>         | <b>24.338</b>     | <b>21.370</b>     | <b>4.951</b>              |                   |                | <b>50.659</b>     |
| <b>WASTE PROCESSING</b>               |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 4                                | 0                 | 0             | 0                 | 1.390             | 0.175             | 0.149                     |                   |                |                   |
| OPERATING PERSONNEL                   | 25                               | 2                 | 0             | 2                 | 7.598             | 0.002             | 0.308                     |                   |                |                   |
| HEALTH PHYSICS PERSONNEL              | 2                                | 0                 | 0             | 0                 | 0.814             | 0.121             | 0.026                     |                   |                |                   |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.002             | 0.007             | 0.000                     |                   |                |                   |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.023             | 0.000             | 0.000                     |                   |                |                   |
| <b>TOTAL</b>                          | <b>31</b>                        | <b>2</b>          | <b>0</b>      | <b>2</b>          | <b>9.827</b>      | <b>0.305</b>      | <b>0.483</b>              |                   |                | <b>10.615</b>     |
| <b>REFUELING</b>                      |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 10                               | 5                 | 0             | 5                 | 3.756             | 0.258             | 1.572                     |                   |                |                   |
| OPERATING PERSONNEL                   | 22                               | 0                 | 0             | 0                 | 8.261             | 0.106             | 0.096                     |                   |                |                   |
| HEALTH PHYSICS PERSONNEL              | 2                                | 0                 | 0             | 0                 | 0.566             | 0.032             | 0.000                     |                   |                |                   |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.066             | 0.000             | 0.000                     |                   |                |                   |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.006             | 0.000             | 0.027                     |                   |                |                   |
| <b>TOTAL</b>                          | <b>34</b>                        | <b>5</b>          | <b>0</b>      | <b>5</b>          | <b>12.655</b>     | <b>0.396</b>      | <b>1.695</b>              |                   |                | <b>14.746</b>     |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |               |                   |                   |                   |                           |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 55                               | 66                | 114           | 66                | 32.757            | 80.952            | 34.557                    |                   |                | 148.266           |
| OPERATING PERSONNEL                   | 82                               | 10                | 2             | 10                | 39.118            | 2.850             | 3.764                     |                   |                | 45.732            |
| HEALTH PHYSICS PERSONNEL              | 52                               | 15                | 14            | 15                | 21.873            | 5.566             | 6.026                     |                   |                | 33.465            |
| SUPERVISORY PERSONNEL                 | 19                               | 2                 | 3             | 2                 | 6.207             | 1.789             | 0.957                     |                   |                | 8.953             |
| ENGINEERING PERSONNEL                 | 4                                | 17                | 8             | 17                | 1.386             | 3.622             | 6.379                     |                   |                | 11.387            |
| <b>GRAND TOTAL</b>                    | <b>212</b>                       | <b>110</b>        | <b>141</b>    | <b>110</b>        | <b>101.341</b>    | <b>94.779</b>     | <b>51.683</b>             |                   |                | <b>247.803</b>    |

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



APPENDIX C

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

PLANT: BROWNS FERRY 1,2,3 (BWR) 1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   |         | STATION EMPLOYEES | STATION EMPLOYEES | TOTAL     |         |                   | TOTAL MAN-REMS | UTILITY CONTRACT & OTHERS | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|-------------------|---------|-------------------|-------------------|-----------|---------|-------------------|----------------|---------------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS |                   |                   | EMPLOYEES | UTILITY | CONTRACT & OTHERS |                |                           |                |
| REACTOR OPERATIONS & SURV. |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 80                               | 169               | 29                |         | 17,400            | 41,500            |           |         | 14,900            |                |                           |                |
| OPERATING PERSONNEL        | 148                              | 0                 | 0                 |         | 42,600            | 0,000             |           |         | 0,000             |                |                           |                |
| HEALTH PHYSICS PERSONNEL   | 34                               | 0                 | 103               |         | 15,300            | 0,000             |           |         | 54,300            |                |                           |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| ENGINEERING PERSONNEL      | 0                                | 73                | 0                 |         | 0,000             | 24,600            |           |         | 0,000             |                |                           |                |
| TOTAL                      | 262                              | 242               | 132               | 636     | 75,300            | 66,100            |           |         | 69,200            |                |                           | 210,600        |
| ROUTINE MAINTENANCE        |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 290                              | 1090              | 254               |         | 154,900           | 940,300           |           |         | 167,100           |                |                           |                |
| OPERATING PERSONNEL        | 148                              | 0                 | 0                 |         | 57,000            | 0,000             |           |         | 0,000             |                |                           |                |
| HEALTH PHYSICS PERSONNEL   | 33                               | 0                 | 109               |         | 14,500            | 0,000             |           |         | 57,900            |                |                           |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| ENGINEERING PERSONNEL      | 0                                | 79                | 0                 |         | 0,000             | 38,400            |           |         | 0,000             |                |                           |                |
| TOTAL                      | 471                              | 1169              | 363               | 2003    | 226,400           | 978,700           |           |         | 225,000           |                |                           | 1430,100       |
| IN-SERVICE INSPECTION      |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 11                               | 95                | 40                |         | 5,600             | 46,400            |           |         | 51,200            |                |                           |                |
| OPERATING PERSONNEL        | 2                                | 0                 | 0                 |         | 0,400             | 0,000             |           |         | 0,000             |                |                           |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 10                |         | 0,000             | 0,000             |           |         | 2,600             |                |                           |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| ENGINEERING PERSONNEL      | 0                                | 2                 | 0                 |         | 0,000             | 0,200             |           |         | 0,000             |                |                           |                |
| TOTAL                      | 13                               | 97                | 50                | 160     | 6,000             | 46,600            |           |         | 53,800            |                |                           | 106,400        |
| SPECIAL MAINTENANCE        |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 35                               | 753               | 261               |         | 12,600            | 406,500           |           |         | 319,900           |                |                           |                |
| OPERATING PERSONNEL        | 11                               | 0                 | 0                 |         | 2,200             | 0,000             |           |         | 0,000             |                |                           |                |
| HEALTH PHYSICS PERSONNEL   | 10                               | 0                 | 48                |         | 2,700             | 0,000             |           |         | 23,300            |                |                           |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| ENGINEERING PERSONNEL      | 0                                | 29                | 0                 |         | 0,000             | 8,200             |           |         | 0,000             |                |                           |                |
| TOTAL                      | 56                               | 782               | 309               | 1147    | 17,500            | 414,700           |           |         | 343,200           |                |                           | 775,400        |
| WASTE PROCESSING           |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 25                               | 6                 | 0                 |         | 9,100             | 1,700             |           |         | 0,000             |                |                           |                |
| OPERATING PERSONNEL        | 10                               | 0                 | 0                 |         | 6,800             | 0,000             |           |         | 0,000             |                |                           |                |
| HEALTH PHYSICS PERSONNEL   | 5                                | 0                 | 2                 |         | 1,700             | 0,000             |           |         | 1,200             |                |                           |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| TOTAL                      | 40                               | 6                 | 2                 | 48      | 17,600            | 1,700             |           |         | 1,200             |                |                           | 20,500         |
| REFUELING                  |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 3                                | 71                | 2                 |         | 0,400             | 13,100            |           |         | 0,800             |                |                           |                |
| OPERATING PERSONNEL        | 25                               | 0                 | 0                 |         | 9,600             | 0,000             |           |         | 0,000             |                |                           |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 7                 |         | 0,000             | 0,000             |           |         | 1,200             |                |                           |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| ENGINEERING PERSONNEL      | 0                                | 6                 | 0                 |         | 0,000             | 0,000             |           |         | 0,000             |                |                           |                |
| TOTAL                      | 28                               | 77                | 9                 | 114     | 10,000            | 14,300            |           |         | 2,000             |                |                           | 26,300         |
| TOTAL BY JOB FUNCTION      |                                  |                   |                   |         |                   |                   |           |         |                   |                |                           |                |
| MAINTENANCE PERSONNEL      | 444                              | 2184              | 586               | 3214    | 200,000           | 1449,500          |           |         | 553,900           |                |                           | 2203,400       |
| OPERATING PERSONNEL        | 344                              | 0                 | 0                 | 344     | 118,600           | 0,000             |           |         | 0,000             |                |                           | 118,600        |
| HEALTH PHYSICS PERSONNEL   | 82                               | 0                 | 279               | 361     | 34,200            | 0,000             |           |         | 140,500           |                |                           | 174,700        |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0       | 0,000             | 0,000             |           |         | 0,000             |                |                           | 0,000          |
| ENGINEERING PERSONNEL      | 0                                | 189               | 0                 | 189     | 0,000             | 72,600            |           |         | 0,000             |                |                           | 72,600         |
| GRAND TOTAL                | 870                              | 2373              | 865               | 4108    | 352,800           | 1522,100          |           |         | 694,400           |                |                           | 2569,300       |

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

APPENDIX C

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

PLANT: BRUNSWICK 1,2 (BWR)

1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   | TOTAL             |                   |                   | TOTAL MAN-REMS    |                   |                   |
|---------------------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 42                               | 2                 | 7                 | 28,760            | 7,650             | 7,470             | 28,760            | 7,650             | 7,470             |
| OPERATING PERSONNEL                   | 54                               | 0                 | 26                | 53,740            | 0.000             | 9,520             | 53,740            | 0.000             | 9,520             |
| HEALTH PHYSICS PERSONNEL              | 18                               | 0                 | 12                | 17,960            | 0.000             | 15,050            | 17,960            | 0.000             | 15,050            |
| SUPERVISORY PERSONNEL                 | 4                                | 5                 | 3                 | 2,290             | 1,420             | 2,970             | 2,290             | 1,420             | 2,970             |
| ENGINEERING PERSONNEL                 | 5                                | 5                 | 5                 | 1,580             | 2,560             | 1,690             | 1,580             | 2,560             | 1,690             |
| <b>TOTAL</b>                          | <b>123</b>                       | <b>12</b>         | <b>53</b>         | <b>104,330</b>    | <b>11,630</b>     | <b>36,700</b>     | <b>104,330</b>    | <b>11,630</b>     | <b>36,700</b>     |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 85                               | 15                | 174               | 92,120            | 28,920            | 262,840           | 92,120            | 28,920            | 262,840           |
| OPERATING PERSONNEL                   | 15                               | 0                 | 0                 | 13,780            | 0.000             | 0.000             | 13,780            | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 12                               | 0                 | 11                | 15,780            | 0.000             | 14,590            | 15,780            | 0.000             | 14,590            |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0                 | 0.020             | 0.060             | 0.000             | 0.020             | 0.060             | 0.000             |
| ENGINEERING PERSONNEL                 | 7                                | 4                 | 9                 | 4,670             | 0.580             | 8,830             | 4,670             | 0.580             | 8,830             |
| <b>TOTAL</b>                          | <b>120</b>                       | <b>19</b>         | <b>194</b>        | <b>126,370</b>    | <b>29,560</b>     | <b>286,260</b>    | <b>126,370</b>    | <b>29,560</b>     | <b>286,260</b>    |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 10                               | 0                 | 135               | 0.000             | 0.000             | 158,940           | 0.000             | 0.000             | 158,940           |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 5                                | 0                 | 6                 | 14,560            | 0.000             | 6,860             | 14,560            | 0.000             | 6,860             |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| ENGINEERING PERSONNEL                 | 6                                | 0                 | 8                 | 3,200             | 0.600             | 32,520            | 3,200             | 0.600             | 32,520            |
| <b>TOTAL</b>                          | <b>21</b>                        | <b>0</b>          | <b>149</b>        | <b>17,760</b>     | <b>0.600</b>      | <b>198,320</b>    | <b>17,760</b>     | <b>0.600</b>      | <b>198,320</b>    |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 183                              | 94                | 1225              | 306,020           | 71,620            | 1462,250          | 306,020           | 71,620            | 1462,250          |
| OPERATING PERSONNEL                   | 19                               | 0                 | 0                 | 19,320            | 0.000             | 0.000             | 19,320            | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 44                               | 0                 | 64                | 69,450            | 0.000             | 76,740            | 69,450            | 0.000             | 76,740            |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0                 | 0.410             | 7.430             | 0.000             | 0.410             | 7.430             | 0.000             |
| ENGINEERING PERSONNEL                 | 26                               | 29                | 87                | 30,810            | 17,440            | 59,300            | 30,810            | 17,440            | 59,300            |
| <b>TOTAL</b>                          | <b>273</b>                       | <b>123</b>        | <b>1376</b>       | <b>426,010</b>    | <b>96,490</b>     | <b>1598,290</b>   | <b>426,010</b>    | <b>96,490</b>     | <b>1598,290</b>   |
| <b>WASTE PROCESSING</b>               |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 41                               | 11                | 121               | 64,220            | 14,460            | 206,380           | 64,220            | 14,460            | 206,380           |
| OPERATING PERSONNEL                   | 39                               | 0                 | 5                 | 37,800            | 0.000             | 8,040             | 37,800            | 0.000             | 8,040             |
| HEALTH PHYSICS PERSONNEL              | 14                               | 0                 | 11                | 15,710            | 0.000             | 14,590            | 15,710            | 0.000             | 14,590            |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                 | 0.120             | 0.490             | 0.000             | 0.120             | 0.490             | 0.000             |
| ENGINEERING PERSONNEL                 | 5                                | 4                 | 2                 | 6,550             | 1,440             | 1,800             | 6,550             | 1,440             | 1,800             |
| <b>TOTAL</b>                          | <b>99</b>                        | <b>15</b>         | <b>139</b>        | <b>124,400</b>    | <b>16,390</b>     | <b>230,810</b>    | <b>124,400</b>    | <b>16,390</b>     | <b>230,810</b>    |
| <b>REFUELING</b>                      |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 36                               | 12                | 51                | 56,550            | 19,990            | 71,770            | 56,550            | 19,990            | 71,770            |
| OPERATING PERSONNEL                   | 6                                | 0                 | 0                 | 5,570             | 0.000             | 0.000             | 5,570             | 0.000             | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 10                               | 0                 | 12                | 11,430            | 0.000             | 13,680            | 11,430            | 0.000             | 13,680            |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                 | 0.300             | 0.440             | 0.000             | 0.300             | 0.440             | 0.000             |
| ENGINEERING PERSONNEL                 | 5                                | 2                 | 4                 | 3,090             | 1,370             | 3,810             | 3,090             | 1,370             | 3,810             |
| <b>TOTAL</b>                          | <b>57</b>                        | <b>14</b>         | <b>67</b>         | <b>76,940</b>     | <b>21,800</b>     | <b>89,260</b>     | <b>76,940</b>     | <b>21,800</b>     | <b>89,260</b>     |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 397                              | 134               | 1713              | 547,670           | 142,640           | 2,169,650         | 547,670           | 142,640           | 2,169,650         |
| OPERATING PERSONNEL                   | 133                              | 0                 | 31                | 130,210           | 0.000             | 17,560            | 130,210           | 0.000             | 17,560            |
| HEALTH PHYSICS PERSONNEL              | 103                              | 0                 | 116               | 144,890           | 0.000             | 141,510           | 144,890           | 0.000             | 141,510           |
| SUPERVISORY PERSONNEL                 | 6                                | 5                 | 16                | 3,140             | 9,840             | 2,970             | 3,140             | 9,840             | 2,970             |
| ENGINEERING PERSONNEL                 | 54                               | 44                | 113               | 49,900            | 23,990            | 107,950           | 49,900            | 23,990            | 107,950           |
| <b>GRAND TOTAL</b>                    | <b>693</b>                       | <b>183</b>        | <b>1978</b>       | <b>875,810</b>    | <b>176,470</b>    | <b>2439,640</b>   | <b>875,810</b>    | <b>176,470</b>    | <b>2439,640</b>   |

APPENDIX C

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

PLANT: \* CALVERT CLIFFS 1,2 (PMR)

1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS | STATION EMPLOYEES | TOTAL MAN-REMS    |                   | TOTAL   |
|----------------------------|----------------------------------|-------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|---------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | STATION EMPLOYEES                | UTILITY EMPLOYEES |               |                   | CONTRACT & OTHERS | CONTRACT & OTHERS |         |
| REACTOR OPERATIONS & SURV. |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 4                                | 0                 | 0                                | 0                 | 4             | 1,107             | 0.000             | 0.000             | 0.000   |
| OPERATING PERSONNEL        | 16                               | 0                 | 0                                | 0                 | 16            | 2,390             | 0.000             | 0.000             | 0.000   |
| HEALTH PHYSICS PERSONNEL   | 3                                | 0                 | 0                                | 0                 | 3             | 0,417             | 0.000             | 0.000             | 0.000   |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000             | 0.000   |
| ENGINEERING PERSONNEL      | 2                                | 0                 | 0                                | 0                 | 2             | 1,345             | 0.000             | 0.000             | 0.000   |
| TOTAL                      | 25                               | 0                 | 0                                | 0                 | 25            | 4,259             | 0.000             | 0.000             | 4,259   |
| ROUTINE MAINTENANCE        |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 9                                | 0                 | 0                                | 0                 | 9             | 1,347             | 0.000             | 0.000             | 0.000   |
| OPERATING PERSONNEL        | 1                                | 0                 | 0                                | 0                 | 1             | 0,222             | 0.000             | 0.000             | 0.000   |
| HEALTH PHYSICS PERSONNEL   | 4                                | 0                 | 0                                | 0                 | 4             | 2,376             | 0.000             | 0.000             | 0.000   |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000             | 0.000   |
| ENGINEERING PERSONNEL      | 1                                | 0                 | 0                                | 0                 | 1             | 1,328             | 0.000             | 0.000             | 0.000   |
| TOTAL                      | 15                               | 0                 | 0                                | 0                 | 15            | 5,273             | 0.000             | 0.000             | 5,273   |
| IN-SERVICE INSPECTION      |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 16                               | 33                | 4                                | 2                 | 55            | 2,996             | 6,251             | 0.552             | 0.413   |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000             | 0.000   |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 0                                | 0                 | 1             | 0,237             | 0.000             | 0.000             | 0.000   |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0                                | 0                 | 1             | 0,165             | 0.000             | 0.000             | 0.000   |
| ENGINEERING PERSONNEL      | 2                                | 0                 | 2                                | 2                 | 6             | 0,438             | 0.000             | 0.472             | 0.472   |
| TOTAL                      | 20                               | 33                | 6                                | 4                 | 63            | 3,836             | 6,251             | 1,437             | 1,437   |
| SPECIAL MAINTENANCE        |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 205                              | 159               | 127                              | 7                 | 508           | 146,379           | 138,140           | 53,942            | 3,943   |
| OPERATING PERSONNEL        | 80                               | 3                 | 10                               | 0                 | 93            | 42,179            | 1,096             | 3,493             | 34,029  |
| HEALTH PHYSICS PERSONNEL   | 59                               | 6                 | 69                               | 6                 | 130           | 43,951            | 1,887             | 6,149             | 3,673   |
| SUPERVISORY PERSONNEL      | 11                               | 6                 | 6                                | 0                 | 23            | 6,050             | 6,149             | 7,077             | 102,214 |
| ENGINEERING PERSONNEL      | 23                               | 4                 | 20                               | 0                 | 47            | 14,405            | 0,796             | 0.000             | 0.000   |
| TOTAL                      | 378                              | 178               | 232                              | 7                 | 788           | 252,964           | 148,068           | 102,214           | 503,246 |
| WASTE PROCESSING           |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 2                                | 2                 | 7                                | 0                 | 11            | 0,302             | 0,365             | 2,241             | 0.000   |
| OPERATING PERSONNEL        | 1                                | 0                 | 0                                | 0                 | 1             | 0,112             | 0.000             | 0.000             | 0.000   |
| HEALTH PHYSICS PERSONNEL   | 24                               | 2                 | 34                               | 0                 | 58            | 13,885            | 0,254             | 18,756            | 0.000   |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000             | 0.000   |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000             | 0.000   |
| TOTAL                      | 27                               | 4                 | 41                               | 0                 | 72            | 14,299            | 0,619             | 20,997            | 35,915  |
| REFUELING                  |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 46                               | 16                | 2                                | 0                 | 64            | 21,721            | 3,832             | 0,554             | 0.000   |
| OPERATING PERSONNEL        | 6                                | 1                 | 0                                | 0                 | 7             | 1,003             | 0,247             | 1,169             | 0.000   |
| HEALTH PHYSICS PERSONNEL   | 2                                | 0                 | 7                                | 0                 | 9             | 0,453             | 0.000             | 0.000             | 0.000   |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0                                | 0                 | 1             | 0,345             | 0.000             | 0.000             | 0.000   |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 2                                | 0                 | 2             | 0,000             | 0.000             | 0,236             | 1,959   |
| TOTAL                      | 55                               | 17                | 11                               | 0                 | 83            | 23,522            | 4,079             | 1,959             | 29,560  |
| TOTAL BY JOB FUNCTION      |                                  |                   |                                  |                   |               |                   |                   |                   |         |
| MAINTENANCE PERSONNEL      | 282 (209)                        | 210 (171)         | 140 (137)                        | 2                 | 632 (517)     | 173,852           | 148,588           | 57,289            | 379,729 |
| OPERATING PERSONNEL        | 104 (93)                         | 4 (3)             | 12 (10)                          | 0                 | 120 (106)     | 45,906            | 1,343             | 3,906             | 51,155  |
| HEALTH PHYSICS PERSONNEL   | 93 (66)                          | 8 (8)             | 110 (95)                         | 7                 | 211 (169)     | 61,319            | 2,141             | 53,954            | 117,414 |
| SUPERVISORY PERSONNEL      | 13 (13)                          | 6 (6)             | 6 (6)                            | 0                 | 25 (25)       | 6,560             | 6,149             | 16,382            | 16,382  |
| ENGINEERING PERSONNEL      | 28 (27)                          | 4 (4)             | 24 (23)                          | 2                 | 56 (54)       | 16,516            | 0,796             | 7,785             | 25,097  |
| GRAND TOTAL                | 520 (408)                        | 232 (192)         | 292 (271)                        | 11                | 1044 (871)    | 304,153           | 159,017           | 126,607           | 589,777 |

\* 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: \* COOK 1,2 (PWR)

1983

| WORK & JOB FUNCTION        | 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 |
| REACTOR OPERATIONS & SURV. | 101                              | 0                 | 48                | 149           | 27,948            | 0.000             | 14,832            | 42,780         |
| MAINTENANCE PERSONNEL      | 2                                | 0                 | 0                 | 2             | 0.868             | 0.000             | 0.000             |                |
| OPERATING PERSONNEL        | 76                               | 0                 | 0                 | 76            | 22,901            | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 20                               | 0                 | 48                | 68            | 3,595             | 0.000             | 14,832            |                |
| SUPERVISORY PERSONNEL      | 3                                | 0                 | 0                 | 3             | 0.584             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 | 0             | 0.000             | 0.000             | 0.000             |                |
| TOTAL                      | 101                              | 0                 | 48                | 149           | 27,948            | 0.000             | 14,832            | 42,780         |
| ROUTINE MAINTENANCE        | 100                              | 4                 | 124               | 228           | 76,467            | 1,199             | 44,952            |                |
| MAINTENANCE PERSONNEL      | 17                               | 0                 | 6                 | 23            | 6,936             | 0.000             | 1,055             |                |
| OPERATING PERSONNEL        | 8                                | 0                 | 14                | 22            | 1,052             | 0.000             | 3,102             |                |
| HEALTH PHYSICS PERSONNEL   | 5                                | 0                 | 3                 | 8             | 2,623             | 0.000             | 0.607             |                |
| SUPERVISORY PERSONNEL      | 7                                | 2                 | 9                 | 18            | 2,054             | 0.342             | 6,542             |                |
| ENGINEERING PERSONNEL      | 137                              | 6                 | 156               | 299           | 89,132            | 1,541             | 56,258            | 146,931        |
| IN-SERVICE INSPECTION      | 29                               | 3                 | 126               | 158           | 7,324             | 2,575             | 72,819            |                |
| MAINTENANCE PERSONNEL      | 7                                | 0                 | 7                 | 14            | 1,532             | 0.000             | 7,255             |                |
| OPERATING PERSONNEL        | 19                               | 0                 | 36                | 55            | 4,048             | 0.000             | 10,620            |                |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 3                 | 4             | 0.141             | 0.000             | 1,010             |                |
| SUPERVISORY PERSONNEL      | 5                                | 4                 | 5                 | 14            | 1,354             | 0.939             | 0.760             |                |
| ENGINEERING PERSONNEL      | 61                               | 7                 | 177               | 245           | 14,399            | 3,514             | 92,464            | 110,377        |
| SPECIAL MAINTENANCE        | 19                               | 2                 | 236               | 257           | 6,191             | 2,826             | 146,601           |                |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 21                | 22            | 0.203             | 0.000             | 11,374            |                |
| OPERATING PERSONNEL        | 7                                | 0                 | 13                | 20            | 0.000             | 0.000             | 2,899             |                |
| HEALTH PHYSICS PERSONNEL   | 1                                | 1                 | 7                 | 9             | 0.111             | 0.518             | 5,913             |                |
| SUPERVISORY PERSONNEL      | 5                                | 4                 | 5                 | 14            | 0.854             | 0.690             | 1,647             |                |
| ENGINEERING PERSONNEL      | 26                               | 7                 | 282               | 315           | 7,359             | 4,034             | 168,434           | 179,827        |
| WASTE PROCESSING           | 21                               | 1                 | 60                | 82            | 4,660             | 0.151             | 34,128            |                |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 0                 | 1             | 0.142             | 0.000             | 0.000             |                |
| OPERATING PERSONNEL        | 7                                | 0                 | 18                | 25            | 1,973             | 0.000             | 9,817             |                |
| HEALTH PHYSICS PERSONNEL   | 3                                | 0                 | 0                 | 3             | 3,248             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0                 | 1             | 0.508             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL      | 33                               | 1                 | 78                | 112           | 10,531            | 0.151             | 43,945            | 54,627         |
| REFUELING                  | 6                                | 2                 | 37                | 45            | 2,644             | 1,174             | 20,950            |                |
| MAINTENANCE PERSONNEL      | 4                                | 0                 | 8                 | 12            | 1,212             | 0.000             | 4,182             |                |
| OPERATING PERSONNEL        | 0                                | 0                 | 3                 | 3             | 0.000             | 0.000             | 0.536             |                |
| HEALTH PHYSICS PERSONNEL   | 2                                | 0                 | 1                 | 3             | 0.678             | 0.000             | 0.147             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0             | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL      | 12                               | 2                 | 49                | 63            | 4,534             | 1,174             | 25,815            | 31,523         |
| TOTAL BY JOB FUNCTION      | 177 (141)                        | 12 (6)            | 583 (439)         | 772 (586)     | 98,154            | 7,925             | 319,450           | 425,529        |
| MAINTENANCE PERSONNEL      | 106 (94)                         | 0                 | 42 (34)           | 148 (128)     | 32,926            | 0.000             | 23,866            | 56,792         |
| OPERATING PERSONNEL        | 54 (26)                          | 0                 | 132 (74)          | 186 (100)     | 10,668            | 0.000             | 41,806            | 52,474         |
| HEALTH PHYSICS PERSONNEL   | 15 (12)                          | 1 (1)             | 14 (7)            | 30 (20)       | 7,385             | 0.518             | 7,677             | 15,580         |
| SUPERVISORY PERSONNEL      | 18 (12)                          | 10 (7)            | 19 (19)           | 47 (38)       | 4,770             | 1,971             | 8,949             | 15,690         |
| ENGINEERING PERSONNEL      | 370 (285)                        | 23 (14)           | 790 (573)         | 1183 (872)    | 153,903           | 10,414            | 401,748           | 566,065        |
| GRAND TOTAL                | 370 (285)                        | 23 (14)           | 790 (573)         | 1183 (872)    | 153,903           | 10,414            | 401,748           | 566,065        |

\* 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  
 1983

PLANT: \* COOPER (BWR)

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION EMPLOYEES | TOTAL PERSONS | TOTAL MAN-REMS    |                   | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|----------------------------------|-------------------|-------------------|---------------|-------------------|-------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS                | CONTRACT & OTHERS |                   |               | UTILITY EMPLOYEES | CONTRACT & OTHERS |                |
| REACTOR OPERATIONS & SURV. | 105                              | 3                 | 9                                | 117               | 53,396            | 117           | 2,103             | 55,733            |                |
| MAINTENANCE PERSONNEL      | 5                                | 0                 | 3                                |                   | 2,095             |               | 1,001             |                   |                |
| OPERATING PERSONNEL        | 49                               | 0                 | 0                                |                   | 25,744            |               | 0,000             |                   |                |
| HEALTH PHYSICS PERSONNEL   | 18                               | 0                 | 0                                |                   | 6,950             |               | 0,000             |                   |                |
| SUPERVISORY PERSONNEL      | 14                               | 2                 | 3                                |                   | 4,623             |               | 0,763             |                   |                |
| ENGINEERING PERSONNEL      | 19                               | 1                 | 3                                |                   | 13,984            |               | 0,339             |                   |                |
| TOTAL                      | 105                              | 3                 | 9                                | 117               | 53,396            | 117           | 2,103             | 55,733            |                |
| ROUTINE MAINTENANCE        | 60                               | 17                | 168                              |                   | 80,261            |               | 17,226            | 251,626           |                |
| MAINTENANCE PERSONNEL      | 6                                | 0                 | 0                                |                   | 2,120             |               | 0,000             | 0,000             |                |
| OPERATING PERSONNEL        | 14                               | 0                 | 0                                |                   | 6,569             |               | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL   | 11                               | 4                 | 5                                |                   | 4,047             |               | 0,827             | 8,016             |                |
| SUPERVISORY PERSONNEL      | 13                               | 16                | 3                                |                   | 5,434             |               | 15,537            | 0,272             |                |
| ENGINEERING PERSONNEL      | 104                              | 37                | 176                              | 317               | 98,431            | 317           | 33,590            | 259,914           | 391,935        |
| IN-SERVICE INSPECTION      | 0                                | 0                 | 50                               |                   | 0,000             |               | 0,000             | 70,885            |                |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0                                |                   | 0,000             |               | 0,000             | 0,000             |                |
| OPERATING PERSONNEL        | 1                                | 0                 | 0                                |                   | 0,044             |               | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 5                                |                   | 0,096             |               | 0,000             | 4,371             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                                |                   | 0,000             |               | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 2                                | 0                 | 55                               | 57                | 0,140             | 57            | 0,000             | 75,256            | 75,396         |
| TOTAL                      | 0                                | 0                 | 404                              |                   | 0,000             |               | 0,000             | 717,356           |                |
| SPECIAL MAINTENANCE        | 0                                | 0                 | 0                                |                   | 0,000             |               | 0,000             | 0,000             |                |
| MAINTENANCE PERSONNEL      | 14                               | 0                 | 2                                |                   | 4,559             |               | 0,000             | 0,193             |                |
| OPERATING PERSONNEL        | 4                                | 2                 | 9                                |                   | 1,326             |               | 0,088             | 3,719             |                |
| HEALTH PHYSICS PERSONNEL   | 1                                | 17                | 9                                |                   | 0,080             |               | 3,449             | 6,732             |                |
| SUPERVISORY PERSONNEL      | 19                               | 19                | 424                              | 462               | 5,965             | 462           | 3,537             | 728,000           | 737,502        |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                                |                   | 0,214             |               | 0,000             | 0,000             |                |
| MAINTENANCE PERSONNEL      | 22                               | 0                 | 0                                |                   | 5,944             |               | 0,000             | 0,000             |                |
| OPERATING PERSONNEL        | 12                               | 0                 | 0                                |                   | 2,009             |               | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL   | 4                                | 0                 | 0                                |                   | 0,591             |               | 0,000             | 0,000             |                |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0                                |                   | 0,063             |               | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 41                               | 0                 | 0                                | 41                | 8,821             | 41            | 0,000             | 0,000             | 8,821          |
| TOTAL                      | 2                                | 0                 | 0                                |                   | 0,062             |               | 0,000             | 0,000             |                |
| MAINTENANCE PERSONNEL      | 28                               | 0                 | 0                                |                   | 3,762             |               | 0,000             | 0,000             |                |
| OPERATING PERSONNEL        | 5                                | 0                 | 0                                |                   | 0,423             |               | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL   | 1                                | 1                 | 0                                |                   | 0,092             |               | 0,016             | 0,000             |                |
| SUPERVISORY PERSONNEL      | 2                                | 3                 | 0                                |                   | 0,105             |               | 0,137             | 0,000             |                |
| ENGINEERING PERSONNEL      | 38                               | 4                 | 0                                | 42                | 4,444             | 42            | 0,153             | 0,000             | 4,597          |
| TOTAL                      | 69 (61)                          | 17 (17)           | 625 (601)                        | 711 (679)         | 82,632            | 711 (679)     | 17,226            | 1040,868          | 1140,726       |
| MAINTENANCE PERSONNEL      | 105 (50)                         | 0                 | 0                                | 105 (50)          | 37,570            | 105 (50)      | 0,000             | 0,000             | 37,570         |
| OPERATING PERSONNEL        | 64 (18)                          | 0                 | 2 (0)                            | 66 (18)           | 20,554            | 66 (18)       | 0,000             | 0,193             | 20,747         |
| HEALTH PHYSICS PERSONNEL   | 35 (15)                          | 9 (4)             | 22 (18)                          | 66 (37)           | 10,775            | 66 (37)       | 1,038             | 16,869            | 28,682         |
| SUPERVISORY PERSONNEL      | 36 (19)                          | 37 (19)           | 15 (13)                          | 88 (51)           | 19,666            | 88 (51)       | 19,250            | 7,343             | 46,259         |
| ENGINEERING PERSONNEL      | 309 (163)                        | 63 (40)           | 664 (632)                        | 1036 (835)        | 171,197           | 1036 (835)    | 37,514            | 1065,273          | 1273,984       |
| GRAND TOTAL                |                                  |                   |                                  |                   |                   |               |                   |                   |                |

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

PLANT: \* CRYSTAL RIVER (PWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1983  
 APPENDIX C

| 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                 | 20                               | 34                | 38                | 5,301             | 9,161             | 10,469            |                |
| OPERATING PERSONNEL                   | 39                               | 1                 | 10                | 11,997            | 0,404             | 3,479             |                |
| HEALTH PHYSICS PERSONNEL              | 2                                | 0                 | 0                 | 0,977             | 0,000             | 0,171             |                |
| SUPERVISORY PERSONNEL                 | 27                               | 7                 | 18                | 7,329             | 2,460             | 5,775             |                |
| ENGINEERING PERSONNEL                 | 9                                | 7                 | 28                | 2,529             | 1,650             | 9,669             |                |
| TOTAL                                 | 97                               | 59                | 94                | 28,133            | 13,675            | 29,563            | 71,371         |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 146                              | 87                | 452               | 74,049            | 54,155            | 209,919           |                |
| OPERATING PERSONNEL                   | 16                               | 0                 | 11                | 4,585             | 0,048             | 3,465             |                |
| HEALTH PHYSICS PERSONNEL              | 18                               | 0                 | 70                | 6,013             | 0,000             | 44,733            |                |
| SUPERVISORY PERSONNEL                 | 17                               | 1                 | 17                | 5,927             | 0,355             | 5,489             |                |
| ENGINEERING PERSONNEL                 | 6                                | 2                 | 53                | 1,997             | 0,519             | 20,137            |                |
| TOTAL                                 | 203                              | 90                | 603               | 92,571            | 55,077            | 283,743           | 431,391        |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 2                                | 4                 | 45                | 1,636             | 1,556             | 14,824            |                |
| OPERATING PERSONNEL                   | 0                                | 1                 | 2                 | 0,155             | 0,137             | 0,257             |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                 | 0,062             | 0,052             | 0,074             |                |
| ENGINEERING PERSONNEL                 | 2                                | 1                 | 21                | 0,441             | 0,134             | 11,230            |                |
| TOTAL                                 | 4                                | 6                 | 68                | 2,294             | 1,879             | 26,385            | 30,558         |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| TOTAL                                 | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             | 0,000          |
| <b>WASTE PROCESSING</b>               |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 6                                | 1                 | 24                | 2,025             | 0,264             | 7,731             |                |
| OPERATING PERSONNEL                   | 1                                | 0                 | 3                 | 0,198             | 0,000             | 0,970             |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 2                 | 0,009             | 0,000             | 0,369             |                |
| SUPERVISORY PERSONNEL                 | 2                                | 0                 | 1                 | 0,351             | 0,000             | 3,247             |                |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 1                 | 0,021             | 0,000             | 0,178             |                |
| TOTAL                                 | 9                                | 1                 | 31                | 2,604             | 0,264             | 12,495            | 15,363         |
| <b>REFUELING</b>                      |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0                 | 0,331             | 0,540             | 0,244             |                |
| OPERATING PERSONNEL                   | 1                                | 0                 | 0                 | 0,880             | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0                 | 0,000             | 0,000             | 0,000             |                |
| SUPERVISORY PERSONNEL                 | 3                                | 0                 | 0                 | 0,993             | 0,008             | 0,000             |                |
| ENGINEERING PERSONNEL                 | 1                                | 0                 | 0                 | 0,182             | 0,121             | 0,000             |                |
| TOTAL                                 | 5                                | 0                 | 0                 | 2,386             | 0,568             | 0,365             | 3,299          |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 174(157)                         | 126(97)           | 559(494)          | 83,342            | 65,676            | 243,187           | 392,205        |
| OPERATING PERSONNEL                   | 57(46)                           | 2(2)              | 26(29)            | 17,815            | 0,589             | 8,171             | 26,575         |
| HEALTH PHYSICS PERSONNEL              | 20(20)                           | 0                 | 72(90)            | 6,999             | 0,000             | 45,273            | 52,272         |
| SUPERVISORY PERSONNEL                 | 49(53)                           | 8(8)              | 36(39)            | 14,662            | 2,875             | 14,585            | 32,122         |
| ENGINEERING PERSONNEL                 | 18(19)                           | 10(11)            | 103(88)           | 5,170             | 2,303             | 41,335            | 48,808         |
| GRAND TOTAL                           | 318(295)                         | 146(118)          | 796(720)          | 127,988           | 71,443            | 352,551           | 551,982        |

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

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

PLANT: \* DAVIS-BESSE (PWR) 1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL MAN-REMS    |                   | TOTAL PERSONS | STATION EMPLOYEES |                   | UTILITY EMPLOYEES |                   | TOTAL MAN-REMS CONTRACT & OTHERS | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|-------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|----------------------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | CONTRACT & OTHERS |               | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | CONTRACT & OTHERS |                                  |                |
| REACTOR OPERATIONS & SURV. | 147                              | 2                 | 45                | 194               | 194           | 9,550             | 0.020             | 0.020             | 0.020             | 0.290                            | 10.705         |
| MAINTENANCE PERSONNEL      | 9                                | 2                 | 17                |                   |               | 0.185             |                   |                   |                   |                                  |                |
| OPERATING PERSONNEL        | 93                               | 0                 | 25                |                   |               | 7.350             | 0.000             | 0.000             | 0.000             | 0.795                            |                |
| HEALTH PHYSICS PERSONNEL   | 12                               | 0                 | 0                 |                   |               | 0.790             | 0.000             | 0.000             | 0.000             | 0.000                            |                |
| SUPERVISORY PERSONNEL      | 20                               | 0                 | 2                 |                   |               | 0.900             | 0.000             | 0.000             | 0.000             | 0.040                            |                |
| ENGINEERING PERSONNEL      | 13                               | 0                 | 1                 |                   |               | 0.325             | 0.000             | 0.000             | 0.000             | 0.010                            |                |
| TOTAL                      | 147                              | 2                 | 45                | 194               | 194           | 9,550             | 0.020             | 0.020             | 0.020             | 1.135                            | 10.705         |
| ROUTINE MAINTENANCE        | 97                               | 46                | 266               |                   |               | 9,110             | 1.360             | 1.360             | 16.065            |                                  |                |
| OPERATING PERSONNEL        | 16                               | 0                 | 0                 |                   |               | 0.470             | 0.000             | 0.000             | 0.000             | 0.000                            |                |
| HEALTH PHYSICS PERSONNEL   | 17                               | 0                 | 42                |                   |               | 4.375             | 0.000             | 0.000             | 8.530             |                                  |                |
| SUPERVISORY PERSONNEL      | 19                               | 0                 | 17                |                   |               | 0.775             | 0.000             | 0.000             | 0.690             |                                  |                |
| ENGINEERING PERSONNEL      | 11                               | 0                 | 4                 |                   |               | 0.495             | 0.000             | 0.000             | 0.185             |                                  |                |
| TOTAL                      | 160                              | 46                | 329               | 535               | 535           | 15,225            | 1.360             | 1.360             | 25.470            |                                  | 42.055         |
| IN-SERVICE INSPECTION      | 2                                | 0                 | 23                |                   |               | 0.040             | 0.000             | 0.000             | 1.395             |                                  |                |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 0                 |                   |               | 0.020             | 0.000             | 0.000             | 0.000             | 0.000                            |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 1                 |                   |               | 0.000             | 0.000             | 0.000             | 0.040             |                                  |                |
| SUPERVISORY PERSONNEL      | 2                                | 0                 | 2                 |                   |               | 0.200             | 0.000             | 0.000             | 0.225             |                                  |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 |                   |               | 0.000             | 0.000             | 0.000             | 0.190             |                                  |                |
| TOTAL                      | 5                                | 0                 | 28                | 33                | 33            | 0.260             | 0.000             | 0.000             | 1.850             |                                  | 2.110          |
| SPECIAL MAINTENANCE        | 98                               | 34                | 282               |                   |               | 13,025            | 4.995             | 4.995             | 36.720            |                                  |                |
| OPERATING PERSONNEL        | 19                               | 1                 | 0                 |                   |               | 1,115             | 0.345             | 0.345             | 0.000             |                                  |                |
| HEALTH PHYSICS PERSONNEL   | 7                                | 0                 | 20                |                   |               | 0.490             | 0.000             | 0.000             | 3.495             |                                  |                |
| SUPERVISORY PERSONNEL      | 14                               | 0                 | 16                |                   |               | 0.815             | 0.000             | 0.000             | 3.435             |                                  |                |
| ENGINEERING PERSONNEL      | 11                               | 0                 | 12                |                   |               | 0.775             | 0.000             | 0.000             | 0.735             |                                  |                |
| TOTAL                      | 149                              | 35                | 330               | 514               | 514           | 16,220            | 5.340             | 5.340             | 44.385            |                                  | 65.945         |
| WASTE PROCESSING           | 3                                | 1                 | 8                 |                   |               | 0.860             | 0.005             | 0.005             | 0.260             |                                  |                |
| OPERATING PERSONNEL        | 8                                | 0                 | 1                 |                   |               | 0.285             | 0.000             | 0.000             | 0.220             |                                  |                |
| HEALTH PHYSICS PERSONNEL   | 6                                | 0                 | 5                 |                   |               | 2.225             | 0.000             | 0.000             | 0.535             |                                  |                |
| SUPERVISORY PERSONNEL      | 3                                | 0                 | 0                 |                   |               | 0.350             | 0.000             | 0.000             | 0.000             |                                  |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 |                   |               | 0.000             | 0.000             | 0.000             | 0.000             |                                  |                |
| TOTAL                      | 20                               | 1                 | 14                | 35                | 35            | 3,720             | 0.005             | 0.005             | 1.015             |                                  | 4.740          |
| REFUELING                  | 23                               | 15                | 42                |                   |               | 2,765             | 3.140             | 3.140             | 8.655             |                                  |                |
| OPERATING PERSONNEL        | 29                               | 1                 | 0                 |                   |               | 2,230             | 0.015             | 0.015             | 0.000             |                                  |                |
| HEALTH PHYSICS PERSONNEL   | 2                                | 0                 | 2                 |                   |               | 0.050             | 0.000             | 0.000             | 0.045             |                                  |                |
| SUPERVISORY PERSONNEL      | 5                                | 0                 | 3                 |                   |               | 0.145             | 0.000             | 0.000             | 0.590             |                                  |                |
| ENGINEERING PERSONNEL      | 7                                | 0                 | 2                 |                   |               | 1.020             | 0.000             | 0.000             | 0.420             |                                  |                |
| TOTAL                      | 66                               | 16                | 49                | 131               | 131           | 6,210             | 3.155             | 3.155             | 9.710             |                                  | 19.075         |
| TOTAL BY JOB FUNCTION      | 232                              | 98                | 638               | 968               | 968           | 25,985            | 9.520             | 9.520             | 63.385            |                                  | 98.890         |
| OPERATING PERSONNEL        | 166                              | 2                 | 26                | 194               | 194           | 11,470            | 0.360             | 0.360             | 1.015             |                                  | 12.845         |
| HEALTH PHYSICS PERSONNEL   | 44                               | 0                 | 70                | 114               | 114           | 7,930             | 0.000             | 0.000             | 12.645            |                                  | 20.575         |
| SUPERVISORY PERSONNEL      | 63                               | 0                 | 40                | 103               | 103           | 3,185             | 0.000             | 0.000             | 4.980             |                                  | 8.165          |
| ENGINEERING PERSONNEL      | 42                               | 0                 | 21                | 63                | 63            | 2,615             | 0.000             | 0.000             | 1.560             |                                  | 4.155          |
| GRAND TOTAL                | 547                              | 100               | 795               | 1442              | 1442          | 51,185            | 9.880             | 9.880             | 83.565            |                                  | 144.630        |

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

**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
 1983

| PLANT: DRESDEN 1,2,3                  | (BWR)      | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   |                 | TOTAL             |                   |                   |                | TOTAL MAN-REMS    |                 |
|---------------------------------------|------------|----------------------------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------------|----------------|-------------------|-----------------|
|                                       |            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL PERSONS   | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS | CONTRACT & OTHERS | TOTAL MAN-REMS  |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 19         | 2                                | 0                 | 0                 | 41,950          | 5,270             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| OPERATING PERSONNEL                   | 53         | 0                                | 0                 | 0                 | 92,090          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL              | 2          | 0                                | 0                 | 0                 | 4,610           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| SUPERVISORY PERSONNEL                 | 23         | 0                                | 0                 | 0                 | 24,910          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| ENGINEERING PERSONNEL                 | 3          | 2                                | 0                 | 0                 | 1,660           | 0.710             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| <b>TOTAL</b>                          | <b>100</b> | <b>4</b>                         | <b>0</b>          | <b>0</b>          | <b>165,220</b>  | <b>5,980</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>171,200</b>  |
| <b>ROUTINE MAINTENANCE</b>            |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 165        | 81                               | 604               | 0                 | 359,530         | 171,420           | 1562.170          | 0.000             | 0.000          | 0.000             | 0.000           |
| OPERATING PERSONNEL                   | 25         | 0                                | 0                 | 0                 | 42,830          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL              | 28         | 0                                | 7                 | 0                 | 67,990          | 0.000             | 6.940             | 0.000             | 0.000          | 0.000             | 0.000           |
| SUPERVISORY PERSONNEL                 | 79         | 0                                | 0                 | 0                 | 84,680          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| ENGINEERING PERSONNEL                 | 48         | 37                               | 18                | 0                 | 29,070          | 15.180            | 27.850            | 0.000             | 0.000          | 0.000             | 0.000           |
| <b>TOTAL</b>                          | <b>345</b> | <b>118</b>                       | <b>629</b>        | <b>0</b>          | <b>584,100</b>  | <b>186,600</b>    | <b>1596.960</b>   | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>2367.660</b> |
| <b>IN-SERVICE INSPECTION</b>          |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 27         | 35                               | 116               | 0                 | 59,920          | 73.840            | 300.420           | 0.000             | 0.000          | 0.000             | 0.000           |
| OPERATING PERSONNEL                   | 6          | 0                                | 0                 | 0                 | 10,710          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL              | 5          | 0                                | 11                | 0                 | 11,520          | 0.000             | 10.400            | 0.000             | 0.000          | 0.000             | 0.000           |
| SUPERVISORY PERSONNEL                 | 9          | 0                                | 0                 | 0                 | 9,960           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| ENGINEERING PERSONNEL                 | 9          | 1                                | 15                | 0                 | 5,400           | 0.530             | 22.780            | 0.000             | 0.000          | 0.000             | 0.000           |
| <b>TOTAL</b>                          | <b>56</b>  | <b>36</b>                        | <b>142</b>        | <b>0</b>          | <b>97,510</b>   | <b>74.370</b>     | <b>333.600</b>    | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>505.680</b>  |
| <b>SPECIAL MAINTENANCE</b>            |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 0          | 0                                | 0                 | 0                 | 0.000           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| OPERATING PERSONNEL                   | 0          | 0                                | 0                 | 0                 | 0.000           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL              | 0          | 0                                | 0                 | 0                 | 0.000           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| SUPERVISORY PERSONNEL                 | 0          | 0                                | 0                 | 0                 | 0.000           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| ENGINEERING PERSONNEL                 | 0          | 0                                | 0                 | 0                 | 0.000           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| <b>TOTAL</b>                          | <b>0</b>   | <b>0</b>                         | <b>0</b>          | <b>0</b>          | <b>0.000</b>    | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>0.000</b>    |
| <b>WASTE PROCESSING</b>               |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 22         | 6                                | 54                | 0                 | 47,940          | 13.190            | 140.190           | 0.000             | 0.000          | 0.000             | 0.000           |
| OPERATING PERSONNEL                   | 32         | 0                                | 2                 | 0                 | 55,680          | 0.000             | 2.590             | 0.000             | 0.000          | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL              | 10         | 0                                | 0                 | 0                 | 25,350          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| SUPERVISORY PERSONNEL                 | 27         | 0                                | 0                 | 0                 | 28,230          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| ENGINEERING PERSONNEL                 | 4          | 2                                | 0                 | 0                 | 2,910           | 0.880             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| <b>TOTAL</b>                          | <b>95</b>  | <b>8</b>                         | <b>56</b>         | <b>0</b>          | <b>160,110</b>  | <b>14.070</b>     | <b>142.780</b>    | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>316.960</b>  |
| <b>REFUELING</b>                      |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 41         | 0                                | 0                 | 0                 | 89,880          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| OPERATING PERSONNEL                   | 8          | 0                                | 0                 | 0                 | 12,850          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL              | 2          | 0                                | 0                 | 0                 | 5,760           | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| SUPERVISORY PERSONNEL                 | 17         | 0                                | 0                 | 0                 | 18,270          | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| ENGINEERING PERSONNEL                 | 4          | 1                                | 0                 | 0                 | 2,490           | 0.350             | 0.000             | 0.000             | 0.000          | 0.000             | 0.000           |
| <b>TOTAL</b>                          | <b>72</b>  | <b>1</b>                         | <b>0</b>          | <b>0</b>          | <b>129,250</b>  | <b>0.350</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>129.600</b>  |
| <b>TOTAL BY JOB FUNCTION</b>          |            |                                  |                   |                   |                 |                   |                   |                   |                |                   |                 |
| MAINTENANCE PERSONNEL                 | 274        | 124                              | 774               | 1172              | 599,220         | 263,720           | 2002.780          | 0.000             | 0.000          | 0.000             | 2865.720        |
| OPERATING PERSONNEL                   | 124        | 0                                | 2                 | 126               | 214,160         | 0.000             | 2.590             | 0.000             | 0.000          | 0.000             | 216.750         |
| HEALTH PHYSICS PERSONNEL              | 47         | 0                                | 18                | 65                | 115,230         | 0.000             | 17.340            | 0.000             | 0.000          | 0.000             | 132.570         |
| SUPERVISORY PERSONNEL                 | 155        | 0                                | 0                 | 155               | 166,050         | 0.000             | 0.000             | 0.000             | 0.000          | 0.000             | 166.050         |
| ENGINEERING PERSONNEL                 | 68         | 43                               | 33                | 144               | 41,530          | 17.650            | 50.630            | 0.000             | 0.000          | 0.000             | 109.810         |
| <b>GRAND TOTAL</b>                    | <b>668</b> | <b>167</b>                       | <b>827</b>        | <b>1662</b>       | <b>1136,190</b> | <b>281,370</b>    | <b>2073.340</b>   | <b>0.000</b>      | <b>0.000</b>   | <b>0.000</b>      | <b>3490.900</b> |



PLANT: DUANE ARNOLD (BWR) APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                           | TOTAL       |         | STATION   |                   | TOTAL MAN-REMS    |                |
|----------------------------|----------------------------------|---------------------------|-------------|---------|-----------|-------------------|-------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY CONTRACT & OTHERS | PERSONS     | PERSONS | EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS |
| REACTOR OPERATIONS & SURV. |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 12                               | 92                        |             |         | 0.354     | 0.415             | 0.824             |                |
| OPERATING PERSONNEL        | 54                               | 6                         |             |         | 39.590    | 0.732             | 1.654             |                |
| HEALTH PHYSICS PERSONNEL   | 5                                | 47                        |             |         | 0.193     | 0.053             | 4.198             |                |
| SUPERVISORY PERSONNEL      | 14                               | 10                        |             |         | 0.688     | 0.000             | 0.140             |                |
| ENGINEERING PERSONNEL      | 4                                | 32                        |             |         | 0.061     | 0.125             | 0.322             |                |
| TOTAL                      | 89                               | 187                       | 301         |         | 40.886    | 1.525             | 7.138             | 49.349         |
| ROUTINE MAINTENANCE        |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 89                               | 226                       |             |         | 24.750    | 18.965            | 318.115           |                |
| OPERATING PERSONNEL        | 28                               | 17                        |             |         | 0.905     | 0.105             | 0.245             |                |
| HEALTH PHYSICS PERSONNEL   | 26                               | 135                       |             |         | 6.233     | 0.640             | 10.348            |                |
| SUPERVISORY PERSONNEL      | 13                               | 152                       |             |         | 0.383     | 0.000             | 7.692             |                |
| ENGINEERING PERSONNEL      | 20                               | 155                       |             |         | 0.795     | 0.257             | 6.133             |                |
| TOTAL                      | 176                              | 685                       | 943         |         | 33.066    | 19.967            | 342.533           | 395.566        |
| IN-SERVICE INSPECTION      |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 22                               | 314                       |             |         | 0.718     | 0.640             | 16.588            |                |
| OPERATING PERSONNEL        | 25                               | 3                         |             |         | 1.096     | 0.084             | 0.085             |                |
| HEALTH PHYSICS PERSONNEL   | 23                               | 15                        |             |         | 6.456     | 0.070             | 18.529            |                |
| SUPERVISORY PERSONNEL      | 14                               | 95                        |             |         | 0.578     | 0.000             | 2.599             |                |
| ENGINEERING PERSONNEL      | 21                               | 214                       |             |         | 1.605     | 6.803             | 42.183            |                |
| TOTAL                      | 105                              | 641                       | 801         |         | 10.453    | 7.597             | 79.984            | 98.034         |
| SPECIAL MAINTENANCE        |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 29                               | 773                       |             |         | 6.570     | 7.085             | 579.131           |                |
| OPERATING PERSONNEL        | 4                                | 2                         |             |         | 0.100     | 0.028             | 0.175             |                |
| HEALTH PHYSICS PERSONNEL   | 8                                | 86                        |             |         | 1.406     | 0.109             | 21.513            |                |
| SUPERVISORY PERSONNEL      | 3                                | 39                        |             |         | 0.350     | 0.000             | 44.513            |                |
| ENGINEERING PERSONNEL      | 11                               | 44                        |             |         | 0.418     | 1.109             | 37.429            |                |
| TOTAL                      | 55                               | 944                       | 1036        |         | 6.844     | 8.331             | 682.761           | 697.936        |
| WASTE PROCESSING           |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 3                                | 28                        |             |         | 0.020     | 0.318             | 1.367             |                |
| OPERATING PERSONNEL        | 5                                | 16                        |             |         | 2.707     | 3.345             | 8.631             |                |
| HEALTH PHYSICS PERSONNEL   | 9                                | 20                        |             |         | 0.126     | 0.302             | 2.627             |                |
| SUPERVISORY PERSONNEL      | 3                                | 2                         |             |         | 0.163     | 0.000             | 0.035             |                |
| ENGINEERING PERSONNEL      | 0                                | 11                        |             |         | 0.000     | 0.030             | 0.249             |                |
| TOTAL                      | 20                               | 77                        | 148         |         | 3.016     | 3.995             | 12.909            | 19.920         |
| REFUELING                  |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 11                               | 230                       |             |         | 0.091     | 0.480             | 42.734            |                |
| OPERATING PERSONNEL        | 39                               | 0                         |             |         | 1.379     | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 25                               | 17                        |             |         | 0.522     | 0.000             | 4.307             |                |
| SUPERVISORY PERSONNEL      | 15                               | 13                        |             |         | 0.249     | 0.000             | 4.383             |                |
| ENGINEERING PERSONNEL      | 6                                | 25                        |             |         | 0.085     | 0.000             | 4.128             |                |
| TOTAL                      | 96                               | 285                       | 390         |         | 2.326     | 0.480             | 55.552            | 58.358         |
| TOTAL BY JOB FUNCTION      |                                  |                           |             |         |           |                   |                   |                |
| MAINTENANCE PERSONNEL      | 166 (91)                         | 135 (73)                  | 1964 (1100) |         | 30.503    | 27.903            | 958.759           | 1017.165       |
| OPERATING PERSONNEL        | 155 (75)                         | 36 (20)                   | 235 (127)   |         | 45.777    | 4.294             | 10.790            | 60.861         |
| HEALTH PHYSICS PERSONNEL   | 96 (40)                          | 36 (15)                   | 452 (226)   |         | 14.936    | 1.174             | 61.522            | 77.632         |
| SUPERVISORY PERSONNEL      | 62 (28)                          | 0                         | 373 (204)   |         | 2.411     | 0.000             | 59.362            | 61.773         |
| ENGINEERING PERSONNEL      | 62 (31)                          | 52 (27)                   | 595 (310)   |         | 2.964     | 8.324             | 90.644            | 101.732        |
| GRAND TOTAL                | 541(265)                         | 259(135)                  | 3619(1567)  |         | 96.591    | 41.695            | 1180.877          | 1319.163 **    |

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

\*\*Mark I torus modifications contributed 560 man-rems, and ISI contributed 50 man-rems.

**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
 1983

PLANT: \* FARLEY 1,2 (PWR)

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   | TOTAL             |                   |                   | TOTAL MAN-REMS    |                   |                   |
|---------------------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 55                               | 3                 | 55                | 4,553             | 0.074             | 2,389             |                   |                   |                   |
| OPERATING PERSONNEL                   | 143                              | 7                 | 0                 | 57,589            | 0.957             | 0.000             |                   |                   |                   |
| HEALTH PHYSICS PERSONNEL              | 99                               | 4                 | 103               | 51,202            | 0.540             | 60,268            |                   |                   |                   |
| SUPERVISORY PERSONNEL                 | 168                              | 11                | 27                | 29,918            | 1.204             | 1,828             |                   |                   |                   |
| ENGINEERING PERSONNEL                 | 51                               | 16                | 102               | 5,426             | 0.920             | 8,516             |                   |                   |                   |
| <b>TOTAL</b>                          | <b>516</b>                       | <b>41</b>         | <b>287</b>        | <b>148,688</b>    | <b>3,695</b>      | <b>73,001</b>     |                   |                   | <b>225,384</b>    |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 153                              | 3                 | 78                | 36,515            | 1.182             | 9,426             |                   |                   |                   |
| OPERATING PERSONNEL                   | 102                              | 2                 | 0                 | 61,841            | 0.158             | 0.000             |                   |                   |                   |
| HEALTH PHYSICS PERSONNEL              | 34                               | 0                 | 28                | 10,880            | 0.000             | 2,598             |                   |                   |                   |
| SUPERVISORY PERSONNEL                 | 61                               | 3                 | 5                 | 8,876             | 0.252             | 1,955             |                   |                   |                   |
| ENGINEERING PERSONNEL                 | 21                               | 14                | 213               | 2,685             | 0.496             | 16,778            |                   |                   |                   |
| <b>TOTAL</b>                          | <b>371</b>                       | <b>22</b>         | <b>324</b>        | <b>120,797</b>    | <b>2,088</b>      | <b>30,757</b>     |                   |                   | <b>153,642</b>    |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 3                                | 0                 | 27                | 0.058             | 0.000             | 7,113             |                   |                   |                   |
| OPERATING PERSONNEL                   | 3                                | 1                 | 0                 | 0.340             | 0.590             | 0.000             |                   |                   |                   |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 3                 | 0.000             | 0.000             | 0.097             |                   |                   |                   |
| SUPERVISORY PERSONNEL                 | 2                                | 5                 | 0                 | 0.085             | 1.883             | 0.000             |                   |                   |                   |
| ENGINEERING PERSONNEL                 | 5                                | 2                 | 75                | 0.723             | 0.676             | 22,594            |                   |                   |                   |
| <b>TOTAL</b>                          | <b>13</b>                        | <b>8</b>          | <b>105</b>        | <b>1,206</b>      | <b>3,149</b>      | <b>29,804</b>     |                   |                   | <b>34,159</b>     |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 140                              | 3                 | 306               | 157,641           | 2,912             | 93,942            |                   |                   |                   |
| OPERATING PERSONNEL                   | 93                               | 2                 | 0                 | 23,615            | 0.045             | 0.000             |                   |                   |                   |
| HEALTH PHYSICS PERSONNEL              | 47                               | 1                 | 45                | 13,878            | 0.030             | 4,651             |                   |                   |                   |
| SUPERVISORY PERSONNEL                 | 65                               | 3                 | 9                 | 13,687            | 0.170             | 1,347             |                   |                   |                   |
| ENGINEERING PERSONNEL                 | 29                               | 16                | 495               | 4,822             | 1.765             | 172,933           |                   |                   |                   |
| <b>TOTAL</b>                          | <b>374</b>                       | <b>25</b>         | <b>855</b>        | <b>213,643</b>    | <b>4,922</b>      | <b>272,873</b>    |                   |                   | <b>491,438</b>    |
| <b>WASTE PROCESSING</b>               |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 2                                | 0                 | 9                 | 0.108             | 0.000             | 1,539             |                   |                   |                   |
| OPERATING PERSONNEL                   | 13                               | 0                 | 4                 | 0.886             | 0.000             | 0.000             |                   |                   |                   |
| HEALTH PHYSICS PERSONNEL              | 12                               | 0                 | 4                 | 2,376             | 0.000             | 0.398             |                   |                   |                   |
| SUPERVISORY PERSONNEL                 | 4                                | 0                 | 1                 | 0.846             | 0.000             | 0.115             |                   |                   |                   |
| ENGINEERING PERSONNEL                 | 1                                | 0                 | 2                 | 0.012             | 0.000             | 0.573             |                   |                   |                   |
| <b>TOTAL</b>                          | <b>32</b>                        | <b>0</b>          | <b>16</b>         | <b>4,228</b>      | <b>0.000</b>      | <b>2,625</b>      |                   |                   | <b>6,853</b>      |
| <b>REFUELING</b>                      |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 11                               | 0                 | 119               | 0.964             | 0.000             | 37,055            |                   |                   |                   |
| OPERATING PERSONNEL                   | 4                                | 0                 | 0                 | 0.651             | 0.000             | 0.000             |                   |                   |                   |
| HEALTH PHYSICS PERSONNEL              | 2                                | 0                 | 4                 | 0.155             | 0.000             | 0.163             |                   |                   |                   |
| SUPERVISORY PERSONNEL                 | 7                                | 0                 | 2                 | 0.530             | 0.000             | 0.037             |                   |                   |                   |
| ENGINEERING PERSONNEL                 | 9                                | 4                 | 13                | 2,453             | 0.163             | 2,611             |                   |                   |                   |
| <b>TOTAL</b>                          | <b>33</b>                        | <b>4</b>          | <b>138</b>        | <b>4,753</b>      | <b>0.163</b>      | <b>39,866</b>     |                   |                   | <b>44,782</b>     |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL                 | 364                              | 9                 | 594               | 199,839           | 4,168             | 151,464           |                   |                   | 355,471           |
| OPERATING PERSONNEL                   | 358                              | 12                | 0                 | 144,922           | 1,750             | 0.000             |                   |                   | 146,672           |
| HEALTH PHYSICS PERSONNEL              | 194                              | 5                 | 187               | 78,491            | 0.570             | 68,175            |                   |                   | 147,236           |
| SUPERVISORY PERSONNEL                 | 307                              | 22                | 44                | 53,942            | 3,509             | 5,282             |                   |                   | 62,733            |
| ENGINEERING PERSONNEL                 | 116                              | 52                | 900               | 16,121            | 4,020             | 224,005           |                   |                   | 244,146           |
| <b>GRAND TOTAL</b>                    | <b>1339</b>                      | <b>100</b>        | <b>1725</b>       | <b>493,315</b>    | <b>14,017</b>     | <b>448,926</b>    |                   |                   | <b>956,258</b>    |

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

PLANT: FITZPATRICK

(BWR)

APPENDIX C

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

1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS     |                   | STATION EMPLOYEES | UTILITY EMPLOYEES | TOTAL MAN-REMS |          |
|----------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|----------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | CONTRACT & OTHERS |                   |                   |                |          |
| REACTOR OPERATIONS & SURV. |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 130                              | 0                 | 114               |                   | 13,088            | 0.000             | 8,770          |          |
| OPERATING PERSONNEL        | 206                              | 0                 | 37                |                   | 56,420            | 0.000             | 3,485          |          |
| HEALTH PHYSICS PERSONNEL   | 35                               | 0                 | 51                |                   | 17,882            | 0.000             | 48,365         |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| ENGINEERING PERSONNEL      | 54                               | 0                 | 67                |                   | 2,720             | 0.000             | 6,800          |          |
| TOTAL                      | 425                              | 0                 | 269               | 694               | 90,110            | 0.000             | 67,420         | 157,530  |
| ROUTINE MAINTENANCE        |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 155                              | 0                 | 476               |                   | 212,223           | 0.000             | 239,670        |          |
| OPERATING PERSONNEL        | 87                               | 0                 | 10                |                   | 14,738            | 0.000             | 14,170         |          |
| HEALTH PHYSICS PERSONNEL   | 18                               | 0                 | 10                |                   | 1,703             | 0.000             | 1,570          |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| ENGINEERING PERSONNEL      | 32                               | 0                 | 109               |                   | 7,700             | 0.000             | 25,280         |          |
| TOTAL                      | 292                              | 0                 | 605               | 897               | 236,364           | 0.000             | 280,690        | 517,054  |
| IN-SERVICE INSPECTION      |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 48                               | 0                 | 103               |                   | 2,770             | 0.000             | 8,616          |          |
| OPERATING PERSONNEL        | 83                               | 0                 | 3                 |                   | 5,764             | 0.000             | 0,937          |          |
| HEALTH PHYSICS PERSONNEL   | 7                                | 0                 | 3                 |                   | 0,310             | 0.000             | 0,120          |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| ENGINEERING PERSONNEL      | 33                               | 0                 | 84                |                   | 1,986             | 0.000             | 33,530         |          |
| TOTAL                      | 171                              | 0                 | 193               | 364               | 10,830            | 0.000             | 43,203         | 54,033   |
| SPECIAL MAINTENANCE        |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 37                               | 0                 | 424               |                   | 1,201             | 0.000             | 242,170        |          |
| OPERATING PERSONNEL        | 29                               | 0                 | 6                 |                   | 1,571             | 0.000             | 1,100          |          |
| HEALTH PHYSICS PERSONNEL   | 5                                | 0                 | 2                 |                   | 0,170             | 0.000             | 0,030          |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| ENGINEERING PERSONNEL      | 15                               | 0                 | 71                |                   | 1,470             | 0.000             | 11,770         |          |
| TOTAL                      | 86                               | 0                 | 503               | 589               | 4,412             | 0.000             | 255,070        | 259,482  |
| WASTE PROCESSING           |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 133                              | 0                 | 101               |                   | 53,678            | 0.000             | 12,400         |          |
| OPERATING PERSONNEL        | 80                               | 0                 | 4                 |                   | 26,350            | 0.000             | 4,364          |          |
| HEALTH PHYSICS PERSONNEL   | 12                               | 0                 | 18                |                   | 0,600             | 0.000             | 1,096          |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| ENGINEERING PERSONNEL      | 8                                | 0                 | 24                |                   | 0,215             | 0.000             | 3,017          |          |
| TOTAL                      | 233                              | 0                 | 147               | 380               | 80,843            | 0.000             | 20,877         | 101,720  |
| REFUELING                  |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 |                   | 0.000             | 0.000             | 0.000          |          |
| TOTAL                      | 0                                | 0                 | 0                 | 0                 | 0.000             | 0.000             | 0.000          | 0.000    |
| TOTAL BY JOB FUNCTION      |                                  |                   |                   |                   |                   |                   |                |          |
| MAINTENANCE PERSONNEL      | 503                              | 0                 | 1218              | 1721              | 282,960           | 0.000             | 511,626        | 794,586  |
| OPERATING PERSONNEL        | 485                              | 0                 | 60                | 545               | 104,843           | 0.000             | 24,056         | 128,899  |
| HEALTH PHYSICS PERSONNEL   | 77                               | 0                 | 84                | 161               | 20,665            | 0.000             | 51,181         | 71,846   |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0                 | 0.000             | 0.000             | 0.000          | 0.000    |
| ENGINEERING PERSONNEL      | 142                              | 0                 | 355               | 497               | 14,091            | 0.000             | 80,397         | 94,488   |
| GRAND TOTAL                | 1207                             | 0                 | 1717              | 2924              | 422,559           | 0.000             | 667,260        | 1089,819 |

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

APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1983

| PLANT: * FORT CALHOUN (PMR)           | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   |         | TOTAL             |                   |                   |         | TOTAL MAN-REMS    |                   |                   |         |
|---------------------------------------|----------------------------------|-------------------|-------------------|---------|-------------------|-------------------|-------------------|---------|-------------------|-------------------|-------------------|---------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS |
| <b>WORK &amp; JOB FUNCTION</b>        |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 7                                | 4                 | 6                 | 17      | 1,974             | 2,382             | 6,053             | 141     | 36,112            | 7,146             | 26,417            | 69,675  |
| OPERATING PERSONNEL                   | 25                               | 0                 | 0                 | 25      | 8,708             | 0.074             | 0.000             |         |                   |                   |                   |         |
| HEALTH PHYSICS PERSONNEL              | 20                               | 3                 | 33                | 56      | 15,774            | 1,344             | 17,479            |         |                   |                   |                   |         |
| SUPERVISORY PERSONNEL                 | 5                                | 0                 | 0                 | 5       | 1,231             | 0.170             | 0.000             |         |                   |                   |                   |         |
| ENGINEERING PERSONNEL                 | 22                               | 6                 | 10                | 38      | 8,425             | 3,176             | 2,885             |         |                   |                   |                   |         |
| TOTAL                                 | 79                               | 13                | 49                | 141     | 36,112            | 7,146             | 26,417            |         |                   |                   |                   |         |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 32                               | 41                | 38                | 111     | 10,829            | 20,008            | 23,671            |         |                   |                   |                   |         |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0                 | 0       | 0.090             | 0.000             | 0.000             |         |                   |                   |                   |         |
| HEALTH PHYSICS PERSONNEL              | 0                                | 2                 | 0                 | 2       | 0.149             | 0.659             | 0.040             |         |                   |                   |                   |         |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0                 | 1       | 0.198             | 0.000             | 0.000             |         |                   |                   |                   |         |
| ENGINEERING PERSONNEL                 | 3                                | 2                 | 0                 | 5       | 1,258             | 0.750             | 0.172             |         |                   |                   |                   |         |
| TOTAL                                 | 36                               | 45                | 38                | 119     | 12,524            | 21,417            | 23,883            |         |                   |                   |                   | 57,824  |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 0                                | 3                 | 21                | 24      | 0.519             | 1,032             | 12,975            |         |                   |                   |                   |         |
| OPERATING PERSONNEL                   | 1                                | 0                 | 0                 | 1       | 0.212             | 0.000             | 0.000             |         |                   |                   |                   |         |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0                 | 0       | 0.048             | 0.065             | 0.120             |         |                   |                   |                   |         |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                 | 0       | 0.113             | 0.050             | 0.000             |         |                   |                   |                   |         |
| ENGINEERING PERSONNEL                 | 5                                | 8                 | 15                | 28      | 1,400             | 3,909             | 6,605             |         |                   |                   |                   |         |
| TOTAL                                 | 6                                | 11                | 36                | 53      | 2,292             | 5,056             | 19,700            |         |                   |                   |                   | 27,048  |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 40                               | 61                | 154               | 255     | 39,331            | 54,469            | 115,270           |         |                   |                   |                   |         |
| OPERATING PERSONNEL                   | 3                                | 0                 | 0                 | 3       | 1,471             | 0.000             | 0.000             |         |                   |                   |                   |         |
| HEALTH PHYSICS PERSONNEL              | 8                                | 1                 | 2                 | 11      | 5,139             | 0.731             | 0.489             |         |                   |                   |                   |         |
| SUPERVISORY PERSONNEL                 | 3                                | 0                 | 0                 | 3       | 1,183             | 0.016             | 0.000             |         |                   |                   |                   |         |
| ENGINEERING PERSONNEL                 | 16                               | 14                | 25                | 55      | 7,488             | 4,785             | 14,917            |         |                   |                   |                   |         |
| TOTAL                                 | 70                               | 76                | 181               | 327     | 54,612            | 60,001            | 130,676           |         |                   |                   |                   | 245,289 |
| <b>WASTE PROCESSING</b>               |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 8                                | 6                 | 4                 | 18      | 2,613             | 1,936             | 3,386             |         |                   |                   |                   |         |
| OPERATING PERSONNEL                   | 4                                | 0                 | 0                 | 4       | 1,745             | 0.055             | 0.000             |         |                   |                   |                   |         |
| HEALTH PHYSICS PERSONNEL              | 9                                | 1                 | 0                 | 10      | 12,336            | 0.165             | 0.060             |         |                   |                   |                   |         |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0                 | 1       | 0.362             | 0.000             | 0.000             |         |                   |                   |                   |         |
| ENGINEERING PERSONNEL                 | 2                                | 0                 | 0                 | 2       | 0.802             | 0.105             | 0.000             |         |                   |                   |                   |         |
| TOTAL                                 | 24                               | 7                 | 4                 | 35      | 17,858            | 2,261             | 3,446             |         |                   |                   |                   | 23,565  |
| <b>REFUELING</b>                      |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 20                               | 20                | 21                | 61      | 6,473             | 9,093             | 10,774            |         |                   |                   |                   |         |
| OPERATING PERSONNEL                   | 14                               | 0                 | 0                 | 14      | 3,486             | 0.044             | 0.000             |         |                   |                   |                   |         |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0                 | 0       | 0.010             | 0.025             | 0.000             |         |                   |                   |                   |         |
| SUPERVISORY PERSONNEL                 | 4                                | 0                 | 0                 | 4       | 0.871             | 0.000             | 0.000             |         |                   |                   |                   |         |
| ENGINEERING PERSONNEL                 | 6                                | 0                 | 8                 | 14      | 2,154             | 0.336             | 2,477             |         |                   |                   |                   |         |
| TOTAL                                 | 44                               | 20                | 29                | 93      | 12,994            | 9,493             | 13,276            |         |                   |                   |                   | 35,763  |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                   |         |                   |                   |                   |         |                   |                   |                   |         |
| MAINTENANCE PERSONNEL                 | 107                              | 135               | 244               | 486     | 61,739            | 88,920            | 172,129           |         |                   |                   |                   | 322,788 |
| OPERATING PERSONNEL                   | 47                               | 0                 | 0                 | 47      | 15,712            | 0.173             | 0.000             |         |                   |                   |                   | 15,885  |
| HEALTH PHYSICS PERSONNEL              | 37                               | 7                 | 35                | 79      | 33,456            | 2,984             | 18,213            |         |                   |                   |                   | 54,653  |
| SUPERVISORY PERSONNEL                 | 14                               | 0                 | 0                 | 14      | 3,958             | 0.236             | 0.000             |         |                   |                   |                   | 4,194   |
| ENGINEERING PERSONNEL                 | 54                               | 30                | 58                | 142     | 21,527            | 15,061            | 27,056            |         |                   |                   |                   | 61,644  |
| GRAND TOTAL                           | 259                              | 172               | 337               | 768     | 136,392           | 105,374           | 217,398           |         |                   |                   |                   | 459,164 |

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

**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
 1983

PLANT: GINNA (PWJR)

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION EMPLOYEES | TOTAL PERSONS     | STATION EMPLOYEES | TOTAL MAN-REMS    |                   | TOTAL MAN-REMS   |
|---------------------------------------|----------------------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | STATION EMPLOYEES                | UTILITY EMPLOYEES |                   |                   |                   | UTILITY EMPLOYEES | CONTRACT & OTHERS |                  |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 33                               | 138               | 149                              | 225               | 26,900            | 456               | 6,590             | 3,210             | 8,400             | 47,190           |
| OPERATING PERSONNEL                   | 30                               | 1                 | 0                                | 0                 |                   |                   | 13,050            | 0,850             | 0,000             |                  |
| HEALTH PHYSICS PERSONNEL              | 11                               | 1                 | 40                               | 40                |                   |                   | 0,020             | 4,750             | 4,750             |                  |
| SUPERVISORY PERSONNEL                 | 7                                | 4                 | 22                               | 22                |                   |                   | 2,580             | 0,400             | 1,760             |                  |
| ENGINEERING PERSONNEL                 | 1                                | 5                 | 14                               | 14                |                   |                   | 0,120             | 0,150             | 0,750             |                  |
| <b>TOTAL</b>                          | <b>82</b>                        | <b>149</b>        | <b>225</b>                       | <b>225</b>        | <b>26,900</b>     | <b>456</b>        | <b>6,590</b>      | <b>4,630</b>      | <b>15,660</b>     | <b>47,190</b>    |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 34                               | 191               | 146                              | 146               |                   |                   | 6,410             | 8,140             | 18,170            |                  |
| OPERATING PERSONNEL                   | 20                               | 0                 | 0                                | 0                 |                   |                   | 0,270             | 0,000             | 0,000             |                  |
| HEALTH PHYSICS PERSONNEL              | 11                               | 1                 | 36                               | 36                |                   |                   | 1,270             | 0,070             | 3,390             |                  |
| SUPERVISORY PERSONNEL                 | 7                                | 2                 | 16                               | 16                |                   |                   | 0,400             | 0,020             | 0,660             |                  |
| ENGINEERING PERSONNEL                 | 1                                | 4                 | 8                                | 8                 |                   |                   | 0,010             | 0,160             | 0,040             |                  |
| <b>TOTAL</b>                          | <b>73</b>                        | <b>198</b>        | <b>206</b>                       | <b>206</b>        | <b>8,360</b>      | <b>477</b>        | <b>8,360</b>      | <b>8,390</b>      | <b>22,260</b>     | <b>39,010</b>    |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 17                               | 56                | 8                                | 8                 |                   |                   | 1,300             | 3,340             | 0,730             |                  |
| OPERATING PERSONNEL                   | 1                                | 0                 | 0                                | 0                 |                   |                   | 0,010             | 0,000             | 0,000             |                  |
| HEALTH PHYSICS PERSONNEL              | 5                                | 0                 | 13                               | 13                |                   |                   | 0,090             | 0,000             | 0,280             |                  |
| SUPERVISORY PERSONNEL                 | 5                                | 2                 | 9                                | 9                 |                   |                   | 0,260             | 0,120             | 0,350             |                  |
| ENGINEERING PERSONNEL                 | 0                                | 1                 | 0                                | 0                 |                   |                   | 0,000             | 0,050             | 0,000             |                  |
| <b>TOTAL</b>                          | <b>28</b>                        | <b>59</b>         | <b>30</b>                        | <b>30</b>         | <b>1,660</b>      | <b>117</b>        | <b>1,660</b>      | <b>3,510</b>      | <b>1,360</b>      | <b>6,530</b>     |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 34                               | 263               | 269                              | 269               |                   |                   | 15,890            | 426,030           | 282,710           |                  |
| OPERATING PERSONNEL                   | 29                               | 1                 | 0                                | 0                 |                   |                   | 6,650             | 0,020             | 0,000             |                  |
| HEALTH PHYSICS PERSONNEL              | 11                               | 1                 | 42                               | 42                |                   |                   | 1,120             | 7,630             | 32,610            |                  |
| SUPERVISORY PERSONNEL                 | 8                                | 5                 | 30                               | 30                |                   |                   | 2,460             | 4,120             | 22,250            |                  |
| ENGINEERING PERSONNEL                 | 1                                | 6                 | 31                               | 31                |                   |                   | 0,050             | 3,790             | 14,060            |                  |
| <b>TOTAL</b>                          | <b>83</b>                        | <b>276</b>        | <b>372</b>                       | <b>372</b>        | <b>32,680</b>     | <b>731</b>        | <b>32,680</b>     | <b>435,080</b>    | <b>351,630</b>    | <b>819,390</b>   |
| <b>WASTE PROCESSING</b>               |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 22                               | 29                | 45                               | 45                |                   |                   | 2,070             | 0,410             | 8,670             |                  |
| OPERATING PERSONNEL                   | 6                                | 0                 | 0                                | 0                 |                   |                   | 0,100             | 0,000             | 0,000             |                  |
| HEALTH PHYSICS PERSONNEL              | 11                               | 0                 | 28                               | 28                |                   |                   | 1,100             | 0,000             | 8,070             |                  |
| SUPERVISORY PERSONNEL                 | 1                                | 1                 | 4                                | 4                 |                   |                   | 0,000             | 0,030             | 1,070             |                  |
| ENGINEERING PERSONNEL                 | 0                                | 2                 | 2                                | 2                 |                   |                   | 0,000             | 0,010             | 0,310             |                  |
| <b>TOTAL</b>                          | <b>40</b>                        | <b>32</b>         | <b>79</b>                        | <b>79</b>         | <b>3,270</b>      | <b>151</b>        | <b>3,270</b>      | <b>0,450</b>      | <b>18,120</b>     | <b>21,840</b>    |
| <b>REFUELING</b>                      |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 19                               | 26                | 23                               | 23                |                   |                   | 1,170             | 6,350             | 2,910             |                  |
| OPERATING PERSONNEL                   | 4                                | 0                 | 0                                | 0                 |                   |                   | 2,710             | 0,000             | 0,000             |                  |
| HEALTH PHYSICS PERSONNEL              | 4                                | 0                 | 18                               | 18                |                   |                   | 0,070             | 0,000             | 2,220             |                  |
| SUPERVISORY PERSONNEL                 | 2                                | 2                 | 3                                | 3                 |                   |                   | 0,580             | 0,020             | 0,430             |                  |
| ENGINEERING PERSONNEL                 | 0                                | 1                 | 15                               | 15                |                   |                   | 0,000             | 0,110             | 10,020            |                  |
| <b>TOTAL</b>                          | <b>29</b>                        | <b>29</b>         | <b>59</b>                        | <b>59</b>         | <b>4,530</b>      | <b>117</b>        | <b>4,530</b>      | <b>6,480</b>      | <b>15,580</b>     | <b>26,590</b>    |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |                  |
| MAINTENANCE PERSONNEL                 | 159 (34)                         | 703 (264)         | 640 (273)                        | 640 (273)         | 33,430            | 1502 (571)        | 33,430            | 447,680           | 321,590           | 802,500          |
| OPERATING PERSONNEL                   | 90 (30)                          | 2 (1)             | 0                                | 0                 | 22,790            | 92 (31)           | 22,790            | 0,870             | 0,000             | 23,660           |
| HEALTH PHYSICS PERSONNEL              | 53 (11)                          | 3 (1)             | 177 (42)                         | 177 (42)          | 14,720            | 233 (54)          | 14,720            | 1,210             | 51,320            | 67,250           |
| SUPERVISORY PERSONNEL                 | 30 (8)                           | 16 (5)            | 84 (30)                          | 84 (30)           | 6,280             | 130 (43)          | 6,280             | 4,710             | 26,520            | 37,510           |
| ENGINEERING PERSONNEL                 | 3 (1)                            | 19 (6)            | 70 (34)                          | 70 (34)           | 4,270             | 92 (41)           | 4,270             | 25,180            | 29,630            | 96,050           |
| <b>GRAND TOTAL</b>                    | <b>335 (84)</b>                  | <b>743 (277)</b>  | <b>971 (379)</b>                 | <b>971 (379)</b>  | <b>458,540</b>    | <b>2049 (740)</b> | <b>458,540</b>    | <b>424,610</b>    | <b>824,610</b>    | <b>1,279,160</b> |

\*Workers may be counted in more than one category. Numbers in parentheses are total numbers of individuals.  
 Note: The reports shown in Appendix C for Gima for the years 1981 and 1982 had the column headings reversed. For each of these years, the figures shown for Utility Employees should be assigned to Station Employees; figures shown for Contractor Employees assigned to Utility Employees; and figures shown for Station Employees assigned to Contractor Employees.

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

PLANT: \* HADDAM NECK (PWR)

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|----------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS                | CONTRACT & OTHERS |               |                   |                   |                   |                |                |
| REACTOR OPERATIONS & SURV. | 6                                | 0                 | 1                                | 0                 | 7             | 4,310             | 0.210             | 0.760             | 0.210          | 0.760          |
| MAINTENANCE PERSONNEL      | 51                               | 0                 | 20                               | 0                 | 71            | 49,280            | 0.000             | 6.600             | 0.000          | 6.600          |
| OPERATING PERSONNEL        | 29                               | 5                 | 74                               | 0                 | 108           | 11,670            | 1.540             | 31.000            | 1.540          | 31.000         |
| HEALTH PHYSICS PERSONNEL   | 3                                | 0                 | 0                                | 0                 | 3             | 0.660             | 0.000             | 0.000             | 0.000          | 0.000          |
| SUPERVISORY PERSONNEL      | 5                                | 2                 | 0                                | 0                 | 7             | 1,950             | 0.850             | 0.210             | 0.850          | 0.210          |
| ENGINEERING PERSONNEL      | 94                               | 7                 | 95                               | 0                 | 196           | 67,870            | 2.600             | 38.570            | 2.600          | 38.570         |
| TOTAL                      | 102                              | 40                | 229                              | 0                 | 371           | 102,510           | 15.040            | 134.450           | 15.040         | 134.450        |
| ROUTINE MAINTENANCE        | 60                               | 25                | 108                              | 0                 | 133           | 82,200            | 9.010             | 60.860            | 9.010          | 60.860         |
| MAINTENANCE PERSONNEL      | 6                                | 0                 | 2                                | 0                 | 8             | 2,380             | 0.030             | 1.090             | 0.030          | 1.090          |
| OPERATING PERSONNEL        | 26                               | 1                 | 106                              | 0                 | 133           | 15,250            | 0.200             | 65.130            | 0.200          | 65.130         |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                                | 0                 | 0             | 0.020             | 0.070             | 0.010             | 0.070          | 0.010          |
| SUPERVISORY PERSONNEL      | 10                               | 14                | 13                               | 0                 | 27            | 2,660             | 5.750             | 7.360             | 5.750          | 7.360          |
| ENGINEERING PERSONNEL      | 102                              | 40                | 229                              | 0                 | 371           | 102,510           | 15.040            | 134.450           | 15.040         | 134.450        |
| TOTAL                      | 102                              | 40                | 229                              | 0                 | 371           | 102,510           | 15.040            | 134.450           | 15.040         | 134.450        |
| IN-SERVICE INSPECTION      | 25                               | 4                 | 199                              | 0                 | 228           | 16,340            | 1.260             | 286.590           | 1.260          | 286.590        |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 8                                | 0                 | 9             | 1,050             | 0.000             | 9.140             | 0.000          | 9.140          |
| OPERATING PERSONNEL        | 4                                | 2                 | 63                               | 0                 | 69            | 2,400             | 1.010             | 31.590            | 1.010          | 31.590         |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                                | 0                 | 0             | 0.000             | 0.000             | 0.000             | 0.000          | 0.000          |
| SUPERVISORY PERSONNEL      | 7                                | 12                | 53                               | 0                 | 72            | 7,330             | 6.380             | 53.130            | 6.380          | 53.130         |
| ENGINEERING PERSONNEL      | 37                               | 18                | 323                              | 0                 | 378           | 27,120            | 8.650             | 380.450           | 8.650          | 380.450        |
| TOTAL                      | 37                               | 18                | 323                              | 0                 | 378           | 27,120            | 8.650             | 380.450           | 8.650          | 380.450        |
| SPECIAL MAINTENANCE        | 15                               | 61                | 343                              | 0                 | 419           | 4,370             | 53.090            | 269.310           | 53.090         | 269.310        |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 7                                | 0                 | 7             | 0.080             | 0.140             | 4.760             | 0.140          | 4.760          |
| OPERATING PERSONNEL        | 21                               | 0                 | 71                               | 0                 | 92            | 6,200             | 0.000             | 21.760            | 0.000          | 21.760         |
| HEALTH PHYSICS PERSONNEL   | 0                                | 1                 | 8                                | 0                 | 9             | 0.120             | 0.250             | 5.630             | 0.250          | 5.630          |
| SUPERVISORY PERSONNEL      | 4                                | 21                | 43                               | 0                 | 68            | 1,550             | 14.020            | 29.770            | 14.020         | 29.770         |
| ENGINEERING PERSONNEL      | 40                               | 83                | 472                              | 0                 | 595           | 12,320            | 67.500            | 331.230           | 67.500         | 331.230        |
| TOTAL                      | 40                               | 83                | 472                              | 0                 | 595           | 12,320            | 67.500            | 331.230           | 67.500         | 331.230        |
| WASTE PROCESSING           | 0                                | 0                 | 1                                | 0                 | 1             | 0.160             | 0.020             | 0.390             | 0.020          | 0.390          |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 0                                | 0                 | 1             | 0.650             | 0.000             | 0.000             | 0.000          | 0.000          |
| OPERATING PERSONNEL        | 22                               | 0                 | 62                               | 0                 | 84            | 35,890            | 0.010             | 36.450            | 0.010          | 36.450         |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                                | 0                 | 0             | 0.000             | 0.000             | 0.000             | 0.000          | 0.000          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 1                                | 0                 | 1             | 0.160             | 0.000             | 0.140             | 0.000          | 0.140          |
| ENGINEERING PERSONNEL      | 23                               | 0                 | 64                               | 0                 | 87            | 36,860            | 0.030             | 36.980            | 0.030          | 36.980         |
| TOTAL                      | 23                               | 0                 | 64                               | 0                 | 87            | 36,860            | 0.030             | 36.980            | 0.030          | 36.980         |
| REFUELING                  | 43                               | 5                 | 54                               | 0                 | 59            | 29,030            | 1.600             | 54.720            | 1.600          | 54.720         |
| MAINTENANCE PERSONNEL      | 3                                | 0                 | 27                               | 0                 | 30            | 1,010             | 0.010             | 47.290            | 0.010          | 47.290         |
| OPERATING PERSONNEL        | 8                                | 0                 | 40                               | 0                 | 48            | 2,580             | 0.050             | 15.570            | 0.050          | 15.570         |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                                | 0                 | 0             | 0.110             | 0.000             | 0.020             | 0.000          | 0.020          |
| SUPERVISORY PERSONNEL      | 2                                | 1                 | 6                                | 0                 | 9             | 1,380             | 0.550             | 6.830             | 0.550          | 6.830          |
| ENGINEERING PERSONNEL      | 56                               | 6                 | 127                              | 0                 | 169           | 34,110            | 2.210             | 124.430           | 2.210          | 124.430        |
| TOTAL                      | 56                               | 6                 | 127                              | 0                 | 169           | 34,110            | 2.210             | 124.430           | 2.210          | 124.430        |
| TOTAL BY JOB FUNCTION      | 149                              | 95                | 706                              | 0                 | 950           | 136,410           | 65.190            | 672.630           | 65.190         | 672.630        |
| MAINTENANCE PERSONNEL      | 62                               | 0                 | 64                               | 0                 | 126           | 54,450            | 0.180             | 68.880            | 0.180          | 68.880         |
| OPERATING PERSONNEL        | 110                              | 8                 | 416                              | 0                 | 534           | 73,990            | 2.810             | 201.500           | 2.810          | 201.500        |
| HEALTH PHYSICS PERSONNEL   | 3                                | 1                 | 8                                | 0                 | 12            | 0.910             | 0.320             | 5.660             | 0.320          | 5.660          |
| SUPERVISORY PERSONNEL      | 28                               | 50                | 116                              | 0                 | 194           | 15,030            | 27.530            | 97.440            | 27.530         | 97.440         |
| ENGINEERING PERSONNEL      | 352                              | 154               | 1310                             | 0                 | 1816          | 280,790           | 96.030            | 1046.110          | 96.030         | 1046.110       |
| GRAND TOTAL                | 352                              | 154               | 1310                             | 0                 | 1816          | 280,790           | 96.030            | 1046.110          | 96.030         | 1046.110       |

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

**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
 1983

| PLANT: HATCH 1.2                      | (BWR)            | NUMBER OF PERSONNEL (>100 M-REM) |                    |                    |                | TOTAL             |                   |                   |               | TOTAL MAN-REMS    |                   |                   |          |
|---------------------------------------|------------------|----------------------------------|--------------------|--------------------|----------------|-------------------|-------------------|-------------------|---------------|-------------------|-------------------|-------------------|----------|
|                                       |                  | STATION EMPLOYEES                | UTILITY EMPLOYEES  | CONTRACT & OTHERS  | PERSONS        | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | MAN-REMS      | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | MAN-REMS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 3                | 0                                | 5                  |                    | 1,000          | 0.000             | 1.000             |                   | 1.000         | 0.000             | 1.000             |                   |          |
| OPERATING PERSONNEL                   | 122              | 5                                | 4                  |                    | 73,000         | 1.000             | 1,000             |                   | 1,000         | 1.000             | 1,000             |                   |          |
| HEALTH PHYSICS PERSONNEL              | 82               | 0                                | 135                |                    | 36,000         | 0.000             | 85,000            |                   | 0.000         | 85,000            | 0.000             |                   |          |
| SUPERVISORY PERSONNEL                 | 33               | 5                                | 1                  |                    | 8,000          | 1.000             | 0.000             |                   | 1.000         | 0.000             | 0.000             |                   |          |
| ENGINEERING PERSONNEL                 | 30               | 7                                | 3                  |                    | 5,000          | 1.000             | 1,000             |                   | 1.000         | 1,000             | 1,000             |                   |          |
| <b>TOTAL</b>                          | <b>270</b>       | <b>17</b>                        | <b>148</b>         | <b>435</b>         | <b>123,000</b> | <b>3,000</b>      | <b>88,000</b>     |                   | <b>3,000</b>  | <b>88,000</b>     | <b>88,000</b>     | <b>214,000</b>    |          |
| <b>ROUTINE MAINTENANCE</b>            |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 171              | 6                                | 153                |                    | 92,000         | 2.000             | 41,000            |                   | 2.000         | 41,000            | 41,000            |                   |          |
| OPERATING PERSONNEL                   | 11               | 0                                | 0                  |                    | 5,000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| HEALTH PHYSICS PERSONNEL              | 64               | 0                                | 2                  |                    | 25,000         | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| SUPERVISORY PERSONNEL                 | 10               | 1                                | 1                  |                    | 3,000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| ENGINEERING PERSONNEL                 | 16               | 15                               | 26                 |                    | 3,000          | 5.000             | 7,000             |                   | 5.000         | 7,000             | 7,000             |                   |          |
| <b>TOTAL</b>                          | <b>272</b>       | <b>22</b>                        | <b>182</b>         | <b>476</b>         | <b>128,000</b> | <b>7,000</b>      | <b>48,000</b>     |                   | <b>7,000</b>  | <b>48,000</b>     | <b>48,000</b>     | <b>183,000</b>    |          |
| <b>IN-SERVICE INSPECTION</b>          |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 0                | 0                                | 10                 |                    | 0.000          | 0.000             | 4,000             |                   | 0.000         | 4,000             | 4,000             |                   |          |
| OPERATING PERSONNEL                   | 0                | 0                                | 0                  |                    | 0.000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| HEALTH PHYSICS PERSONNEL              | 0                | 0                                | 0                  |                    | 0.000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| SUPERVISORY PERSONNEL                 | 0                | 0                                | 1                  |                    | 0.000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| ENGINEERING PERSONNEL                 | 0                | 0                                | 0                  |                    | 0.000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| <b>TOTAL</b>                          | <b>0</b>         | <b>0</b>                         | <b>11</b>          | <b>11</b>          | <b>0.000</b>   | <b>0.000</b>      | <b>4,000</b>      |                   | <b>0.000</b>  | <b>4,000</b>      | <b>4,000</b>      | <b>4,000</b>      |          |
| <b>SPECIAL MAINTENANCE</b>            |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 133              | 4                                | 1077               |                    | 61,000         | 1.000             | 519,000           |                   | 1.000         | 519,000           | 519,000           |                   |          |
| OPERATING PERSONNEL                   | 15               | 0                                | 5                  |                    | 3,000          | 0.000             | 1,000             |                   | 0.000         | 1,000             | 1,000             |                   |          |
| HEALTH PHYSICS PERSONNEL              | 25               | 0                                | 24                 |                    | 5,000          | 0.000             | 7,000             |                   | 0.000         | 7,000             | 7,000             |                   |          |
| SUPERVISORY PERSONNEL                 | 7                | 2                                | 18                 |                    | 2,000          | 1.000             | 7,000             |                   | 1.000         | 7,000             | 7,000             |                   |          |
| ENGINEERING PERSONNEL                 | 16               | 16                               | 93                 |                    | 7,000          | 5.000             | 26,000            |                   | 5.000         | 26,000            | 26,000            |                   |          |
| <b>TOTAL</b>                          | <b>196</b>       | <b>22</b>                        | <b>1217</b>        | <b>1435</b>        | <b>78,000</b>  | <b>7,000</b>      | <b>560,000</b>    |                   | <b>7,000</b>  | <b>560,000</b>    | <b>560,000</b>    | <b>645,000</b>    |          |
| <b>WASTE PROCESSING</b>               |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 1                | 0                                | 11                 |                    | 0.000          | 0.000             | 3,000             |                   | 0.000         | 3,000             | 3,000             |                   |          |
| OPERATING PERSONNEL                   | 2                | 0                                | 1                  |                    | 0.000          | 0.000             | 1,000             |                   | 0.000         | 1,000             | 1,000             |                   |          |
| HEALTH PHYSICS PERSONNEL              | 8                | 0                                | 5                  |                    | 1,000          | 0.000             | 2,000             |                   | 0.000         | 2,000             | 2,000             |                   |          |
| SUPERVISORY PERSONNEL                 | 0                | 0                                | 0                  |                    | 0.000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| ENGINEERING PERSONNEL                 | 0                | 0                                | 1                  |                    | 0.000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| <b>TOTAL</b>                          | <b>11</b>        | <b>0</b>                         | <b>18</b>          | <b>29</b>          | <b>1,000</b>   | <b>0.000</b>      | <b>6,000</b>      |                   | <b>0.000</b>  | <b>6,000</b>      | <b>6,000</b>      | <b>7,000</b>      |          |
| <b>REFUELING</b>                      |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 50               | 0                                | 38                 |                    | 24,000         | 0.000             | 10,000            |                   | 0.000         | 10,000            | 10,000            |                   |          |
| OPERATING PERSONNEL                   | 16               | 0                                | 1                  |                    | 4,000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| HEALTH PHYSICS PERSONNEL              | 0                | 0                                | 13                 |                    | 0.000          | 0.000             | 3,000             |                   | 0.000         | 3,000             | 3,000             |                   |          |
| SUPERVISORY PERSONNEL                 | 7                | 0                                | 0                  |                    | 3,000          | 0.000             | 0.000             |                   | 0.000         | 0.000             | 0.000             |                   |          |
| ENGINEERING PERSONNEL                 | 4                | 0                                | 7                  |                    | 1,000          | 0.000             | 1,000             |                   | 0.000         | 1,000             | 1,000             |                   |          |
| <b>TOTAL</b>                          | <b>77</b>        | <b>0</b>                         | <b>59</b>          | <b>136</b>         | <b>32,000</b>  | <b>0.000</b>      | <b>14,000</b>     |                   | <b>0.000</b>  | <b>14,000</b>     | <b>14,000</b>     | <b>46,000</b>     |          |
| <b>TOTAL BY JOB FUNCTION</b>          |                  |                                  |                    |                    |                |                   |                   |                   |               |                   |                   |                   |          |
| MAINTENANCE PERSONNEL                 | 358 (192)        | 10 (7)                           | 1294 (1189)        | 1662 (1388)        | 178,000        | 3.000             | 578,000           |                   | 3.000         | 578,000           | 578,000           | 759,000           |          |
| OPERATING PERSONNEL                   | 166 (133)        | 5 (5)                            | 11 (9)             | 182 (147)          | 85,000         | 1.000             | 3,000             |                   | 1.000         | 3,000             | 3,000             | 89,000            |          |
| HEALTH PHYSICS PERSONNEL              | 179 (129)        | 0                                | 179 (150)          | 358 (279)          | 67,000         | 0.000             | 97,000            |                   | 0.000         | 97,000            | 97,000            | 164,000           |          |
| SUPERVISORY PERSONNEL                 | 57 (52)          | 8 (7)                            | 21 (22)            | 86 (81)            | 16,000         | 2.000             | 7,000             |                   | 2.000         | 7,000             | 7,000             | 25,000            |          |
| ENGINEERING PERSONNEL                 | 66 (53)          | 38 (33)                          | 130 (137)          | 234 (223)          | 16,000         | 11.000            | 35,000            |                   | 11.000        | 35,000            | 35,000            | 62,000            |          |
| <b>GRAND TOTAL</b>                    | <b>826 (559)</b> | <b>61 (52)</b>                   | <b>1635 (1507)</b> | <b>2522 (2118)</b> | <b>362,000</b> | <b>17,000</b>     | <b>720,000</b>    |                   | <b>17,000</b> | <b>720,000</b>    | <b>720,000</b>    | <b>1099,000</b>   |          |

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

APPENDIX C

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

1983

PLANT: HUMBOLDT BAY (BWR)

| 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      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| OPERATING PERSONNEL        | 15                               | 0                 | 0                 | 1.700             | 0.000             | 0.000             | 1.700          |
| HEALTH PHYSICS PERSONNEL   | 2                                | 0                 | 0                 | 1.000             | 0.000             | 0.000             | 1.000          |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0                 | 0.200             | 0.000             | 0.000             | 0.200          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| TOTAL                      | 18                               | 0                 | 0                 | 2.900             | 0.000             | 0.000             | 2.900          |
| ROUTINE MAINTENANCE        |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 11                               | 3                 | 0                 | 2.300             | 0.900             | 0.000             | 3.200          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 0                 | 1.200             | 0.000             | 0.000             | 1.200          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL      | 1                                | 0                 | 0                 | 0.300             | 0.000             | 0.000             | 0.300          |
| TOTAL                      | 13                               | 3                 | 0                 | 3.800             | 0.900             | 0.000             | 4.700          |
| IN-SERVICE INSPECTION      |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| TOTAL                      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| SPECIAL MAINTENANCE        |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| TOTAL                      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| WASTE PROCESSING           |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 4                                | 0                 | 0                 | 1.000             | 0.000             | 0.000             | 1.000          |
| OPERATING PERSONNEL        | 6                                | 0                 | 0                 | 3.500             | 0.000             | 0.000             | 3.500          |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 0                 | 0.800             | 0.000             | 0.000             | 0.800          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL      | 1                                | 0                 | 0                 | 0.400             | 0.000             | 0.000             | 0.400          |
| TOTAL                      | 12                               | 0                 | 0                 | 5.700             | 0.000             | 0.000             | 5.700          |
| REFUELLING                 |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| TOTAL                      | 0                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000          |
| TOTAL BY JOB FUNCTION      |                                  |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 15                               | 3                 | 0                 | 3.300             | 0.900             | 0.000             | 4.200          |
| OPERATING PERSONNEL        | 21                               | 0                 | 0                 | 5.200             | 0.000             | 0.000             | 5.200          |
| HEALTH PHYSICS PERSONNEL   | 4                                | 0                 | 0                 | 3.000             | 0.000             | 0.000             | 3.000          |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0                 | 0.200             | 0.000             | 0.000             | 0.200          |
| ENGINEERING PERSONNEL      | 2                                | 0                 | 0                 | 0.700             | 0.000             | 0.000             | 0.700          |
| GRAND TOTAL                | 43                               | 3                 | 0                 | 12.400            | 0.900             | 0.000             | 13.300         |



**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
 1983

PLANT: \*INDIAN POINT 1,2 (PMR)

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS     | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS    |  | TOTAL MAN-REMS |
|---------------------------------------|----------------------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|----------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS                | UTILITY EMPLOYEES |                   |                   |                   |                   | CONTRACT & OTHERS |  |                |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 56                               | 37                | 101                              |                   |                   | 13,548            | 3,319             | 23,728            |                   |  |                |
| OPERATING PERSONNEL                   | 59                               | 0                 | 3                                |                   |                   | 51,156            | 0.000             | 0.875             |                   |  |                |
| HEALTH PHYSICS PERSONNEL              | 16                               | 0                 | 39                               |                   |                   | 17,734            | 0.000             | 39,975            |                   |  |                |
| SUPERVISORY PERSONNEL                 | 59                               | 15                | 71                               |                   |                   | 21,692            | 2,718             | 9,164             |                   |  |                |
| ENGINEERING PERSONNEL                 | 42                               | 8                 | 13                               |                   |                   | 11,696            | 0.610             | 4,768             |                   |  |                |
| <b>TOTAL</b>                          | <b>232</b>                       | <b>60</b>         | <b>227</b>                       |                   | <b>519</b>        | <b>115,826</b>    | <b>6,647</b>      | <b>78,510</b>     |                   |  | <b>200,983</b> |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 53                               | 36                | 55                               |                   |                   | 26,512            | 3,398             | 4,524             |                   |  |                |
| OPERATING PERSONNEL                   | 37                               | 0                 | 2                                |                   |                   | 5,087             | 0.000             | 0.800             |                   |  |                |
| HEALTH PHYSICS PERSONNEL              | 10                               | 0                 | 14                               |                   |                   | 0.646             | 0.000             | 0.965             |                   |  |                |
| SUPERVISORY PERSONNEL                 | 43                               | 12                | 56                               |                   |                   | 13,411            | 0.620             | 4,119             |                   |  |                |
| ENGINEERING PERSONNEL                 | 26                               | 6                 | 6                                |                   |                   | 1,886             | 0.239             | 0.451             |                   |  |                |
| <b>TOTAL</b>                          | <b>169</b>                       | <b>54</b>         | <b>133</b>                       |                   | <b>356</b>        | <b>47,542</b>     | <b>4,257</b>      | <b>10,859</b>     |                   |  | <b>62,658</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 45                               | 7                 | 53                               |                   |                   | 3,710             | 0.441             | 7,029             |                   |  |                |
| OPERATING PERSONNEL                   | 57                               | 0                 | 2                                |                   |                   | 13,693            | 0.000             | 0.140             |                   |  |                |
| HEALTH PHYSICS PERSONNEL              | 18                               | 0                 | 24                               |                   |                   | 2,252             | 0.000             | 4,042             |                   |  |                |
| SUPERVISORY PERSONNEL                 | 47                               | 7                 | 57                               |                   |                   | 5,332             | 0.965             | 3,673             |                   |  |                |
| ENGINEERING PERSONNEL                 | 24                               | 4                 | 2                                |                   |                   | 1,164             | 0.181             | 0.200             |                   |  |                |
| <b>TOTAL</b>                          | <b>191</b>                       | <b>18</b>         | <b>138</b>                       |                   | <b>347</b>        | <b>26,151</b>     | <b>1,587</b>      | <b>15,084</b>     |                   |  | <b>42,822</b>  |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 36                               | 54                | 121                              |                   |                   | 4,795             | 12,910            | 43,112            |                   |  |                |
| OPERATING PERSONNEL                   | 17                               | 0                 | 1                                |                   |                   | 1,291             | 0.000             | 0.015             |                   |  |                |
| HEALTH PHYSICS PERSONNEL              | 5                                | 0                 | 1                                |                   |                   | 4,513             | 0.000             | 0.020             |                   |  |                |
| SUPERVISORY PERSONNEL                 | 18                               | 18                | 77                               |                   |                   | 2,305             | 3,775             | 13,427            |                   |  |                |
| ENGINEERING PERSONNEL                 | 14                               | 7                 | 6                                |                   |                   | 1,077             | 0.696             | 1,447             |                   |  |                |
| <b>TOTAL</b>                          | <b>90</b>                        | <b>79</b>         | <b>206</b>                       |                   | <b>375</b>        | <b>13,981</b>     | <b>17,381</b>     | <b>58,021</b>     |                   |  | <b>89,383</b>  |
| <b>WASTE PROCESSING</b>               |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 21                               | 11                | 60                               |                   |                   | 16,215            | 0.135             | 41,084            |                   |  |                |
| OPERATING PERSONNEL                   | 13                               | 0                 | 4                                |                   |                   | 0.374             | 0.000             | 3,510             |                   |  |                |
| HEALTH PHYSICS PERSONNEL              | 3                                | 0                 | 8                                |                   |                   | 0.635             | 0.000             | 4,215             |                   |  |                |
| SUPERVISORY PERSONNEL                 | 23                               | 4                 | 18                               |                   |                   | 14,153            | 0.085             | 5,411             |                   |  |                |
| ENGINEERING PERSONNEL                 | 14                               | 0                 | 5                                |                   |                   | 0.549             | 0.000             | 0.917             |                   |  |                |
| <b>TOTAL</b>                          | <b>74</b>                        | <b>15</b>         | <b>95</b>                        |                   | <b>184</b>        | <b>31,926</b>     | <b>0,220</b>      | <b>55,137</b>     |                   |  | <b>87,283</b>  |
| <b>REFUELING</b>                      |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0                                |                   |                   | 0.000             | 0.000             | 0.000             |                   |  |                |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0                                |                   |                   | 0.000             | 0.000             | 0.000             |                   |  |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0                                |                   |                   | 0.000             | 0.000             | 0.000             |                   |  |                |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0                                |                   |                   | 0.000             | 0.000             | 0.000             |                   |  |                |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0                                |                   |                   | 0.000             | 0.000             | 0.000             |                   |  |                |
| <b>TOTAL</b>                          | <b>0</b>                         | <b>0</b>          | <b>0</b>                         |                   | <b>0</b>          | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      |                   |  | <b>0.000</b>   |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                                  |                   |                   |                   |                   |                   |                   |  |                |
| MAINTENANCE PERSONNEL                 | 211 (60)                         | 145 (63)          | 390 (159)                        |                   | 746 (282)         | 64,780            | 20,203            | 119,477           |                   |  | 204,460        |
| OPERATING PERSONNEL                   | 183 (63)                         | 0                 | 12 (4)                           |                   | 195 (67)          | 71,601            | 0.000             | 5,340             |                   |  | 76,941         |
| HEALTH PHYSICS PERSONNEL              | 52 (20)                          | 0                 | 86 (40)                          |                   | 138 (60)          | 25,780            | 0.000             | 49,217            |                   |  | 74,997         |
| SUPERVISORY PERSONNEL                 | 190 (61)                         | 56 (20)           | 279 (88)                         |                   | 525 (169)         | 56,893            | 8,163             | 35,794            |                   |  | 100,850        |
| ENGINEERING PERSONNEL                 | 120 (42)                         | 25 (8)            | 32 (14)                          |                   | 177 (64)          | 16,372            | 1,726             | 7,783             |                   |  | 25,881         |
| <b>GRAND TOTAL</b>                    | <b>756 (246)</b>                 | <b>226 (91)</b>   | <b>799 (305)</b>                 |                   | <b>1781 (642)</b> | <b>235,426</b>    | <b>30,092</b>     | <b>217,611</b>    |                   |  | <b>483,129</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: INDIAN POINT 3 (PWR)

1983

NUMBER OF PERSONNEL (>100 M-REM)

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS | STATION EMPLOYEES |                   | TOTAL MAN-REMS | UTILITY EMPLOYEES |                   | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|----------------|-------------------|-------------------|----------------|
|                            | STATION EMPLOYEES                | CONTRACT & OTHERS |               | EMPLOYEES         | CONTRACT & OTHERS |                | EMPLOYEES         | CONTRACT & OTHERS |                |
| REACTOR OPERATIONS & SURV. |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 5                                | 0                 | 1             | 2,300             | 0.000             | 1,300          | 0.000             | 0.000             | 1,300          |
| OPERATING PERSONNEL        | 18                               | 0                 | 0             | 12,500            | 0.000             | 0.100          | 0.000             | 0.100             | 0.100          |
| HEALTH PHYSICS PERSONNEL   | 14                               | 0                 | 11            | 10,200            | 0.100             | 4,400          | 0.000             | 0.000             | 4,400          |
| SUPERVISORY PERSONNEL      | 4                                | 0                 | 0             | 1,000             | 0.000             | 0.100          | 0.000             | 0.100             | 0.100          |
| ENGINEERING PERSONNEL      | 2                                | 1                 | 3             | 2,800             | 0.500             | 1,400          | 0.000             | 0.000             | 1,400          |
| TOTAL                      | 43                               | 1                 | 59            | 28,900            | 0.600             | 7,300          | 0.000             | 0.000             | 36,800         |
| ROUTINE MAINTENANCE        |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 12                               | 0                 | 14            | 6,200             | 0.000             | 9,900          | 0.000             | 0.000             | 9,900          |
| OPERATING PERSONNEL        | 4                                | 0                 | 0             | 2,000             | 0.000             | 0.100          | 0.000             | 0.100             | 0.100          |
| HEALTH PHYSICS PERSONNEL   | 10                               | 0                 | 30            | 9,000             | 0.000             | 25,600         | 0.000             | 0.000             | 25,600         |
| SUPERVISORY PERSONNEL      | 1                                | 0                 | 0             | 0,200             | 0.000             | 0.100          | 0.000             | 0.100             | 0.100          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0             | 0,200             | 0.400             | 0.100          | 0.000             | 0.000             | 0.100          |
| TOTAL                      | 27                               | 0                 | 44            | 17,600            | 0.400             | 35,800         | 0.000             | 0.000             | 35,800         |
| IN-SERVICE INSPECTION      |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 24            | 1,300             | 0.000             | 15,600         | 0.000             | 0.000             | 15,600         |
| OPERATING PERSONNEL        | 2                                | 0                 | 2             | 3,100             | 0.000             | 0.700          | 0.000             | 0.000             | 0.700          |
| HEALTH PHYSICS PERSONNEL   | 4                                | 0                 | 1             | 1,500             | 0.000             | 0.500          | 0.000             | 0.000             | 0.500          |
| SUPERVISORY PERSONNEL      | 2                                | 0                 | 0             | 4,000             | 0.100             | 0.200          | 0.000             | 0.000             | 0.200          |
| ENGINEERING PERSONNEL      | 7                                | 1                 | 6             | 8,200             | 1.500             | 2,300          | 0.000             | 0.000             | 2,300          |
| TOTAL                      | 16                               | 1                 | 50            | 18,100            | 1.600             | 19,300         | 0.000             | 0.000             | 19,300         |
| SPECIAL MAINTENANCE        |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 43                               | 0                 | 339           | 22,300            | 0.000             | 399,700        | 0.000             | 0.000             | 399,700        |
| OPERATING PERSONNEL        | 11                               | 0                 | 5             | 3,600             | 0.000             | 5,600          | 0.000             | 0.000             | 5,600          |
| HEALTH PHYSICS PERSONNEL   | 8                                | 0                 | 14            | 2,700             | 0.000             | 4,100          | 0.000             | 0.000             | 4,100          |
| SUPERVISORY PERSONNEL      | 8                                | 0                 | 3             | 3,100             | 0.000             | 1,300          | 0.000             | 0.000             | 1,300          |
| ENGINEERING PERSONNEL      | 10                               | 0                 | 3             | 6,100             | 0.800             | 2,000          | 0.000             | 0.000             | 2,000          |
| TOTAL                      | 80                               | 0                 | 364           | 37,800            | 0.800             | 412,700        | 0.000             | 0.000             | 412,700        |
| WASTE PROCESSING           |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 3                                | 0                 | 3             | 1,300             | 0.000             | 2,500          | 0.000             | 0.000             | 2,500          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL   | 2                                | 0                 | 1             | 2,600             | 0.000             | 0.300          | 0.000             | 0.000             | 0.300          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.100          | 0.000             | 0.000             | 0.100          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| TOTAL                      | 5                                | 0                 | 4             | 3,900             | 0.000             | 2,900          | 0.000             | 0.000             | 2,900          |
| REFUELING                  |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| TOTAL                      | 0                                | 0                 | 0             | 0,000             | 0.000             | 0.000          | 0.000             | 0.000             | 0.000          |
| TOTAL BY JOB FUNCTION      |                                  |                   |               |                   |                   |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 64                               | 0                 | 381           | 33,400            | 0.000             | 429,000        | 0.000             | 0.000             | 429,000        |
| OPERATING PERSONNEL        | 35                               | 0                 | 42            | 21,200            | 0.000             | 6,500          | 0.000             | 0.000             | 27,700         |
| HEALTH PHYSICS PERSONNEL   | 38                               | 0                 | 95            | 26,000            | 0.100             | 34,900         | 0.000             | 0.000             | 61,000         |
| SUPERVISORY PERSONNEL      | 15                               | 0                 | 18            | 8,300             | 0.100             | 1,800          | 0.000             | 0.000             | 10,200         |
| ENGINEERING PERSONNEL      | 19                               | 2                 | 33            | 17,400            | 3,200             | 5,800          | 0.000             | 0.000             | 26,400         |
| GRAND TOTAL                | 171                              | 2                 | 633           | 106,300           | 3,400             | 478,000        | 0.000             | 0.000             | 587,700        |

APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1983

| PLANT: KEWAUNEE (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 &amp; SURV.</b> |                                  |                   |                   |               |                   |                   |                   |                |
| REACTOR OPERATIONS PERSONNEL               | 6                                | 0                 | 14                |               | 2,494             | 0.000             | 3,081             |                |
| MAINTENANCE PERSONNEL                      | 9                                | 0                 | 1                 |               | 2,785             | 0.000             | 0.147             |                |
| HEALTH PHYSICS PERSONNEL                   | 0                                | 0                 | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL                      | 5                                | 0                 | 0                 |               | 0.808             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                      | 4                                | 1                 | 1                 |               | 0.172             | 0.000             | 0.080             |                |
| TOTAL                                      | 24                               | 1                 | 16                | 41            | 6,259             | 0.000             | 3,308             | 9,567          |
| <b>ROUTINE MAINTENANCE</b>                 |                                  |                   |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                      | 38                               | 15                | 58                |               | 7,414             | 4,831             | 12,073            |                |
| OPERATING PERSONNEL                        | 9                                | 0                 | 4                 |               | 1,728             | 0.000             | 1,240             |                |
| HEALTH PHYSICS PERSONNEL                   | 20                               | 0                 | 10                |               | 9,770             | 0.000             | 7,983             |                |
| SUPERVISORY PERSONNEL                      | 3                                | 0                 | 12                |               | 0.118             | 0.000             | 2,047             |                |
| ENGINEERING PERSONNEL                      | 3                                | 1                 | 3                 |               | 0.210             | 0.000             | 1,362             |                |
| TOTAL                                      | 73                               | 16                | 87                | 176           | 19,240            | 4,831             | 24,705            | 48,776         |
| <b>IN-SERVICE INSPECTION</b>               |                                  |                   |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                      | 2                                | 0                 | 56                |               | 0.306             | 0.000             | 27,843            |                |
| OPERATING PERSONNEL                        | 0                                | 0                 | 7                 |               | 0.000             | 0.000             | 0.496             |                |
| HEALTH PHYSICS PERSONNEL                   | 0                                | 0                 | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL                      | 1                                | 0                 | 1                 |               | 0.222             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                      | 1                                | 0                 | 0                 |               | 0.003             | 0.000             | 0.000             |                |
| TOTAL                                      | 4                                | 0                 | 64                | 68            | 0.531             | 0.000             | 28,339            | 28,870         |
| <b>SPECIAL MAINTENANCE</b>                 |                                  |                   |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                      | 36                               | 12                | 103               |               | 3,221             | 0.698             | 50,280            |                |
| OPERATING PERSONNEL                        | 2                                | 0                 | 1                 |               | 0.001             | 0.000             | 0.039             |                |
| HEALTH PHYSICS PERSONNEL                   | 5                                | 0                 | 0                 |               | 0.114             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL                      | 1                                | 0                 | 4                 |               | 0.046             | 0.000             | 1,678             |                |
| ENGINEERING PERSONNEL                      | 3                                | 4                 | 3                 |               | 0.083             | 1,527             | 1,425             |                |
| TOTAL                                      | 47                               | 16                | 111               | 174           | 3,465             | 2,225             | 53,422            | 59,112         |
| <b>WASTE PROCESSING</b>                    |                                  |                   |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                      | 16                               | 7                 | 7                 |               | 0.432             | 0.049             | 1,368             |                |
| OPERATING PERSONNEL                        | 2                                | 0                 | 1                 |               | 3,152             | 0.000             | 0,596             |                |
| HEALTH PHYSICS PERSONNEL                   | 5                                | 0                 | 0                 |               | 0.880             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL                      | 1                                | 0                 | 0                 |               | 0.054             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                      | 0                                | 0                 | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| TOTAL                                      | 24                               | 7                 | 8                 | 39            | 4,518             | 0.049             | 1,964             | 6,531          |
| <b>REFUELING</b>                           |                                  |                   |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                      | 28                               | 11                | 11                |               | 2,289             | 1,463             | 6,929             |                |
| OPERATING PERSONNEL                        | 3                                | 0                 | 2                 |               | 0.106             | 0.000             | 0.672             |                |
| HEALTH PHYSICS PERSONNEL                   | 3                                | 0                 | 0                 |               | 0.564             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL                      | 0                                | 0                 | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                      | 1                                | 0                 | 0                 |               | 0.068             | 0.000             | 0.000             |                |
| TOTAL                                      | 35                               | 11                | 13                | 59            | 3,027             | 1,463             | 7,601             | 12,091         |
| <b>TOTAL BY JOB FUNCTION</b>               |                                  |                   |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                      | 126                              | 45                | 249               | 420           | 16,156            | 7,041             | 101,574           | 124,771        |
| OPERATING PERSONNEL                        | 25                               | 0                 | 16                | 41            | 7,772             | 0.000             | 3,190             | 10,962         |
| HEALTH PHYSICS PERSONNEL                   | 33                               | 0                 | 10                | 43            | 11,328            | 0.000             | 7,983             | 19,311         |
| SUPERVISORY PERSONNEL                      | 11                               | 0                 | 17                | 28            | 1,248             | 0.000             | 3,725             | 4,973          |
| ENGINEERING PERSONNEL                      | 12                               | 6                 | 7                 | 25            | 0,536             | 1,527             | 2,867             | 4,930          |
| GRAND TOTAL                                | 207                              | 51                | 299               | 557           | 37,040            | 8,568             | 119,339           | 164,947        |

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

APPENDIX C

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

| PLANT: LACROSSE                       | (CBWR)          | NUMBER OF PERSONNEL (>100 M-REM) 1983 |                   |                   |                   |                   |                   |                   |                   |                |                |               |
|---------------------------------------|-----------------|---------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|----------------|---------------|
|                                       |                 | STATION EMPLOYEES                     |                   | UTILITY EMPLOYEES |                   | CONTRACT & OTHERS |                   | TOTAL PERSONS     |                   | TOTAL MAN-REMS |                |               |
|                                       |                 | EMPLOYEES                             | CONTRACT & OTHERS | EMPLOYEES         | CONTRACT & OTHERS | PERSONS           | CONTRACT & OTHERS | UTILITY EMPLOYEES | CONTRACT & OTHERS | MAN-REMS       | TOTAL MAN-REMS |               |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 1               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.161          | 0.000          | 0.247         |
| OPERATING PERSONNEL                   | 21              | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 61.608         | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 8               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 20.010         | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 22              | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 16.617         | 0.000          | 0.000         |
| ENGINEERING PERSONNEL                 | 6               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 4.496          | 0.000          | 0.000         |
| <b>TOTAL</b>                          | <b>58</b>       | <b>0</b>                              | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>58</b>         | <b>0</b>          | <b>102.892</b> | <b>0.000</b>   | <b>0.247</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 20              | 12                                    | 3                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 57.226         | 20.182         | 1.796         |
| OPERATING PERSONNEL                   | 21              | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 14.826         | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 4               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.841          | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 9               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 7.504          | 0.000          | 0.120         |
| ENGINEERING PERSONNEL                 | 6               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 7.043          | 0.000          | 0.014         |
| <b>TOTAL</b>                          | <b>60</b>       | <b>12</b>                             | <b>3</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>75</b>         | <b>0</b>          | <b>87.440</b>  | <b>20.182</b>  | <b>1.930</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 1               | 0                                     | 7                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.555          | 0.043          | 17.810        |
| OPERATING PERSONNEL                   | 0               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.089          | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 0               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.000          | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 6               | 0                                     | 3                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 5.079          | 0.000          | 4.295         |
| ENGINEERING PERSONNEL                 | 2               | 0                                     | 2                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.656          | 0.000          | 0.429         |
| <b>TOTAL</b>                          | <b>9</b>        | <b>0</b>                              | <b>12</b>         | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>21</b>         | <b>0</b>          | <b>6.379</b>   | <b>0.043</b>   | <b>22.534</b> |
| <b>SPECIAL MAINTENANCE</b>            |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 16              | 7                                     | 6                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 16.275         | 6.478          | 1.520         |
| OPERATING PERSONNEL                   | 12              | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 3.467          | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 4               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.621          | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 10              | 0                                     | 2                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 5.065          | 0.000          | 0.688         |
| ENGINEERING PERSONNEL                 | 2               | 0                                     | 3                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.957          | 0.000          | 3.537         |
| <b>TOTAL</b>                          | <b>44</b>       | <b>7</b>                              | <b>11</b>         | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>62</b>         | <b>0</b>          | <b>26.385</b>  | <b>6.478</b>   | <b>5.745</b>  |
| <b>WASTE PROCESSING</b>               |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 8               | 2                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 2.568          | 0.819          | 0.000         |
| OPERATING PERSONNEL                   | 6               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 2.997          | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 7               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 4.174          | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 3               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 4.699          | 0.000          | 0.000         |
| ENGINEERING PERSONNEL                 | 3               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 1.978          | 0.000          | 0.000         |
| <b>TOTAL</b>                          | <b>27</b>       | <b>2</b>                              | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>29</b>         | <b>0</b>          | <b>16.416</b>  | <b>0.819</b>   | <b>0.000</b>  |
| <b>REFUELLING</b>                     |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 7               | 6                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 1.960          | 2.489          | 0.000         |
| OPERATING PERSONNEL                   | 18              | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 4.491          | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 4               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0.944          | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 9               | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 5.010          | 0.000          | 0.000         |
| ENGINEERING PERSONNEL                 | 3               | 0                                     | 2                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 2.225          | 0.000          | 0.282         |
| <b>TOTAL</b>                          | <b>41</b>       | <b>6</b>                              | <b>2</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>49</b>         | <b>0</b>          | <b>14.630</b>  | <b>2.489</b>   | <b>0.282</b>  |
| <b>TOTAL BY JOB FUNCTION</b>          |                 |                                       |                   |                   |                   |                   |                   |                   |                   |                |                |               |
| MAINTENANCE PERSONNEL                 | 53 (20)         | 27 (12)                               | 16 (7)            | 0                 | 0                 | 0                 | 0                 | 96 (39)           | 0                 | 78.745         | 30.011         | 21.373        |
| OPERATING PERSONNEL                   | 78 (21)         | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 78 (21)           | 0                 | 87.478         | 0.000          | 0.000         |
| HEALTH PHYSICS PERSONNEL              | 27 (8)          | 0                                     | 0                 | 0                 | 0                 | 0                 | 0                 | 27 (8)            | 0                 | 26.590         | 0.000          | 0.000         |
| SUPERVISORY PERSONNEL                 | 59 (22)         | 0                                     | 5 (3)             | 0                 | 0                 | 0                 | 0                 | 64 (25)           | 0                 | 43.974         | 0.000          | 5.103         |
| ENGINEERING PERSONNEL                 | 22 (6)          | 0                                     | 7 (3)             | 0                 | 0                 | 0                 | 0                 | 29 (9)            | 0                 | 17.355         | 0.000          | 4.272         |
| <b>GRAND TOTAL</b>                    | <b>239 (77)</b> | <b>27 (12)</b>                        | <b>28 (13)</b>    | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>294 (102)</b>  | <b>0</b>          | <b>254.142</b> | <b>30.011</b>  | <b>30.748</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: MAINE YANKEE (PWR)

1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS |                   | STATION EMPLOYEES |                   | UTILITY EMPLOYEES |                   | TOTAL MAN-REMS |                   |
|---------------------------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|-------------------|
|                                       | EMPLOYEES                        | CONTRACT & OTHERS | EMPLOYEES     | CONTRACT & OTHERS | EMPLOYEES         | CONTRACT & OTHERS | EMPLOYEES         | CONTRACT & OTHERS | EMPLOYEES      | CONTRACT & OTHERS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 3                                | 0                 | 3             | 0                 | 1,640             | 0                 | 0.000             | 0.000             | 0.705          | 0.000             |
| OPERATING PERSONNEL                   | 33                               | 0                 | 0             | 0                 | 11,520            | 0                 | 0.000             | 0.000             | 0.010          | 0.010             |
| HEALTH PHYSICS PERSONNEL              | 15                               | 2                 | 2             | 0                 | 7,420             | 0                 | 0.000             | 0.000             | 0.785          | 0.785             |
| SUPERVISORY PERSONNEL                 | 11                               | 0                 | 0             | 0                 | 4,750             | 0                 | 0.010             | 0.000             | 0.430          | 0.430             |
| ENGINEERING PERSONNEL                 | 13                               | 9                 | 9             | 0                 | 3,740             | 0                 | 0.000             | 0.000             | 5.270          | 5.270             |
| <b>TOTAL</b>                          | <b>75</b>                        | <b>14</b>         | <b>89</b>     | <b>0</b>          | <b>29,070</b>     | <b>0</b>          | <b>0.010</b>      | <b>0.010</b>      | <b>7,200</b>   | <b>36,280</b>     |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 25                               | 0                 | 118           | 0                 | 23,012            | 0                 | 0.000             | 0.000             | 50.984         | 50.984            |
| OPERATING PERSONNEL                   | 15                               | 0                 | 0             | 0                 | 4,110             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 5                                | 0                 | 0             | 0                 | 1,390             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| SUPERVISORY PERSONNEL                 | 29                               | 0                 | 0             | 0                 | 19,550            | 0                 | 0.015             | 0.000             | 0.290          | 0.290             |
| ENGINEERING PERSONNEL                 | 7                                | 7                 | 7             | 0                 | 2,260             | 0                 | 0.000             | 0.000             | 2.160          | 2.160             |
| <b>TOTAL</b>                          | <b>81</b>                        | <b>0</b>          | <b>206</b>    | <b>0</b>          | <b>50,322</b>     | <b>0</b>          | <b>0.015</b>      | <b>0.015</b>      | <b>53,434</b>  | <b>103,771</b>    |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 1             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.420          | 0.420             |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.005             | 0                 | 0.000             | 0.000             | 0.035          | 0.035             |
| <b>TOTAL</b>                          | <b>0</b>                         | <b>0</b>          | <b>1</b>      | <b>0</b>          | <b>0.005</b>      | <b>0</b>          | <b>0.000</b>      | <b>0.000</b>      | <b>0.455</b>   | <b>0.460</b>      |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 4                                | 0                 | 6             | 0                 | 0.940             | 0                 | 0.000             | 0.000             | 2.585          | 2.585             |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0             | 0                 | 0.020             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.105             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.045             | 0                 | 0.000             | 0.000             | 0.015          | 0.015             |
| <b>TOTAL</b>                          | <b>4</b>                         | <b>0</b>          | <b>10</b>     | <b>0</b>          | <b>1.110</b>      | <b>0</b>          | <b>0.000</b>      | <b>0.000</b>      | <b>2,600</b>   | <b>3,710</b>      |
| <b>WASTE PROCESSING</b>               |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 1                                | 0                 | 2             | 0                 | 0.405             | 0                 | 0.000             | 0.000             | 0.495          | 0.495             |
| OPERATING PERSONNEL                   | 2                                | 0                 | 0             | 0                 | 0.750             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 1                                | 0                 | 0             | 0                 | 0.580             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.470             | 0                 | 0.000             | 0.000             | 0.020          | 0.020             |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.005          | 0.005             |
| <b>TOTAL</b>                          | <b>5</b>                         | <b>0</b>          | <b>7</b>      | <b>0</b>          | <b>2,205</b>      | <b>0</b>          | <b>0.000</b>      | <b>0.000</b>      | <b>0,520</b>   | <b>2,725</b>      |
| <b>REFUELING</b>                      |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.075             | 0                 | 0.000             | 0.000             | 0.055          | 0.055             |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0             | 0                 | 0.005             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0             | 0                 | 0.000             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.025             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0             | 0                 | 0.060             | 0                 | 0.000             | 0.000             | 0.000          | 0.000             |
| <b>TOTAL</b>                          | <b>0</b>                         | <b>0</b>          | <b>0</b>      | <b>0</b>          | <b>0.165</b>      | <b>0</b>          | <b>0.000</b>      | <b>0.000</b>      | <b>0.055</b>   | <b>0.220</b>      |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 33                               | 0                 | 163           | 0                 | 26,072            | 0                 | 0.000             | 0.000             | 55,244         | 81,316            |
| OPERATING PERSONNEL                   | 50                               | 0                 | 50            | 0                 | 16,385            | 0                 | 0.000             | 0.000             | 0.010          | 16,395            |
| HEALTH PHYSICS PERSONNEL              | 21                               | 2                 | 23            | 0                 | 9,410             | 0                 | 0.000             | 0.000             | 0.785          | 10,195            |
| SUPERVISORY PERSONNEL                 | 41                               | 4                 | 41            | 0                 | 24,900            | 0                 | 0.025             | 0.000             | 0.740          | 25,665            |
| ENGINEERING PERSONNEL                 | 20                               | 16                | 36            | 0                 | 6,110             | 0                 | 0.000             | 0.000             | 7,485          | 13,595            |
| <b>GRAND TOTAL</b>                    | <b>165</b>                       | <b>0</b>          | <b>313</b>    | <b>0</b>          | <b>82,877</b>     | <b>0</b>          | <b>0.025</b>      | <b>0.000</b>      | <b>64,264</b>  | <b>147,166</b>    |

PLANT: \*MCGUIRE (PWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                           | UTILITY CONTRACT |                   | TOTAL PERSONS  | STATION EMPLOYEES | UTILITY EMPLOYEES | TOTAL MAN-REMS |                   |
|---------------------------------------|----------------------------------|---------------------------|------------------|-------------------|----------------|-------------------|-------------------|----------------|-------------------|
|                                       | STATION EMPLOYEES                | UTILITY CONTRACT & OTHERS | EMPLOYEES        | & OTHERS          |                |                   |                   | EMPLOYEES      | CONTRACT & OTHERS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 93                               | 11                        | 47               |                   |                | 2,550             | 0.105             | 1.000          |                   |
| OPERATING PERSONNEL                   | 74                               | 214                       | 8                |                   |                | 5,235             | 2.615             | 0.265          |                   |
| HEALTH PHYSICS PERSONNEL              | 85                               | 1                         | 63               |                   |                | 11,750            | 0.020             | 13.090         |                   |
| SUPERVISORY PERSONNEL                 | 5                                | 0                         | 0                |                   |                | 0.330             | 0.000             | 0.000          |                   |
| ENGINEERING PERSONNEL                 | 30                               | 11                        | 9                |                   |                | 0.810             | 0.245             | 0.215          |                   |
| <b>TOTAL</b>                          | <b>287</b>                       | <b>237</b>                | <b>127</b>       | <b>651</b>        | <b>20,675</b>  | <b>2,985</b>      | <b>14,570</b>     | <b>38,230</b>  |                   |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 113                              | 23                        | 55               |                   |                | 26,145            | 2.470             | 7.572          |                   |
| OPERATING PERSONNEL                   | 76                               | 352                       | 17               |                   |                | 8,105             | 63.275            | 2.005          |                   |
| HEALTH PHYSICS PERSONNEL              | 75                               | 1                         | 59               |                   |                | 5,380             | 0.055             | 7.335          |                   |
| SUPERVISORY PERSONNEL                 | 6                                | 0                         | 0                |                   |                | 0.610             | 0.000             | 0.000          |                   |
| ENGINEERING PERSONNEL                 | 47                               | 25                        | 47               |                   |                | 6,980             | 2.205             | 1.893          |                   |
| <b>TOTAL</b>                          | <b>317</b>                       | <b>401</b>                | <b>178</b>       | <b>896</b>        | <b>47,220</b>  | <b>68,005</b>     | <b>18,805</b>     | <b>134,030</b> |                   |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 29                               | 3                         | 2                |                   |                | 1,900             | 0.200             | 0.000          |                   |
| OPERATING PERSONNEL                   | 7                                | 74                        | 2                |                   |                | 0.085             | 9.090             | 0.110          |                   |
| HEALTH PHYSICS PERSONNEL              | 43                               | 1                         | 32               |                   |                | 1,660             | 0.025             | 2.120          |                   |
| SUPERVISORY PERSONNEL                 | 0                                | 0                         | 0                |                   |                | 0.000             | 0.000             | 0.000          |                   |
| ENGINEERING PERSONNEL                 | 30                               | 7                         | 14               |                   |                | 1,775             | 0.340             | 5.025          |                   |
| <b>TOTAL</b>                          | <b>109</b>                       | <b>85</b>                 | <b>50</b>        | <b>244</b>        | <b>5,420</b>   | <b>9,655</b>      | <b>7,255</b>      | <b>22,330</b>  |                   |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 74                               | 17                        | 32               |                   |                | 14,545            | 1.040             | 6.045          |                   |
| OPERATING PERSONNEL                   | 43                               | 312                       | 11               |                   |                | 3,065             | 177.984           | 1.235          |                   |
| HEALTH PHYSICS PERSONNEL              | 66                               | 1                         | 58               |                   |                | 15,765            | 0.055             | 20.198         |                   |
| SUPERVISORY PERSONNEL                 | 2                                | 0                         | 0                |                   |                | 0.575             | 0.000             | 0.000          |                   |
| ENGINEERING PERSONNEL                 | 42                               | 15                        | 52               |                   |                | 10,350            | 2.095             | 41.757         |                   |
| <b>TOTAL</b>                          | <b>227</b>                       | <b>345</b>                | <b>153</b>       | <b>725</b>        | <b>44,300</b>  | <b>181,174</b>    | <b>69,235</b>     | <b>294,709</b> |                   |
| <b>WASTE PROCESSING</b>               |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 49                               | 3                         | 41               |                   |                | 1,545             | 0.040             | 15.435         |                   |
| OPERATING PERSONNEL                   | 28                               | 58                        | 6                |                   |                | 2,075             | 0.790             | 1.375          |                   |
| HEALTH PHYSICS PERSONNEL              | 67                               | 0                         | 48               |                   |                | 10,400            | 0.000             | 1.867          |                   |
| SUPERVISORY PERSONNEL                 | 3                                | 0                         | 0                |                   |                | 1,655             | 0.000             | 0.000          |                   |
| ENGINEERING PERSONNEL                 | 12                               | 0                         | 1                |                   |                | 0.100             | 0.000             | 0.005          |                   |
| <b>TOTAL</b>                          | <b>159</b>                       | <b>61</b>                 | <b>96</b>        | <b>316</b>        | <b>15,775</b>  | <b>0,830</b>      | <b>18,682</b>     | <b>35,287</b>  |                   |
| <b>REFUELING</b>                      |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 54                               | 1                         | 15               |                   |                | 20,095            | 0.200             | 0.310          |                   |
| OPERATING PERSONNEL                   | 25                               | 40                        | 4                |                   |                | 1,805             | 3.795             | 0.340          |                   |
| HEALTH PHYSICS PERSONNEL              | 53                               | 1                         | 29               |                   |                | 4,670             | 0.000             | 2.725          |                   |
| SUPERVISORY PERSONNEL                 | 3                                | 0                         | 0                |                   |                | 1,545             | 0.000             | 0.000          |                   |
| ENGINEERING PERSONNEL                 | 23                               | 3                         | 6                |                   |                | 1,850             | 0.050             | 1.265          |                   |
| <b>TOTAL</b>                          | <b>158</b>                       | <b>45</b>                 | <b>54</b>        | <b>257</b>        | <b>29,965</b>  | <b>4,045</b>      | <b>4,640</b>      | <b>38,650</b>  |                   |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                           |                  |                   |                |                   |                   |                |                   |
| MAINTENANCE PERSONNEL                 | 412 (116)                        | 58 (20)                   | 192 (55)         | 662 (191)         | 66,780         | 4,055             | 30,362            | 101,197        |                   |
| OPERATING PERSONNEL                   | 253 (80)                         | 1050 (356)                | 48 (20)          | 1351 (456)        | 20,370         | 257,549           | 5,330             | 283,249        |                   |
| HEALTH PHYSICS PERSONNEL              | 389 (86)                         | 5 (1)                     | 289 (63)         | 683 (150)         | 49,625         | 0,155             | 47,335            | 97,115         |                   |
| SUPERVISORY PERSONNEL                 | 19 (6)                           | 0 (0)                     | 0 (0)            | 19 (6)            | 4,715          | 0,000             | 0,000             | 4,715          |                   |
| ENGINEERING PERSONNEL                 | 184 (55)                         | 61 (19)                   | 129 (65)         | 374 (139)         | 21,865         | 4,935             | 50,160            | 76,960         |                   |
| <b>GRAND TOTAL</b>                    | <b>1257 (343)</b>                | <b>1174 (396)</b>         | <b>658 (203)</b> | <b>3089 (982)</b> | <b>163,355</b> | <b>266,694</b>    | <b>133,187</b>    | <b>563,236</b> |                   |

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

APPENDIX C

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

1983

(BMR)

PLANT: \*MILLSTONE 1

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS     |         | STATION EMPLOYEES |                   | TOTAL MAN-REMS    |          |
|----------------------------|----------------------------------|-------------------|-------------------|---------|-------------------|-------------------|-------------------|----------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS | EMPLOYEES         | UTILITY EMPLOYEES | CONTRACT & OTHERS | MAN-REMS |
| REACTOR OPERATIONS & SURV. | 19                               | 0                 | 1                 | 101     | 7,660             | 0.120             | 0.460             |          |
| MAINTENANCE PERSONNEL      | 51                               | 0                 | 0                 |         | 48,560            | 0.000             | 0.130             |          |
| OPERATING PERSONNEL        | 22                               | 0                 | 4                 |         | 8,690             | 0.010             | 1.840             |          |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 0                 |         | 0.130             | 0.000             | 0.050             |          |
| SUPERVISORY PERSONNEL      | 3                                | 0                 | 0                 |         | 1.040             | 0.200             | 0.200             |          |
| ENGINEERING PERSONNEL      | 96                               | 0                 | 5                 |         | 66,080            | 0.330             | 2.680             | 69.090   |
| TOTAL                      |                                  |                   |                   |         |                   |                   |                   |          |
| ROUTINE MAINTENANCE        | 52                               | 1                 | 17                |         | 50,610            | 0.600             | 6.160             |          |
| MAINTENANCE PERSONNEL      | 16                               | 0                 | 3                 |         | 4,710             | 0.000             | 2.430             |          |
| OPERATING PERSONNEL        | 15                               | 0                 | 9                 |         | 7,470             | 0.010             | 3.660             |          |
| HEALTH PHYSICS PERSONNEL   | 9                                | 0                 | 1                 |         | 0.010             | 0.000             | 0.190             |          |
| SUPERVISORY PERSONNEL      | 9                                | 9                 | 2                 |         | 2,420             | 3.060             | 1.170             |          |
| ENGINEERING PERSONNEL      | 92                               | 10                | 32                | 134     | 65,220            | 3.670             | 13.610            | 82.500   |
| TOTAL                      |                                  |                   |                   |         |                   |                   |                   |          |
| IN-SERVICE INSPECTION      | 0                                | 0                 | 0                 |         | 0.100             | 0.000             | 0.110             |          |
| MAINTENANCE PERSONNEL      | 0                                | 0                 | 0                 |         | 0.060             | 0.000             | 0.030             |          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 |         | 0.200             | 0.000             | 0.000             |          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |         | 0.000             | 0.000             | 0.000             |          |
| SUPERVISORY PERSONNEL      | 2                                | 0                 | 2                 | 4       | 0.800             | 0.270             | 0.380             |          |
| ENGINEERING PERSONNEL      | 2                                | 0                 | 2                 |         | 1.160             | 0.270             | 0.520             | 1.950    |
| TOTAL                      |                                  |                   |                   |         |                   |                   |                   |          |
| SPECIAL MAINTENANCE        | 34                               | 33                | 134               | 241     | 14,410            | 17.400            | 53.120            |          |
| MAINTENANCE PERSONNEL      | 3                                | 0                 | 7                 |         | 0.970             | 0.010             | 2.320             |          |
| OPERATING PERSONNEL        | 14                               | 0                 | 3                 |         | 5,540             | 0.010             | 1.020             |          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 2                 |         | 0.000             | 0.000             | 0.740             |          |
| SUPERVISORY PERSONNEL      | 4                                | 3                 | 4                 |         | 1,460             | 2.030             | 1.360             |          |
| ENGINEERING PERSONNEL      | 55                               | 36                | 150               | 241     | 22,380            | 19.450            | 58.560            | 100.390  |
| TOTAL                      |                                  |                   |                   |         |                   |                   |                   |          |
| WASTE PROCESSING           | 3                                | 0                 | 8                 |         | 0.630             | 0.000             | 3.920             |          |
| MAINTENANCE PERSONNEL      | 7                                | 0                 | 0                 |         | 1.840             | 0.000             | 0.000             |          |
| OPERATING PERSONNEL        | 6                                | 0                 | 5                 |         | 2,950             | 0.000             | 1.460             |          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |         | 0.000             | 0.000             | 0.000             |          |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |         | 0.250             | 0.000             | 0.010             |          |
| ENGINEERING PERSONNEL      | 16                               | 0                 | 13                | 29      | 5,670             | 0.000             | 5.390             | 11.060   |
| TOTAL                      |                                  |                   |                   |         |                   |                   |                   |          |
| REFUELING                  | 2                                | 0                 | 2                 | 8       | 0.630             | 0.000             | 0.000             |          |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 1                 |         | 0.260             | 0.000             | 0.040             |          |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                 |         | 0.270             | 0.000             | 0.000             |          |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |         | 0.000             | 0.000             | 0.000             |          |
| SUPERVISORY PERSONNEL      | 0                                | 2                 | 0                 |         | 0.250             | 0.910             | 0.060             |          |
| ENGINEERING PERSONNEL      | 3                                | 2                 | 3                 | 8       | 1,410             | 0.910             | 0.100             | 2.420    |
| TOTAL                      |                                  |                   |                   |         |                   |                   |                   |          |
| TOTAL BY JOB FUNCTION      | 110                              | 34                | 162               | 306     | 74,040            | 18.120            | 63.770            | 155.930  |
| MAINTENANCE PERSONNEL      | 78                               | 0                 | 11                | 89      | 56,400            | 0.010             | 4.950             | 61.360   |
| OPERATING PERSONNEL        | 57                               | 0                 | 21                | 78      | 25,120            | 0.030             | 7.980             | 33.130   |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 3                 | 4       | 0.140             | 0.000             | 1.120             | 1.260    |
| SUPERVISORY PERSONNEL      | 18                               | 14                | 8                 | 40      | 6,220             | 6.470             | 3.180             | 15.870   |
| ENGINEERING PERSONNEL      | 264                              | 48                | 205               | 517     | 161,920           | 24.630            | 80.860            | 267.410  |
| GRAND TOTAL                |                                  |                   |                   |         |                   |                   |                   |          |

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

APPENDIX C

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

PLANT: \*MILLSTONE 2 (PWR) 1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION EMPLOYEES |                   | TOTAL PERSONS | STATION EMPLOYEES |                   | TOTAL MAN-REMS    |                   | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|-------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | EMPLOYEES         | CONTRACT & OTHERS |               | EMPLOYEES         | CONTRACT & OTHERS | UTILITY EMPLOYEES | CONTRACT & OTHERS |                |
| REACTOR OPERATIONS & SURV. | 9                                | 0                 | 11                |                   |               | 4,320             | 0.960             | 6,720             |                   | 187,850        |
| MAINTENANCE PERSONNEL      | 54                               | 0                 | 2                 |                   |               | 48,730            | 0.030             | 0.910             |                   |                |
| OPERATING PERSONNEL        | 24                               | 3                 | 78                |                   |               | 18,090            | 1.060             | 98,110            |                   |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |                   |               | 0.100             | 0.030             | 0.030             |                   |                |
| SUPERVISORY PERSONNEL      | 11                               | 5                 | 2                 |                   |               | 5,290             | 2.030             | 1,440             |                   |                |
| ENGINEERING PERSONNEL      | 98                               | 8                 | 93                |                   | 199           | 76,530            | 4.110             | 107,210           |                   |                |
| TOTAL                      |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |
| ROUTINE MAINTENANCE        | 70                               | 22                | 205               |                   |               | 75,970            | 5.800             | 80,320            |                   |                |
| MAINTENANCE PERSONNEL      | 19                               | 0                 | 1                 |                   |               | 6,090             | 0.000             | 0.650             |                   |                |
| OPERATING PERSONNEL        | 2                                | 1                 | 15                |                   |               | 1,040             | 0.220             | 5,770             |                   |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 1                 |                   |               | 0.000             | 0.020             | 0.450             |                   |                |
| SUPERVISORY PERSONNEL      | 9                                | 11                | 15                |                   |               | 4,390             | 4.010             | 7,950             |                   |                |
| ENGINEERING PERSONNEL      | 100                              | 34                | 237               |                   | 371           | 87,490            | 10.050            | 95,140            |                   | 192,680        |
| TOTAL                      |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |
| IN-SERVICE INSPECTION      | 13                               | 0                 | 222               |                   |               | 4,770             | 0.170             | 233,450           |                   |                |
| MAINTENANCE PERSONNEL      | 1                                | 0                 | 5                 |                   |               | 0.620             | 0.000             | 2,580             |                   |                |
| OPERATING PERSONNEL        | 3                                | 0                 | 10                |                   |               | 2,050             | 0.000             | 4,070             |                   |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 2                 |                   |               | 0.000             | 0.000             | 1,650             |                   |                |
| SUPERVISORY PERSONNEL      | 3                                | 7                 | 47                |                   |               | 1,450             | 3.270             | 56,730            |                   |                |
| ENGINEERING PERSONNEL      | 20                               | 7                 | 286               |                   | 313           | 8,890             | 3.440             | 298,480           |                   | 310,810        |
| TOTAL                      |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |
| SPECIAL MAINTENANCE        | 69                               | 33                | 574               |                   |               | 65,130            | 12.480            | 669,610           |                   |                |
| MAINTENANCE PERSONNEL      | 17                               | 0                 | 73                |                   |               | 4,630             | 0.020             | 79,000            |                   |                |
| OPERATING PERSONNEL        | 7                                | 1                 | 26                |                   |               | 2,880             | 0.220             | 17,070            |                   |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 12                |                   |               | 0.100             | 0.060             | 5,730             |                   |                |
| SUPERVISORY PERSONNEL      | 17                               | 30                | 263               |                   |               | 7,450             | 13.950            | 382,340           |                   |                |
| ENGINEERING PERSONNEL      | 110                              | 64                | 948               |                   | 1122          | 80,190            | 26.730            | 1153,750          |                   | 1260,670       |
| TOTAL                      |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |
| WASTE PROCESSING           | 0                                | 0                 | 29                |                   |               | 0.180             | 0.000             | 20,040            |                   |                |
| MAINTENANCE PERSONNEL      | 10                               | 0                 | 0                 |                   |               | 3,190             | 0.000             | 0.020             |                   |                |
| OPERATING PERSONNEL        | 6                                | 0                 | 16                |                   |               | 7,990             | 0.020             | 11,320            |                   |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |                   |               | 0.000             | 0.000             | 0.030             |                   |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 2                 |                   |               | 0.140             | 0.030             | 0.530             |                   |                |
| ENGINEERING PERSONNEL      | 16                               | 0                 | 47                |                   | 63            | 11,500            | 0.050             | 31,940            |                   | 43,490         |
| TOTAL                      |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |
| REFUELING                  | 68                               | 8                 | 22                |                   |               | 45,880            | 5.320             | 10,260            |                   |                |
| MAINTENANCE PERSONNEL      | 22                               | 0                 | 1                 |                   |               | 5,590             | 0.040             | 0.290             |                   |                |
| OPERATING PERSONNEL        | 0                                | 0                 | 10                |                   |               | 0.010             | 0.000             | 3,480             |                   |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                 |                   |               | 0.000             | 0.000             | 0.000             |                   |                |
| SUPERVISORY PERSONNEL      | 7                                | 0                 | 29                |                   |               | 2,070             | 0.200             | 8,270             |                   |                |
| ENGINEERING PERSONNEL      | 97                               | 8                 | 62                |                   | 167           | 53,550            | 5.560             | 22,300            |                   | 81,410         |
| TOTAL                      |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |
| TOTAL BY JOB FUNCTION      | 229                              | 63                | 1063              |                   | 1355          | 196,250           | 24,730            | 1020,400          |                   | 1241,380       |
| MAINTENANCE PERSONNEL      | 123                              | 0                 | 82                |                   | 205           | 68,850            | 0.090             | 83,450            |                   | 152,390        |
| OPERATING PERSONNEL        | 42                               | 5                 | 155               |                   | 202           | 32,060            | 1.520             | 139,820           |                   | 173,400        |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 15                |                   | 15            | 0.200             | 0.110             | 7,890             |                   | 8,200          |
| SUPERVISORY PERSONNEL      | 47                               | 53                | 358               |                   | 453           | 20,790            | 23.490            | 457,260           |                   | 501,540        |
| ENGINEERING PERSONNEL      | 441                              | 121               | 1673              |                   | 2235          | 318,150           | 49,940            | 1708,820          |                   | 2076,910       |
| GRAND TOTAL                |                                  |                   |                   |                   |               |                   |                   |                   |                   |                |

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



PLANT: MONTECELLO (BWR) NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION 1983

| 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 |
| REACTOR OPERATIONS & SURV. |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 39                | 38                | 28                | 0                 | 67            | 38                | 9,102             | 1,546             | 0,000             | 0,000             | 0,310          |                   |
| OPERATING PERSONNEL        | 46                | 0                 | 0                 | 0                 | 46            | 0                 | 20,384            | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| HEALTH PHYSICS PERSONNEL   | 17                | 5                 | 17                | 5                 | 22            | 10                | 7,283             | 0,000             | 0,000             | 0,965             |                |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 16                | 24                | 7                 | 24                | 31            | 48                | 3,414             | 0,823             | 4,242             | 0,000             |                |                   |
| TOTAL                      | 118               | 67                | 52                | 67                | 119           | 134               | 40,183            | 2,374             | 5,517             | 48,074            |                |                   |
| ROUTINE MAINTENANCE        |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 39                | 22                | 31                | 0                 | 51            | 22                | 15,813            | 8,790             | 0,000             | 0,000             | 2,988          |                   |
| OPERATING PERSONNEL        | 29                | 0                 | 0                 | 0                 | 29            | 0                 | 2,021             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| HEALTH PHYSICS PERSONNEL   | 13                | 6                 | 13                | 6                 | 19            | 12                | 2,201             | 0,000             | 0,000             | 1,981             |                |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 14                | 12                | 2                 | 12                | 16            | 24                | 1,113             | 0,335             | 1,995             | 0,000             |                |                   |
| TOTAL                      | 95                | 40                | 46                | 40                | 86            | 64                | 21,148            | 9,125             | 6,964             | 37,237            |                |                   |
| IN-SERVICE INSPECTION      |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 1                 | 0                 | 0                 | 0                 | 1             | 0                 | 0,004             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| OPERATING PERSONNEL        | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| HEALTH PHYSICS PERSONNEL   | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 1                 | 1                 | 0                 | 1                 | 2             | 2                 | 0,016             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| TOTAL                      | 2                 | 1                 | 0                 | 1                 | 3             | 2                 | 0,020             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| SPECIAL MAINTENANCE**      |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 0                 | 23                | 21                | 0                 | 24            | 23                | 0,000             | 0,873             | 0,873             | 4,045             |                |                   |
| OPERATING PERSONNEL        | 1                 | 0                 | 0                 | 0                 | 1             | 0                 | 0,005             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| HEALTH PHYSICS PERSONNEL   | 1                 | 0                 | 1                 | 0                 | 2             | 0                 | 0,022             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| TOTAL                      | 2                 | 23                | 22                | 0                 | 25            | 23                | 0,027             | 0,873             | 0,873             | 4,045             |                |                   |
| WASTE PROCESSING           |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 28                | 0                 | 18                | 0                 | 28            | 0                 | 3,939             | 1,424             | 0,000             | 0,000             | 0,000          |                   |
| OPERATING PERSONNEL        | 41                | 0                 | 0                 | 0                 | 41            | 0                 | 2,703             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| HEALTH PHYSICS PERSONNEL   | 9                 | 3                 | 9                 | 3                 | 12            | 6                 | 0,880             | 0,000             | 0,152             | 0,000             | 0,000          |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 5                 | 3                 | 0                 | 3                 | 8             | 6                 | 0,359             | 0,000             | 2,898             | 0,000             | 0,000          |                   |
| TOTAL                      | 83                | 6                 | 27                | 6                 | 95            | 15                | 7,881             | 1,424             | 3,050             | 12,355            |                |                   |
| REFUELING                  |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| OPERATING PERSONNEL        | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| HEALTH PHYSICS PERSONNEL   | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| TOTAL                      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| TOTAL BY JOB FUNCTION      |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                |                   |
| MAINTENANCE PERSONNEL      | 107               | 83                | 98                | 83                | 181           | 166               | 28,858            | 12,633            | 7,343             | 48,834            |                |                   |
| OPERATING PERSONNEL        | 117               | 0                 | 0                 | 0                 | 117           | 0                 | 25,113            | 0,000             | 0,000             | 25,113            |                |                   |
| HEALTH PHYSICS PERSONNEL   | 40                | 14                | 40                | 14                | 54            | 28                | 10,386            | 0,000             | 0,000             | 13,684            |                |                   |
| SUPERVISORY PERSONNEL      | 0                 | 0                 | 0                 | 0                 | 0             | 0                 | 0,000             | 0,000             | 0,000             | 0,000             | 0,000          |                   |
| ENGINEERING PERSONNEL      | 36                | 40                | 9                 | 40                | 75            | 50                | 4,902             | 1,163             | 9,135             | 15,200            |                |                   |
| GRAND TOTAL                | 300               | 137               | 147               | 137               | 484           | 354               | 69,259            | 13,796            | 19,576            | 102,631           |                |                   |

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

\*\* Includes torus mods., installation of combustible gas control system, turbine building addition and maintenance performed in primary containment during shutdown.

APPENDIX C

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

PLANT: † NINE MILE POINT (BWR) 1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION     |                   | TOTAL PERSONS | TOTAL MAN-REMS    |                   | TOTAL MAN-REMS CONTRACT & OTHERS | TOTAL |
|---------------------------------------|----------------------------------|-------------------|-------------|-------------------|---------------|-------------------|-------------------|----------------------------------|-------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | EMPLOYEES   | CONTRACT & OTHERS |               | UTILITY EMPLOYEES | CONTRACT & OTHERS |                                  |       |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 137                              | 23                | 67          | 11,316            | 0.634         | 2.317             |                   |                                  |       |
| OPERATING PERSONNEL                   | 171                              | 22                | 135         | 13,121            | 0.643         | 4.202             |                   |                                  |       |
| HEALTH PHYSICS PERSONNEL              | 57                               | 2                 | 25          | 8,268             | 0.166         | 3.611             |                   |                                  |       |
| SUPERVISORY PERSONNEL                 | 34                               | 0                 | 9           | 3,851             | 0.000         | 0.177             |                   |                                  |       |
| ENGINEERING PERSONNEL                 | 16                               | 16                | 37          | 0,705             | 0.112         | 1.280             |                   |                                  |       |
| <b>TOTAL</b>                          | <b>415</b>                       | <b>63</b>         | <b>273</b>  | <b>37,261</b>     | <b>1.555</b>  | <b>11.587</b>     |                   | <b>50.403</b>                    |       |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 122                              | 11                | 106         | 23,096            | 0.219         | 6.529             |                   |                                  |       |
| OPERATING PERSONNEL                   | 75                               | 10                | 67          | 2,872             | 0.177         | 3.780             |                   |                                  |       |
| HEALTH PHYSICS PERSONNEL              | 38                               | 1                 | 17          | 2,884             | 0.076         | 1.552             |                   |                                  |       |
| SUPERVISORY PERSONNEL                 | 14                               | 0                 | 8           | 0,690             | 0.000         | 1.851             |                   |                                  |       |
| ENGINEERING PERSONNEL                 | 19                               | 8                 | 23          | 0,664             | 0.171         | 1.720             |                   |                                  |       |
| <b>TOTAL</b>                          | <b>268</b>                       | <b>30</b>         | <b>221</b>  | <b>30,206</b>     | <b>0.643</b>  | <b>15.432</b>     |                   | <b>46.281</b>                    |       |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 38                               | 3                 | 20          | 2,963             | 1.585         | 1.842             |                   |                                  |       |
| OPERATING PERSONNEL                   | 15                               | 0                 | 28          | 0,302             | 0.000         | 3.589             |                   |                                  |       |
| HEALTH PHYSICS PERSONNEL              | 11                               | 0                 | 5           | 0,119             | 0.000         | 0.330             |                   |                                  |       |
| SUPERVISORY PERSONNEL                 | 6                                | 0                 | 5           | 0,235             | 0.000         | 0.285             |                   |                                  |       |
| ENGINEERING PERSONNEL                 | 4                                | 3                 | 15          | 0,061             | 0.030         | 2.516             |                   |                                  |       |
| <b>TOTAL</b>                          | <b>74</b>                        | <b>6</b>          | <b>73</b>   | <b>3,680</b>      | <b>1.615</b>  | <b>8.362</b>      |                   | <b>13.657</b>                    |       |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 752                              | 98                | 855         | 114,038           | 12.838        | 366.661           |                   |                                  |       |
| OPERATING PERSONNEL                   | 439                              | 39                | 450         | 20,767            | 0.658         | 89.748            |                   |                                  |       |
| HEALTH PHYSICS PERSONNEL              | 205                              | 2                 | 87          | 21,685            | 0.026         | 12.381            |                   |                                  |       |
| SUPERVISORY PERSONNEL                 | 99                               | 0                 | 38          | 6,896             | 0.000         | 4.521             |                   |                                  |       |
| ENGINEERING PERSONNEL                 | 89                               | 42                | 156         | 7,622             | 1.503         | 43.256            |                   |                                  |       |
| <b>TOTAL</b>                          | <b>1584</b>                      | <b>181</b>        | <b>1586</b> | <b>171,008</b>    | <b>15.025</b> | <b>516.567</b>    |                   | <b>702.600</b>                   |       |
| <b>WASTE PROCESSING</b>               |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 88                               | 7                 | 33          | 8,355             | 0.490         | 1.810             |                   |                                  |       |
| OPERATING PERSONNEL                   | 45                               | 1                 | 46          | 4,415             | 0.304         | 19.084            |                   |                                  |       |
| HEALTH PHYSICS PERSONNEL              | 39                               | 0                 | 32          | 5,260             | 0.000         | 8.866             |                   |                                  |       |
| SUPERVISORY PERSONNEL                 | 6                                | 0                 | 5           | 0,239             | 0.000         | 1.272             |                   |                                  |       |
| ENGINEERING PERSONNEL                 | 9                                | 2                 | 11          | 0,050             | 0.006         | 1.740             |                   |                                  |       |
| <b>TOTAL</b>                          | <b>187</b>                       | <b>10</b>         | <b>127</b>  | <b>18,319</b>     | <b>0.800</b>  | <b>32.772</b>     |                   | <b>51.891</b>                    |       |
| <b>REFUELING</b>                      |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 77                               | 4                 | 11          | 4,684             | 0.055         | 0.087             |                   |                                  |       |
| OPERATING PERSONNEL                   | 50                               | 1                 | 32          | 2,863             | 0.001         | 0.573             |                   |                                  |       |
| HEALTH PHYSICS PERSONNEL              | 30                               | 1                 | 5           | 0,824             | 0.005         | 0.116             |                   |                                  |       |
| SUPERVISORY PERSONNEL                 | 23                               | 0                 | 4           | 0,765             | 0.000         | 0.086             |                   |                                  |       |
| ENGINEERING PERSONNEL                 | 13                               | 4                 | 9           | 0,230             | 0.012         | 0.137             |                   |                                  |       |
| <b>TOTAL</b>                          | <b>193</b>                       | <b>10</b>         | <b>61</b>   | <b>9,366</b>      | <b>0.073</b>  | <b>0.999</b>      |                   | <b>10.438</b>                    |       |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |             |                   |               |                   |                   |                                  |       |
| MAINTENANCE PERSONNEL                 | 1214                             | 146               | 1092        | 164,452           | 15.821        | 379.246           |                   | 559.519                          |       |
| OPERATING PERSONNEL                   | 795                              | 73                | 758         | 44,340            | 1.783         | 120.776           |                   | 166.899                          |       |
| HEALTH PHYSICS PERSONNEL              | 380                              | 6                 | 171         | 39,040            | 0.273         | 26.856            |                   | 66.169                           |       |
| SUPERVISORY PERSONNEL                 | 182                              | 0                 | 69          | 12,676            | 0.000         | 8.192             |                   | 20.868                           |       |
| ENGINEERING PERSONNEL                 | 150                              | 75                | 251         | 9,332             | 1.834         | 50.649            |                   | 61.815                           |       |
| <b>GRAND TOTAL</b>                    | <b>2721</b>                      | <b>300</b>        | <b>2341</b> | <b>269,840</b>    | <b>19.711</b> | <b>585.719</b>    |                   | <b>875.270</b>                   |       |

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

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

| PLANT: NORTH ANNA 1,2 (PWR)    | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION     |                   | TOTAL        |                    | TOTAL MAN-REMS    |                   |
|--------------------------------|----------------------------------|-------------------|-------------|-------------------|--------------|--------------------|-------------------|-------------------|
|                                | EMPLOYEES                        | UTILITY EMPLOYEES | EMPLOYEES   | UTILITY EMPLOYEES | PERSONS      | EMPLOYEES & OTHERS | UTILITY EMPLOYEES | CONTRACT & OTHERS |
| <b>WORK &amp; JOB FUNCTION</b> |                                  |                   |             |                   |              |                    |                   |                   |
| REACTOR OPERATIONS & SURV.     |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 162                              | 15                | 177         | 14,607            | 0.170        | 15,477             | 0.170             | 15,477            |
| OPERATING PERSONNEL            | 224                              | 5                 | 11          | 42,961            | 0.032        | 3,674              | 0.032             | 3,674             |
| HEALTH PHYSICS PERSONNEL       | 49                               | 0                 | 73          | 40,191            | 0.000        | 5,468              | 0.000             | 5,468             |
| SUPERVISORY PERSONNEL          | 42                               | 1                 | 5           | 2,453             | 0.002        | 0,054              | 0.002             | 0,054             |
| ENGINEERING PERSONNEL          | 41                               | 13                | 42          | 0,833             | 0.274        | 0,543              | 0.274             | 0,543             |
| <b>TOTAL</b>                   | <b>518</b>                       | <b>34</b>         | <b>308</b>  | <b>101,045</b>    | <b>0.478</b> | <b>25,216</b>      | <b>0.478</b>      | <b>25,216</b>     |
| <b>ROUTINE MAINTENANCE</b>     |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 150                              | 17                | 227         | 121,046           | 3.004        | 42,880             | 3.004             | 42,880            |
| OPERATING PERSONNEL            | 116                              | 0                 | 18          | 28,881            | 0.000        | 2,871              | 0.000             | 2,871             |
| HEALTH PHYSICS PERSONNEL       | 41                               | 0                 | 73          | 15,244            | 0.010        | 22,672             | 0.010             | 22,672            |
| SUPERVISORY PERSONNEL          | 22                               | 1                 | 1           | 2,555             | 0.407        | 0,125              | 0.407             | 0,125             |
| ENGINEERING PERSONNEL          | 19                               | 7                 | 39          | 0,651             | 0.065        | 2,967              | 0.065             | 2,967             |
| <b>TOTAL</b>                   | <b>348</b>                       | <b>27</b>         | <b>358</b>  | <b>168,377</b>    | <b>3.486</b> | <b>71,515</b>      | <b>3.486</b>      | <b>71,515</b>     |
| <b>IN-SERVICE INSPECTION</b>   |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 31                               | 2                 | 73          | 2,109             | 0.085        | 39,547             | 0.085             | 39,547            |
| OPERATING PERSONNEL            | 15                               | 0                 | 3           | 0,481             | 0.000        | 0,038              | 0.000             | 0,038             |
| HEALTH PHYSICS PERSONNEL       | 8                                | 0                 | 30          | 0,255             | 0.000        | 3,838              | 0.000             | 3,838             |
| SUPERVISORY PERSONNEL          | 1                                | 0                 | 1           | 0,052             | 0.000        | 0,010              | 0.000             | 0,010             |
| ENGINEERING PERSONNEL          | 3                                | 2                 | 4           | 0,171             | 0.110        | 0,143              | 0.110             | 0,143             |
| <b>TOTAL</b>                   | <b>58</b>                        | <b>4</b>          | <b>111</b>  | <b>3,068</b>      | <b>0.195</b> | <b>43,576</b>      | <b>0.195</b>      | <b>43,576</b>     |
| <b>SPECIAL MAINTENANCE</b>     |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 71                               | 9                 | 276         | 13,327            | 0.579        | 104,225            | 0.579             | 104,225           |
| OPERATING PERSONNEL            | 30                               | 1                 | 4           | 4,866             | 0.010        | 0,403              | 0.010             | 0,403             |
| HEALTH PHYSICS PERSONNEL       | 27                               | 0                 | 36          | 5,579             | 0.000        | 8,038              | 0.000             | 8,038             |
| SUPERVISORY PERSONNEL          | 5                                | 0                 | 1           | 0,426             | 0.000        | 9,335              | 0.000             | 9,335             |
| ENGINEERING PERSONNEL          | 17                               | 4                 | 15          | 0,917             | 0.030        | 4,288              | 0.030             | 4,288             |
| <b>TOTAL</b>                   | <b>150</b>                       | <b>14</b>         | <b>332</b>  | <b>25,115</b>     | <b>0.619</b> | <b>126,289</b>     | <b>0.619</b>      | <b>126,289</b>    |
| <b>WASTE PROCESSING</b>        |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 42                               | 1                 | 72          | 6,230             | 0.172        | 14,411             | 0.172             | 14,411            |
| OPERATING PERSONNEL            | 55                               | 0                 | 0           | 14,048            | 0.000        | 3,617              | 0.000             | 3,617             |
| HEALTH PHYSICS PERSONNEL       | 36                               | 0                 | 35          | 15,362            | 0.000        | 1,295              | 0.000             | 1,295             |
| SUPERVISORY PERSONNEL          | 5                                | 1                 | 0           | 1,416             | 0.015        | 0,000              | 0.015             | 0,000             |
| ENGINEERING PERSONNEL          | 6                                | 1                 | 0           | 0,188             | 0.005        | 0,000              | 0.005             | 0,000             |
| <b>TOTAL</b>                   | <b>144</b>                       | <b>3</b>          | <b>107</b>  | <b>37,244</b>     | <b>0.192</b> | <b>19,323</b>      | <b>0.192</b>      | <b>19,323</b>     |
| <b>REFUELING</b>               |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 53                               | 3                 | 17          | 17,087            | 1.009        | 0,683              | 1.009             | 0,683             |
| OPERATING PERSONNEL            | 43                               | 1                 | 2           | 3,135             | 0.011        | 0,070              | 0.011             | 0,070             |
| HEALTH PHYSICS PERSONNEL       | 14                               | 0                 | 30          | 0,835             | 0.000        | 2,200              | 0.000             | 2,200             |
| SUPERVISORY PERSONNEL          | 7                                | 3                 | 0           | 0,459             | 0.112        | 0,000              | 0.112             | 0,000             |
| ENGINEERING PERSONNEL          | 4                                | 7                 | 13          | 0,135             | 0.274        | 1,411              | 0.274             | 1,411             |
| <b>TOTAL</b>                   | <b>121</b>                       | <b>14</b>         | <b>62</b>   | <b>21,651</b>     | <b>1.406</b> | <b>4,364</b>       | <b>1.406</b>      | <b>4,364</b>      |
| <b>TOTAL BY JOB FUNCTION</b>   |                                  |                   |             |                   |              |                    |                   |                   |
| MAINTENANCE PERSONNEL          | 509                              | 47                | 842         | 174,406           | 5.019        | 217,223            | 5.019             | 217,223           |
| OPERATING PERSONNEL            | 483                              | 7                 | 38          | 94,372            | 0.053        | 10,673             | 0.053             | 10,673            |
| HEALTH PHYSICS PERSONNEL       | 175                              | 1                 | 277         | 77,466            | 0.010        | 43,511             | 0.010             | 43,511            |
| SUPERVISORY PERSONNEL          | 82                               | 7                 | 8           | 7,361             | 0.536        | 9,524              | 0.536             | 9,524             |
| ENGINEERING PERSONNEL          | 90                               | 34                | 113         | 2,895             | 0.758        | 9,352              | 0.758             | 9,352             |
| <b>GRAND TOTAL</b>             | <b>1339</b>                      | <b>96</b>         | <b>1278</b> | <b>356,500</b>    | <b>6.376</b> | <b>290,283</b>     | <b>6.376</b>      | <b>290,283</b>    |

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

**APPENDIX C**  
**NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION**  
 1983

PLANT: OCONEE 1,2,3 (PWR)

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL           |                   | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS     |
|---------------------------------------|----------------------------------|-------------------|-----------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | PERSONS         | MAN-REMS          |                   |                   |                   |                    |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 74                               | 3                 | 22              |                   | 1,500             | 0.045             | 0.100             |                    |
| OPERATING PERSONNEL                   | 144                              | 45                | 6               |                   | 57,555            | 1.690             | 0.680             |                    |
| HEALTH PHYSICS PERSONNEL              | 66                               | 1                 | 67              |                   | 14,985            | 0.035             | 3.680             |                    |
| SUPERVISORY PERSONNEL                 | 6                                | 0                 | 0               |                   | 0.470             | 0.000             | 0.000             |                    |
| ENGINEERING PERSONNEL                 | 62                               | 9                 | 5               |                   | 12,225            | 0.710             | 0.090             |                    |
| <b>TOTAL</b>                          | <b>352</b>                       | <b>58</b>         | <b>100</b>      | <b>510</b>        | <b>86,735</b>     | <b>2.480</b>      | <b>4.550</b>      | <b>93.765</b>      |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 232                              | 8                 | 130             |                   | 183,965           | 1.430             | 102.775           |                    |
| OPERATING PERSONNEL                   | 130                              | 278               | 4               |                   | 27,010            | 86.990            | 0.250             |                    |
| HEALTH PHYSICS PERSONNEL              | 63                               | 1                 | 73              |                   | 22,730            | 0.070             | 55.080            |                    |
| SUPERVISORY PERSONNEL                 | 29                               | 0                 | 0               |                   | 15,025            | 0.000             | 0.000             |                    |
| ENGINEERING PERSONNEL                 | 75                               | 12                | 29              |                   | 13,245            | 1.530             | 14.025            |                    |
| <b>TOTAL</b>                          | <b>529</b>                       | <b>299</b>        | <b>236</b>      | <b>1064</b>       | <b>261,975</b>    | <b>90.020</b>     | <b>172.130</b>    | <b>524.125</b>     |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 55                               | 0                 | 35              |                   | 3,935             | 0.000             | 16.435            |                    |
| OPERATING PERSONNEL                   | 8                                | 121               | 1               |                   | 0.125             | 43.125            | 0.055             |                    |
| HEALTH PHYSICS PERSONNEL              | 10                               | 0                 | 58              |                   | 0.410             | 0.000             | 7.840             |                    |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0               |                   | 0.310             | 0.000             | 0.000             |                    |
| ENGINEERING PERSONNEL                 | 53                               | 6                 | 50              |                   | 14,060            | 2.825             | 27.830            |                    |
| <b>TOTAL</b>                          | <b>127</b>                       | <b>127</b>        | <b>144</b>      | <b>398</b>        | <b>18,840</b>     | <b>45.950</b>     | <b>52.160</b>     | <b>116.950</b>     |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 181                              | 9                 | 100             |                   | 51,805            | 2.010             | 43.105            |                    |
| OPERATING PERSONNEL                   | 48                               | 350               | 9               |                   | 3,075             | 273.525           | 3.015             |                    |
| HEALTH PHYSICS PERSONNEL              | 33                               | 0                 | 65              |                   | 3,665             | 0.000             | 17.640            |                    |
| SUPERVISORY PERSONNEL                 | 6                                | 0                 | 0               |                   | 0.740             | 0.000             | 0.000             |                    |
| ENGINEERING PERSONNEL                 | 64                               | 19                | 33              |                   | 18,995            | 4.230             | 13.100            |                    |
| <b>TOTAL</b>                          | <b>332</b>                       | <b>378</b>        | <b>207</b>      | <b>917</b>        | <b>78,280</b>     | <b>279.565</b>    | <b>76.860</b>     | <b>434.705</b>     |
| <b>WASTE PROCESSING</b>               |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 41                               | 0                 | 43              |                   | 2,570             | 0.000             | 7.705             |                    |
| OPERATING PERSONNEL                   | 23                               | 12                | 8               |                   | 6,140             | 0.890             | 4.720             |                    |
| HEALTH PHYSICS PERSONNEL              | 29                               | 0                 | 22              |                   | 10,335            | 0.000             | 2.775             |                    |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0               |                   | 0.070             | 0.000             | 0.000             |                    |
| ENGINEERING PERSONNEL                 | 13                               | 0                 | 0               |                   | 3,355             | 0.000             | 0.000             |                    |
| <b>TOTAL</b>                          | <b>107</b>                       | <b>12</b>         | <b>73</b>       | <b>192</b>        | <b>22,470</b>     | <b>0.890</b>      | <b>15.200</b>     | <b>38.560</b>      |
| <b>REFUELING</b>                      |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 137                              | 1                 | 37              |                   | 39,720            | 0.105             | 5.945             |                    |
| OPERATING PERSONNEL                   | 108                              | 37                | 2               |                   | 14,635            | 3.075             | 0.050             |                    |
| HEALTH PHYSICS PERSONNEL              | 17                               | 0                 | 56              |                   | 0.515             | 0.000             | 7.065             |                    |
| SUPERVISORY PERSONNEL                 | 3                                | 0                 | 0               |                   | 0.350             | 0.000             | 0.000             |                    |
| ENGINEERING PERSONNEL                 | 27                               | 2                 | 18              |                   | 3,150             | 0.255             | 2.260             |                    |
| <b>TOTAL</b>                          | <b>292</b>                       | <b>40</b>         | <b>113</b>      | <b>445</b>        | <b>58,370</b>     | <b>3.435</b>      | <b>15.320</b>     | <b>77.125</b>      |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                 |                   |                   |                   |                   |                    |
| MAINTENANCE PERSONNEL                 | 720(234)                         | 21(9)             | 367(175)        | 1108(418)         | 283,495           | 3,590             | 176,065           | 463,150            |
| OPERATING PERSONNEL                   | 461(150)                         | 843(397)          | 30(21)          | 1334(568)         | 108,540           | 409,095           | 8,770             | 526,405            |
| HEALTH PHYSICS PERSONNEL              | 218(66)                          | 2(1)              | 341(77)         | 561(144)          | 52,640            | 0.105             | 94,080            | 146,825            |
| SUPERVISORY PERSONNEL                 | 46(29)                           | 0                 | 0               | 46(29)            | 16,965            | 0.000             | 0.000             | 16,965             |
| ENGINEERING PERSONNEL                 | 294(96)                          | 48(24)            | 135(81)         | 477(201)          | 65,030            | 9,550             | 57,305            | 131,885            |
| <b>GRAND TOTAL</b>                    | <b>1739(575)</b>                 | <b>914(431)</b>   | <b>873(354)</b> | <b>3526(1360)</b> | <b>526,670</b>    | <b>422,340</b>    | <b>336,220</b>    | <b>1285,230 **</b> |

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

\*\* NRC mandated work contributed 57 man-rems.

**APPENDIX C**

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

PLANT: \* OYSTER CREEK (BWR) 1983

| WORK & JOB FUNCTION            | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   | TOTAL             |                   |                   | TOTAL MAN-REMS    |                   |                   |
|--------------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS |
| <b>WORK &amp; JOB FUNCTION</b> |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 104                              | 35                | 328               | 10,943            | 1,232             | 31,901            | 10,943            | 1,232             | 31,901            |
| OPERATING PERSONNEL            | 111                              | 1                 | 5                 | 13,533            | 0.050             | 0.510             | 13,533            | 0.050             | 0.510             |
| HEALTH PHYSICS PERSONNEL       | 14                               | 0                 | 7                 | 1,010             | 0.000             | 0.230             | 1,010             | 0.000             | 0.230             |
| SUPERVISORY PERSONNEL          | 29                               | 0                 | 0                 | 1,778             | 0.000             | 0.000             | 1,778             | 0.000             | 0.000             |
| ENGINEERING PERSONNEL          | 23                               | 0                 | 11                | 2,177             | 0.000             | 2,848             | 2,177             | 0.000             | 2,848             |
| <b>TOTAL</b>                   | <b>281</b>                       | <b>36</b>         | <b>351</b>        | <b>29,441</b>     | <b>1,282</b>      | <b>35,489</b>     | <b>29,441</b>     | <b>1,282</b>      | <b>35,489</b>     |
| <b>ROUTINE MAINTENANCE</b>     |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 197                              | 46                | 1091              | 96,971            | 3,944             | 714,446           | 96,971            | 3,944             | 714,446           |
| OPERATING PERSONNEL            | 167                              | 1                 | 22                | 49,246            | 0.220             | 3,537             | 49,246            | 0.220             | 3,537             |
| HEALTH PHYSICS PERSONNEL       | 58                               | 0                 | 136               | 59,408            | 0.000             | 88,573            | 59,408            | 0.000             | 88,573            |
| SUPERVISORY PERSONNEL          | 71                               | 1                 | 0                 | 8,761             | 0.044             | 0.000             | 8,761             | 0.044             | 0.000             |
| ENGINEERING PERSONNEL          | 60                               | 0                 | 35                | 4,510             | 0.000             | 5,274             | 4,510             | 0.000             | 5,274             |
| <b>TOTAL</b>                   | <b>553</b>                       | <b>48</b>         | <b>1284</b>       | <b>218,896</b>    | <b>4,208</b>      | <b>811,830</b>    | <b>218,896</b>    | <b>4,208</b>      | <b>811,830</b>    |
| <b>IN-SERVICE INSPECTION</b>   |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 29                               | 2                 | 244               | 1,040             | 0.000             | 177,000           | 1,040             | 0.000             | 177,000           |
| OPERATING PERSONNEL            | 20                               | 0                 | 1                 | 4,411             | 0.000             | 0.090             | 4,411             | 0.000             | 0.090             |
| HEALTH PHYSICS PERSONNEL       | 8                                | 0                 | 13                | 0,475             | 0.000             | 0.355             | 0,475             | 0.000             | 0.355             |
| SUPERVISORY PERSONNEL          | 2                                | 0                 | 0                 | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| ENGINEERING PERSONNEL          | 4                                | 0                 | 6                 | 0,375             | 0.000             | 0.863             | 0,375             | 0.000             | 0.863             |
| <b>TOTAL</b>                   | <b>63</b>                        | <b>2</b>          | <b>264</b>        | <b>6,301</b>      | <b>0.000</b>      | <b>178,308</b>    | <b>6,301</b>      | <b>0.000</b>      | <b>178,308</b>    |
| <b>SPECIAL MAINTENANCE</b>     |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 152                              | 51                | 1321              | 51,531            | 17,764            | 793,379           | 51,531            | 17,764            | 793,379           |
| OPERATING PERSONNEL            | 94                               | 1                 | 10                | 14,124            | 0.503             | 2,027             | 14,124            | 0.503             | 2,027             |
| HEALTH PHYSICS PERSONNEL       | 40                               | 0                 | 105               | 23,368            | 0.000             | 43,085            | 23,368            | 0.000             | 43,085            |
| SUPERVISORY PERSONNEL          | 32                               | 1                 | 0                 | 3,696             | 0.082             | 0.000             | 3,696             | 0.082             | 0.000             |
| ENGINEERING PERSONNEL          | 29                               | 0                 | 18                | 2,686             | 0.000             | 3,537             | 2,686             | 0.000             | 3,537             |
| <b>TOTAL</b>                   | <b>347</b>                       | <b>53</b>         | <b>1454</b>       | <b>95,405</b>     | <b>18,349</b>     | <b>842,028</b>    | <b>95,405</b>     | <b>18,349</b>     | <b>842,028</b>    |
| <b>MASIE PROCESSING</b>        |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 80                               | 1                 | 152               | 2,512             | 0.000             | 27,593            | 2,512             | 0.000             | 27,593            |
| OPERATING PERSONNEL            | 15                               | 1                 | 5                 | 1,119             | 0.005             | 1,149             | 1,119             | 0.005             | 1,149             |
| HEALTH PHYSICS PERSONNEL       | 22                               | 0                 | 29                | 1,952             | 0.000             | 3,008             | 1,952             | 0.000             | 3,008             |
| SUPERVISORY PERSONNEL          | 8                                | 0                 | 0                 | 0,482             | 0.000             | 0.000             | 0,482             | 0.000             | 0.000             |
| ENGINEERING PERSONNEL          | 3                                | 0                 | 2                 | 0,095             | 0.000             | 0.155             | 0,095             | 0.000             | 0.155             |
| <b>TOTAL</b>                   | <b>128</b>                       | <b>2</b>          | <b>188</b>        | <b>6,160</b>      | <b>0.005</b>      | <b>31,905</b>     | <b>6,160</b>      | <b>0.005</b>      | <b>31,905</b>     |
| <b>REFUELING</b>               |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 82                               | 5                 | 50                | 13,763            | 0.004             | 1,598             | 13,763            | 0.004             | 1,598             |
| OPERATING PERSONNEL            | 68                               | 0                 | 1                 | 5,222             | 0.000             | 0.068             | 5,222             | 0.000             | 0.068             |
| HEALTH PHYSICS PERSONNEL       | 18                               | 0                 | 19                | 0,767             | 0.000             | 0.945             | 0,767             | 0.000             | 0.945             |
| SUPERVISORY PERSONNEL          | 14                               | 0                 | 0                 | 1,797             | 0.000             | 0.000             | 1,797             | 0.000             | 0.000             |
| ENGINEERING PERSONNEL          | 12                               | 0                 | 0                 | 0,673             | 0.000             | 0.000             | 0,673             | 0.000             | 0.000             |
| <b>TOTAL</b>                   | <b>194</b>                       | <b>5</b>          | <b>70</b>         | <b>22,222</b>     | <b>0.004</b>      | <b>2,611</b>      | <b>22,222</b>     | <b>0.004</b>      | <b>2,611</b>      |
| <b>TOTAL BY JOB FUNCTION</b>   |                                  |                   |                   |                   |                   |                   |                   |                   |                   |
| MAINTENANCE PERSONNEL          | 644(207)                         | 140(52)           | 3186(1533)        | 176,760           | 22,944            | 1745,917          | 176,760           | 22,944            | 1745,917          |
| OPERATING PERSONNEL            | 475(177)                         | 4(1)              | 523(204)          | 87,655            | 0.778             | 7,381             | 87,655            | 0.778             | 7,381             |
| HEALTH PHYSICS PERSONNEL       | 160(60)                          | 0                 | 309(137)          | 86,980            | 0.000             | 136,196           | 86,980            | 0.000             | 136,196           |
| SUPERVISORY PERSONNEL          | 156(76)                          | 2(1)              | 158(77)           | 16,514            | 0.126             | 0.000             | 16,514            | 0.126             | 0.000             |
| ENGINEERING PERSONNEL          | 131(74)                          | 0                 | 72(39)            | 10,516            | 0.000             | 12,677            | 10,516            | 0.000             | 12,677            |
| <b>GRAND TOTAL</b>             | <b>1566(594)</b>                 | <b>146(54)</b>    | <b>3611(1735)</b> | <b>378,425</b>    | <b>23,848</b>     | <b>1902,171</b>   | <b>378,425</b>    | <b>23,848</b>     | <b>1902,171</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  
 1983

| PLANT: PALISADES (PWR)         | NUMBER OF PERSONNEL (>100 M-REM)           |                   |                   |               | TOTAL             |                   |                   |                | TOTAL MAN-REMS        |                   |                   |                |
|--------------------------------|--|-------------------|-------------------|---------------|-------------------|-------------------|-------------------|----------------|-----------------------|-------------------|-------------------|----------------|
|                                | STATION EMPLOYEES                          | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL PERSONS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS | STATION EMPLOYEES     | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS |
| <b>WORK &amp; JOB FUNCTION</b> | <b>NUMBER OF PERSONNEL (&gt;100 M-REM)</b> |                   |                   |               | <b>TOTAL</b>      |                   |                   |                | <b>TOTAL MAN-REMS</b> |                   |                   |                |
| REACTOR OPERATIONS & SURV.     | 4  | 0                 | 0                 | 4             | 2,921             | 0.000             | 0.000             | 2,921          | 0.000                 | 0.000             | 0.000             |                |
| MAINTENANCE PERSONNEL          | 17   | 0                 | 0                 | 17            | 11,207            | 0.000             | 0.000             | 11,207         | 0.000                 | 0.000             | 0.000             |                |
| OPERATING PERSONNEL            | 48   | 7                 | 86                | 141           | 28,749            | 2.265             | 88.617            | 28,749         | 2.265                 | 88.617            | 88.617            |                |
| HEALTH PHYSICS PERSONNEL       | 0  | 0                 | 0                 | 0             | 0.024             | 0.000             | 0.000             | 0.024          | 0.000                 | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL          | 1  | 0                 | 0                 | 1             | 0.868             | 0.000             | 0.021             | 0.868          | 0.000                 | 0.021             | 0.021             |                |
| ENGINEERING PERSONNEL          | 70   | 7                 | 86                | 163           | 43,769            | 2.686             | 88.638            | 43,769         | 2.686                 | 88.638            | 88.638            |                |
| <b>TOTAL</b>                   | <b>126</b>                                 | <b>30</b>         | <b>43</b>         | <b>199</b>    | <b>81,822</b>     | <b>35.168</b>     | <b>34.375</b>     | <b>81,822</b>  | <b>35.168</b>         | <b>34.375</b>     | <b>151,365</b>    |                |
| <b>ROUTINE MAINTENANCE</b>     |  |                   |                   |               |                   |                   |                   |                |                       |                   |                   |                |
| MAINTENANCE PERSONNEL          | 99   | 27                | 0                 | 126           | 64,345            | 0.000             | 0.000             | 64,345         | 0.000                 | 0.000             | 0.000             |                |
| OPERATING PERSONNEL            | 21   | 0                 | 4                 | 25            | 13,330            | 0.000             | 0.000             | 13,330         | 0.000                 | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL       | 2  | 0                 | 0                 | 2             | 1,305             | 0.102             | 4.021             | 1,305          | 0.102                 | 4.021             | 4.021             |                |
| SUPERVISORY PERSONNEL          | 4  | 0                 | 0                 | 4             | 2,842             | 0.000             | 0.000             | 2,842          | 0.000                 | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL          | 0  | 3                 | 39                | 42            | 0.000             | 0.000             | 30.354            | 0.000          | 0.000                 | 30.354            | 30.354            |                |
| <b>TOTAL</b>                   | <b>126</b>                                 | <b>30</b>         | <b>43</b>         | <b>199</b>    | <b>81,822</b>     | <b>35.168</b>     | <b>34.375</b>     | <b>81,822</b>  | <b>35.168</b>         | <b>34.375</b>     | <b>151,365</b>    |                |
| <b>IN-SERVICE INSPECTION</b>   |  |                   |                   |               |                   |                   |                   |                |                       |                   |                   |                |
| MAINTENANCE PERSONNEL          | 7  | 26                | 56                | 89            | 4,325             | 0.000             | 43.303            | 4,325          | 0.000                 | 43.303            | 43.303            |                |
| OPERATING PERSONNEL            | 6  | 0                 | 0                 | 6             | 3,652             | 0.000             | 0.000             | 3,652          | 0.000                 | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL       | 1  | 0                 | 1                 | 2             | 0.447             | 0.035             | 1.377             | 0.447          | 0.035                 | 1.377             | 1.377             |                |
| SUPERVISORY PERSONNEL          | 1  | 0                 | 0                 | 1             | 0.474             | 0.000             | 0.000             | 0.474          | 0.000                 | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL          | 0  | 3                 | 0                 | 3             | 0.000             | 0.000             | 0.000             | 0.000          | 0.000                 | 0.000             | 0.000             |                |
| <b>TOTAL</b>                   | <b>15</b>                                  | <b>29</b>         | <b>57</b>         | <b>101</b>    | <b>8,898</b>      | <b>34.104</b>     | <b>44.680</b>     | <b>8,898</b>   | <b>34.104</b>         | <b>44.680</b>     | <b>87.682</b>     |                |
| <b>SPECIAL MAINTENANCE **</b>  |  |                   |                   |               |                   |                   |                   |                |                       |                   |                   |                |
| MAINTENANCE PERSONNEL          | 21   | 80                | 173               | 274           | 13,378            | 0.000             | 133.933           | 13,378         | 0.000                 | 133.933           | 133.933           |                |
| OPERATING PERSONNEL            | 16   | 0                 | 0                 | 16            | 10,714            | 0.000             | 0.000             | 10,714         | 0.000                 | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL       | 4  | 1                 | 8                 | 13            | 2,558             | 0.202             | 7.886             | 2,558          | 0.202                 | 7.886             | 7.886             |                |
| SUPERVISORY PERSONNEL          | 0  | 0                 | 1                 | 1             | 0.167             | 0.000             | 1.168             | 0.167          | 0.000                 | 1.168             | 1.168             |                |
| ENGINEERING PERSONNEL          | 10   | 46                | 96                | 152           | 6,737             | 53.900            | 74.113            | 6,737          | 53.900                | 74.113            | 74.113            |                |
| <b>TOTAL</b>                   | <b>51</b>                                  | <b>127</b>        | <b>278</b>        | <b>456</b>    | <b>33,554</b>     | <b>149.266</b>    | <b>217.100</b>    | <b>33,554</b>  | <b>149.266</b>        | <b>217.100</b>    | <b>399.920</b>    |                |
| <b>WASTE PROCESSING</b>        |  |                   |                   |               |                   |                   |                   |                |                       |                   |                   |                |
| MAINTENANCE PERSONNEL          | 3  | 11                | 24                | 38            | 1,831             | 0.000             | 18.335            | 1,831          | 0.000                 | 18.335            | 18.335            |                |
| OPERATING PERSONNEL            | 11   | 0                 | 0                 | 11            | 7,226             | 0.000             | 0.000             | 7,226          | 0.000                 | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL       | 4  | 1                 | 8                 | 13            | 2,558             | 0.202             | 7.884             | 2,558          | 0.202                 | 7.884             | 7.884             |                |
| SUPERVISORY PERSONNEL          | 0  | 0                 | 0                 | 0             | 0.033             | 0.000             | 0.000             | 0.033          | 0.000                 | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL          | 3  | 0                 | 2                 | 5             | 1,968             | 0.000             | 1.967             | 1,968          | 0.000                 | 1.967             | 1.967             |                |
| <b>TOTAL</b>                   | <b>21</b>                                  | <b>12</b>         | <b>34</b>         | <b>67</b>     | <b>13,616</b>     | <b>13.229</b>     | <b>28.186</b>     | <b>13,616</b>  | <b>13.229</b>         | <b>28.186</b>     | <b>55.031</b>     |                |
| <b>REFUELING</b>               |  |                   |                   |               |                   |                   |                   |                |                       |                   |                   |                |
| MAINTENANCE PERSONNEL          | 6  | 20                | 43                | 69            | 3,322             | 0.000             | 33.263            | 3,322          | 0.000                 | 33.263            | 33.263            |                |
| OPERATING PERSONNEL            | 11   | 0                 | 0                 | 11            | 7,299             | 0.000             | 0.000             | 7,299          | 0.000                 | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL       | 1  | 0                 | 1                 | 2             | 0.299             | 0.923             | 0.920             | 0.299          | 0.923                 | 0.920             | 0.920             |                |
| SUPERVISORY PERSONNEL          | 0  | 0                 | 0                 | 0             | 0.000             | 0.000             | 0.000             | 0.000          | 0.000                 | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL          | 0  | 0                 | 17                | 17            | 0.000             | 0.000             | 13.173            | 0.000          | 0.000                 | 13.173            | 13.173            |                |
| <b>TOTAL</b>                   | <b>18</b>                                  | <b>20</b>         | <b>61</b>         | <b>99</b>     | <b>10,920</b>     | <b>23.657</b>     | <b>47.356</b>     | <b>10,920</b>  | <b>23.657</b>         | <b>47.356</b>     | <b>81.933</b>     |                |
| <b>TOTAL BY JOB FUNCTION</b>   |  |                   |                   |               |                   |                   |                   |                |                       |                   |                   |                |
| MAINTENANCE PERSONNEL          | 140  | 164               | 296               | 600           | 90,122            | 0.000             | 228.834           | 90,122         | 0.000                 | 228.834           | 228.834           |                |
| OPERATING PERSONNEL            | 82   | 0                 | 0                 | 82            | 53,428            | 0.000             | 0.000             | 53,428         | 0.000                 | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL       | 60   | 9                 | 108               | 177           | 35,916            | 2.829             | 110.705           | 35,916         | 2.829                 | 110.705           | 149.450           |                |
| SUPERVISORY PERSONNEL          | 5  | 0                 | 1                 | 6             | 3,540             | 0.421             | 5.129             | 3,540          | 0.421                 | 5.129             | 5.129             |                |
| ENGINEERING PERSONNEL          | 14   | 52                | 154               | 220           | 9,573             | 60.574            | 119.628           | 9,573          | 60.574                | 119.628           | 189.775           |                |
| <b>GRAND TOTAL</b>             | <b>301</b>                                 | <b>225</b>        | <b>559</b>        | <b>1085</b>   | <b>192,579</b>    | <b>258.110</b>    | <b>460.335</b>    | <b>192,579</b> | <b>258.110</b>        | <b>460.335</b>    | <b>911.024</b>    |                |

\*\* Includes steam generator tube removal and extensive steam generator tube repair.

APPENDIX C

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

PLANT: \*PEACH BOTTOM 2,3 (BWR) 1983

NUMBER OF PERSONNEL (>100 M-REM)

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS     |                   | STATION EMPLOYEES | TOTAL MAN-REMS    |                   | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS |                   | UTILITY EMPLOYEES | CONTRACT & OTHERS |                |
| REACTOR OPERATIONS & SURV. |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 2                                | 57                | 110               |                   | 2,151             | 28,619            | 29,098            |                |
| OPERATING PERSONNEL        | 61                               | 7                 | 51                |                   | 53,701            | 3,008             | 12,846            |                |
| HEALTH PHYSICS PERSONNEL   | 78                               | 11                | 64                |                   | 71,766            | 6,433             | 53,588            |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 3                 |                   | 0,000             | 0,000             | 0,643             |                |
| ENGINEERING PERSONNEL      | 50                               | 2                 | 9                 |                   | 42,953            | 0,305             | 8,331             |                |
| TOTAL                      | 191                              | 77                | 237               | 505               | 170,571           | 38,365            | 104,506           | 313,442        |
| ROUTINE MAINTENANCE        |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 6                                | 483               | 1055              |                   | 2,560             | 263,015           | 1100,594          |                |
| OPERATING PERSONNEL        | 8                                | 4                 | 12                |                   | 1,427             | 0,658             | 5,192             |                |
| HEALTH PHYSICS PERSONNEL   | 30                               | 6                 | 39                |                   | 13,799            | 1,189             | 27,312            |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 2                 |                   | 0,000             | 0,000             | 0,591             |                |
| ENGINEERING PERSONNEL      | 13                               | 11                | 15                |                   | 5,790             | 4,764             | 3,801             |                |
| TOTAL                      | 57                               | 504               | 1123              | 1684              | 23,576            | 269,626           | 1137,490          | 1430,692       |
| IN-SERVICE INSPECTION      |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 8                 | 97                |                   | 0,000             | 2,684             | 53,375            |                |
| OPERATING PERSONNEL        | 1                                | 0                 | 1                 |                   | 0,116             | 0,000             | 0,229             |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 1                 |                   | 0,000             | 0,000             | 0,285             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0,000             | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 0                                | 1                 | 2                 |                   | 0,000             | 0,130             | 1,108             |                |
| TOTAL                      | 1                                | 9                 | 101               | 111               | 0,116             | 2,814             | 54,997            | 57,927         |
| SPECIAL MAINTENANCE        |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 2                 | 557               |                   | 0,000             | 0,683             | 954,100           |                |
| OPERATING PERSONNEL        | 0                                | 0                 | 6                 |                   | 0,000             | 0,000             | 11,158            |                |
| HEALTH PHYSICS PERSONNEL   | 2                                | 0                 | 2                 |                   | 0,439             | 0,000             | 0,463             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0,000             | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 0                                | 1                 | 1                 |                   | 0,000             | 0,000             | 0,239             |                |
| TOTAL                      | 2                                | 3                 | 566               | 571               | 0,439             | 0,683             | 965,960           | 967,082        |
| WASTE PROCESSING           |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 5                 | 53                |                   | 0,000             | 0,612             | 11,600            |                |
| OPERATING PERSONNEL        | 3                                | 0                 | 0                 |                   | 2,125             | 0,000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL   | 3                                | 0                 | 5                 |                   | 0,762             | 0,000             | 0,731             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0,000             | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 1                 |                   | 0,000             | 0,000             | 0,127             |                |
| TOTAL                      | 6                                | 5                 | 59                | 70                | 2,887             | 0,612             | 12,458            | 15,957         |
| REFUELING                  |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                                | 10                | 66                |                   | 0,000             | 2,455             | 17,146            |                |
| OPERATING PERSONNEL        | 2                                | 0                 | 1                 |                   | 0,619             | 0,000             | 0,188             |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 3                 |                   | 0,000             | 0,000             | 0,992             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                 |                   | 0,000             | 0,000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 2                 |                   | 0,000             | 0,000             | 0,404             |                |
| TOTAL                      | 2                                | 10                | 72                | 84                | 0,619             | 2,455             | 18,730            | 21,804         |
| TOTAL BY JOB FUNCTION      |                                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 8 (7)                            | 565(528)          | 1938(1376)        | 2511(1911)        | 4,711             | 298,068           | 2165,913          | 2468,692       |
| OPERATING PERSONNEL        | 75 (67)                          | 11 (11)           | 71 (66)           | 157 (144)         | 57,988            | 3,666             | 29,613            | 91,267         |
| HEALTH PHYSICS PERSONNEL   | 113 (79)                         | 17 (15)           | 114 (77)          | 244 (171)         | 86,766            | 7,622             | 83,371            | 177,759        |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 5 (3)             | 5 (3)             | 0,000             | 0,000             | 1,234             | 1,234          |
| ENGINEERING PERSONNEL      | 63 (52)                          | 15 (15)           | 30 (26)           | 108 (93)          | 48,743            | 5,199             | 14,010            | 67,952         |
| GRAND TOTAL                | 259(205)                         | 608(569)          | 2158(1548)        | 3025(2322)        | 198,208           | 314,555           | 2294,141          | 2806,904       |

\*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**  
 1983

| PLANT: PILGRIM                        | (BWR)     | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS<br>UTILITY EMPLOYEES & OTHERS | TOTAL MAN-REMS<br>CONTRACT & OTHERS | TOTAL   |
|---------------------------------------|-----------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|--|-------------------------------------|---------|
|                                       |           | STATION EMPLOYEES                | UTILITY EMPLOYEES |               |                   |                   |                   |  |                                     |         |
| <b>WORK &amp; JOB FUNCTION</b>        |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 78        | 13                               | 717               | 1445          | 15,070            | 2,650             | 85,080            | 2,650  | 85,080                              | 222,465 |
| OPERATING PERSONNEL                   | 70        | 0                                | 0                 |               | 24,630            | 0,000             | 0,000             | 0,000  | 0,000                               |         |
| HEALTH PHYSICS PERSONNEL              | 54        | 1                                | 70                |               | 14,400            | 0,000             | 5,790             | 0,000  | 5,790                               |         |
| SUPERVISORY PERSONNEL                 | 69        | 85                               | 54                |               | 21,595            | 21,365            | 5,085             | 21,365                                       | 5,085                               |         |
| ENGINEERING PERSONNEL                 | 38        | 32                               | 164               |               | 8,730             | 5,085             | 12,905            | 5,085  | 12,905                              |         |
| TOTAL                                 | 309       | 131                              | 1005              | 1445          | 84,425            | 29,180            | 108,860           | 29,180                                       | 108,860                             | 222,465 |
| <b>ROUTINE MAINTENANCE</b>            |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 90        | 6                                | 499               |               | 64,430            | 2,705             | 108,690           | 2,705  | 108,690                             |         |
| OPERATING PERSONNEL                   | 46        | 0                                | 0                 |               | 9,300             | 0,000             | 0,000             | 0,000  | 0,000                               |         |
| HEALTH PHYSICS PERSONNEL              | 36        | 0                                | 85                |               | 9,220             | 0,000             | 12,485            | 0,000  | 12,485                              |         |
| SUPERVISORY PERSONNEL                 | 44        | 17                               | 26                |               | 15,795            | 2,145             | 3,345             | 2,145  | 3,345                               |         |
| ENGINEERING PERSONNEL                 | 23        | 3                                | 76                |               | 7,340             | 0,345             | 11,670            | 0,345  | 11,670                              |         |
| TOTAL                                 | 239       | 26                               | 686               | 951           | 106,085           | 5,195             | 136,190           | 5,195  | 136,190                             | 247,470 |
| <b>IN-SERVICE INSPECTION</b>          |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 0         | 0                                | 66                |               | 0,000             | 0,000             | 27,245            | 0,000  | 27,245                              |         |
| OPERATING PERSONNEL                   | 0         | 0                                | 0                 |               | 0,000             | 0,000             | 0,000             | 0,000  | 0,000                               |         |
| HEALTH PHYSICS PERSONNEL              | 1         | 0                                | 12                |               | 0,295             | 0,000             | 4,740             | 0,000  | 4,740                               |         |
| SUPERVISORY PERSONNEL                 | 2         | 0                                | 12                |               | 0,240             | 0,000             | 5,545             | 0,000  | 5,545                               |         |
| ENGINEERING PERSONNEL                 | 3         | 0                                | 16                |               | 0,250             | 0,000             | 5,670             | 0,000  | 5,670                               |         |
| TOTAL                                 | 6         | 0                                | 106               | 112           | 0,785             | 0,000             | 43,200            | 0,000  | 43,200                              | 43,985  |
| <b>SPECIAL MAINTENANCE</b>            |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 35        | 4                                | 336               |               | 3,875             | 0,695             | 252,755           | 0,695  | 252,755                             |         |
| OPERATING PERSONNEL                   | 25        | 0                                | 0                 |               | 1,775             | 0,000             | 0,000             | 0,000  | 0,000                               |         |
| HEALTH PHYSICS PERSONNEL              | 27        | 0                                | 37                |               | 5,810             | 0,000             | 7,760             | 0,000  | 7,760                               |         |
| SUPERVISORY PERSONNEL                 | 18        | 5                                | 15                |               | 2,925             | 0,180             | 1,880             | 0,180  | 1,880                               |         |
| ENGINEERING PERSONNEL                 | 8         | 1                                | 44                |               | 1,065             | 0,070             | 11,535            | 0,070  | 11,535                              |         |
| TOTAL                                 | 113       | 10                               | 432               | 555           | 15,450            | 0,945             | 273,930           | 0,945  | 273,930                             | 290,325 |
| <b>WASTE PROCESSING</b>               |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 48        | 2                                | 35                |               | 9,305             | 0,080             | 8,060             | 0,080  | 8,060                               |         |
| OPERATING PERSONNEL                   | 14        | 0                                | 0                 |               | 11,545            | 0,000             | 0,000             | 0,000  | 0,000                               |         |
| HEALTH PHYSICS PERSONNEL              | 24        | 0                                | 29                |               | 5,400             | 0,000             | 7,465             | 0,000  | 7,465                               |         |
| SUPERVISORY PERSONNEL                 | 5         | 0                                | 1                 |               | 0,625             | 0,000             | 0,500             | 0,000  | 0,500                               |         |
| ENGINEERING PERSONNEL                 | 2         | 0                                | 4                 |               | 0,065             | 0,000             | 1,160             | 0,000  | 1,160                               |         |
| TOTAL                                 | 93        | 2                                | 69                | 164           | 26,940            | 0,080             | 17,185            | 0,080  | 17,185                              | 44,205  |
| <b>REFUELING</b>                      |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 50        | 2                                | 19                |               | 15,775            | 0,790             | 1,605             | 0,790  | 1,605                               |         |
| OPERATING PERSONNEL                   | 28        | 0                                | 0                 |               | 1,265             | 0,000             | 0,000             | 0,000  | 0,000                               |         |
| HEALTH PHYSICS PERSONNEL              | 8         | 0                                | 18                |               | 0,120             | 0,000             | 1,715             | 0,000  | 1,715                               |         |
| SUPERVISORY PERSONNEL                 | 15        | 2                                | 2                 |               | 2,360             | 0,035             | 0,065             | 0,035  | 0,065                               |         |
| ENGINEERING PERSONNEL                 | 8         | 0                                | 9                 |               | 0,595             | 0,000             | 0,270             | 0,000  | 0,270                               |         |
| TOTAL                                 | 109       | 4                                | 48                | 161           | 20,115            | 0,825             | 3,655             | 0,825  | 3,655                               | 24,595  |
| <b>TOTAL BY JOB FUNCTION</b>          |           |                                  |                   |               |                   |                   |                   |  |                                     |         |
| MAINTENANCE PERSONNEL                 | 301 (136) | 27 (16)                          | 1672 (1289)       | 2000 (1441)   | 108,455           | 6,920             | 483,435           | 6,920  | 483,435                             | 598,810 |
| OPERATING PERSONNEL                   | 183 (74)  | 0                                | 251 (135)         | 183 (74)      | 48,515            | 0,000             | 0,000             | 0,000  | 0,000                               | 48,515  |
| HEALTH PHYSICS PERSONNEL              | 150 (62)  | 1 (1)                            | 109 (100)         | 402 (198)     | 35,245            | 0,080             | 39,955            | 0,080  | 39,955                              | 75,280  |
| SUPERVISORY PERSONNEL                 | 153 (91)  | 36 (33)                          | 313 (243)         | 372 (279)     | 43,540            | 23,725            | 16,420            | 23,725                                       | 16,420                              | 83,685  |
| ENGINEERING PERSONNEL                 | 82 (58)   | 173 (150)                        | 2346 (1755)       | 3388 (2326)   | 18,045            | 5,500             | 43,210            | 5,500  | 43,210                              | 66,755  |
| GRAND TOTAL                           | 869 (421) | 48                               | 3388 (2326)       | 253,800       | 36,225            | 583,020           | 873,045           | 36,225                                       | 583,020                             | 873,045 |

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

\*\* NRC mandated requirements (i.e, TMI modifications, torus modifications, pipe supports, scram discharge) contributed 245 man-rems.



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

Plant: TPOINT BEACH 1, 2 (PWR)

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 mrem) |                   |                   |               | 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      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Operating Personnel        |                                 |                   |                   |               | 32.830            |                   |                   |                   |
| Health Physics Personnel   |                                 |                   |                   |               | 42.180            |                   |                   |                   |
| Supervisory Personnel      |                                 |                   |                   |               | 1.160             |                   |                   |                   |
| Engineering Personnel      |                                 |                   |                   |               | 0.010             |                   |                   |                   |
| <b>TOTAL</b>               |                                 |                   |                   |               | <b>76.180</b>     |                   | <b>2.380</b>      | <b>78.560</b>     |
| Routine Maintenance        |                                 |                   |                   |               |                   |                   |                   |                   |
| Maintenance-Personnel      |                                 |                   |                   |               | 27.360            |                   |                   |                   |
| Operating Personnel        |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Health Physics Personnel   |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Supervisory Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Engineering Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| <b>TOTAL</b>               |                                 |                   |                   |               | <b>27.360</b>     |                   | <b>0.000</b>      | <b>27.360</b>     |
| In-Service Inspection      |                                 |                   |                   |               |                   |                   |                   |                   |
| Maintenance Personnel      |                                 |                   |                   |               | 3.970             |                   |                   |                   |
| Operating Personnel        |                                 |                   |                   |               | 9.870             |                   |                   |                   |
| Health Physics Personnel   |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Supervisory Personnel      |                                 |                   |                   |               | 2.930             |                   |                   |                   |
| Engineering Personnel      |                                 |                   |                   |               | 0.280             |                   |                   |                   |
| <b>TOTAL</b>               |                                 |                   |                   |               | <b>17.050</b>     |                   | <b>32.560</b>     | <b>49.610</b>     |
| Special Maintenance        |                                 |                   |                   |               |                   |                   |                   |                   |
| Maintenance Personnel      |                                 |                   |                   |               | 34.555            |                   |                   |                   |
| Operating Personnel        |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Health Physics Personnel   |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Supervisory Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Engineering Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| <b>TOTAL</b>               |                                 |                   |                   |               | <b>34.555</b>     |                   | <b>1,073.620</b>  | <b>1,108.275*</b> |
| Waste Processing           |                                 |                   |                   |               |                   |                   |                   |                   |
| Maintenance Personnel      |                                 |                   |                   |               | 3.840             |                   |                   |                   |
| Operating Personnel        |                                 |                   |                   |               | 9.320             |                   |                   |                   |
| Health Physics Personnel   |                                 |                   |                   |               | 2.250             |                   |                   |                   |
| Supervisory Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Engineering Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| <b>TOTAL</b>               |                                 |                   |                   |               | <b>21.410</b>     |                   | <b>32.810</b>     | <b>54.220</b>     |
| Refueling                  |                                 |                   |                   |               |                   |                   |                   |                   |
| Maintenance Personnel      |                                 |                   |                   |               | 28.010            |                   |                   |                   |
| Operating Personnel        |                                 |                   |                   |               | 7.810             |                   |                   |                   |
| Health Physics Personnel   |                                 |                   |                   |               | 1.410             |                   |                   |                   |
| Supervisory Personnel      |                                 |                   |                   |               | 0.000             |                   |                   |                   |
| Engineering Personnel      |                                 |                   |                   |               | 3.150             |                   |                   |                   |
| <b>TOTAL</b>               |                                 |                   |                   |               | <b>40.380</b>     |                   | <b>1,490</b>      | <b>41.870</b>     |
| Total By Job Function      |                                 |                   |                   |               |                   |                   |                   |                   |
| Maintenance Personnel      | 91                              |                   |                   |               | 97.835            |                   |                   |                   |
| Operating Personnel        | 65                              |                   |                   |               | 59.830            |                   |                   |                   |
| Health Physics Personnel   | 38                              |                   |                   |               | 51.840            |                   |                   |                   |
| Supervisory Personnel      | 8                               |                   |                   |               | 4.090             |                   |                   |                   |
| Engineering Personnel      | 3                               |                   |                   |               | 3.440             |                   |                   |                   |
| <b>GRAND TOTAL</b>         | <b>205</b>                      |                   | <b>1,232</b>      | <b>1,437</b>  | <b>217.035</b>    |                   | <b>1,142.860</b>  | <b>1,359.895*</b> |

\*451 man-rem due to Unit 1 steam generator replacement and 520 man-rem due to Unit 2 steam generator steevinq.

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

| PLANT: PRAIRIE ISLAND 1,2 (PWR) | STATION EMPLOYEES   |                            | UTILITY EMPLOYEES                  |                   | TOTAL PERSONS | STATION EMPLOYEES |                   | UTILITY EMPLOYEES |                   | TOTAL MAN-REMS    |          |
|---------------------------------|---------------------|----------------------------|------------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------|
|                                 | WORK & JOB FUNCTION | REACTOR OPERATIONS & SURV. | MAINTENANCE PERSONNEL (>100 M-REM) | CONTRACT & OTHERS |               | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | CONTRACT & OTHERS | MAN-REMS |
| WORK & JOB FUNCTION             |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| REACTOR OPERATIONS & SURV.      |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 2                   | 0                          | 0                                  | 0                 | 2             | 1,579             | 0,359             | 0,013             | 0,013             |                   |          |
| OPERATING PERSONNEL             | 31                  | 0                          | 0                                  | 0                 | 31            | 5,753             | 0,008             | 0,079             | 0,079             |                   |          |
| HEALTH PHYSICS PERSONNEL        | 12                  | 0                          | 0                                  | 2                 | 14            | 3,990             | 0,001             | 0,881             | 0,881             |                   |          |
| SUPERVISORY PERSONNEL           | 0                   | 0                          | 0                                  | 0                 | 0             | 0,043             | 0,014             | 0,065             | 0,065             |                   |          |
| ENGINEERING PERSONNEL           | 1                   | 0                          | 0                                  | 0                 | 1             | 0,454             | 0,014             | 0,076             | 0,076             |                   |          |
| TOTAL                           | 46                  | 0                          | 0                                  | 2                 | 48            | 11,819            | 0,396             | 1,114             | 1,114             |                   | 13,329   |
| ROUTINE MAINTENANCE             |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 33                  | 19                         | 3                                  | 3                 | 58            | 11,777            | 10,349            | 1,435             | 1,435             |                   |          |
| OPERATING PERSONNEL             | 3                   | 0                          | 0                                  | 0                 | 3             | 0,846             | 0,082             | 0,030             | 0,030             |                   |          |
| HEALTH PHYSICS PERSONNEL        | 6                   | 0                          | 1                                  | 1                 | 8             | 1,111             | 0,000             | 0,221             | 0,221             |                   |          |
| SUPERVISORY PERSONNEL           | 0                   | 0                          | 1                                  | 1                 | 2             | 0,012             | 0,166             | 0,166             | 0,166             |                   |          |
| ENGINEERING PERSONNEL           | 6                   | 1                          | 1                                  | 1                 | 9             | 1,943             | 0,148             | 0,675             | 0,675             |                   |          |
| TOTAL                           | 48                  | 20                         | 6                                  | 6                 | 74            | 15,689            | 10,601            | 2,527             | 2,527             |                   | 28,817   |
| IN-SERVICE INSPECTION           |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 18                  | 6                          | 62                                 | 0                 | 86            | 5,770             | 2,821             | 39,963            | 39,963            |                   |          |
| OPERATING PERSONNEL             | 0                   | 0                          | 0                                  | 0                 | 0             | 0,000             | 0,000             | 0,000             | 0,000             |                   |          |
| HEALTH PHYSICS PERSONNEL        | 2                   | 0                          | 19                                 | 0                 | 21            | 0,404             | 0,000             | 4,476             | 4,476             |                   |          |
| SUPERVISORY PERSONNEL           | 0                   | 1                          | 0                                  | 0                 | 1             | 0,000             | 0,413             | 0,000             | 0,000             |                   |          |
| ENGINEERING PERSONNEL           | 3                   | 1                          | 9                                  | 0                 | 13            | 1,226             | 0,307             | 4,509             | 4,509             |                   |          |
| TOTAL                           | 23                  | 8                          | 90                                 | 0                 | 121           | 7,400             | 3,541             | 48,948            | 48,948            |                   | 59,889   |
| SPECIAL MAINTENANCE             |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 49                  | 44                         | 18                                 | 0                 | 111           | 20,567            | 23,718            | 7,987             | 7,987             |                   |          |
| OPERATING PERSONNEL             | 4                   | 0                          | 0                                  | 0                 | 4             | 1,316             | 0,000             | 0,000             | 0,000             |                   |          |
| HEALTH PHYSICS PERSONNEL        | 10                  | 0                          | 7                                  | 0                 | 17            | 2,288             | 0,043             | 2,175             | 2,175             |                   |          |
| SUPERVISORY PERSONNEL           | 0                   | 1                          | 0                                  | 0                 | 1             | 0,000             | 0,252             | 0,051             | 0,051             |                   |          |
| ENGINEERING PERSONNEL           | 8                   | 4                          | 10                                 | 0                 | 22            | 2,870             | 0,928             | 2,983             | 2,983             |                   |          |
| TOTAL                           | 71                  | 49                         | 35                                 | 0                 | 155           | 27,041            | 24,941            | 13,196            | 13,196            |                   | 65,178   |
| WASTE PROCESSING                |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 13                  | 4                          | 0                                  | 0                 | 17            | 3,833             | 1,205             | 0,128             | 0,128             |                   |          |
| OPERATING PERSONNEL             | 1                   | 0                          | 0                                  | 0                 | 1             | 0,384             | 0,000             | 0,000             | 0,000             |                   |          |
| HEALTH PHYSICS PERSONNEL        | 4                   | 0                          | 0                                  | 0                 | 4             | 2,916             | 0,010             | 0,066             | 0,066             |                   |          |
| SUPERVISORY PERSONNEL           | 0                   | 0                          | 0                                  | 0                 | 0             | 0,000             | 0,012             | 0,004             | 0,004             |                   |          |
| ENGINEERING PERSONNEL           | 0                   | 0                          | 0                                  | 0                 | 0             | 0,032             | 0,001             | 0,000             | 0,000             |                   |          |
| TOTAL                           | 18                  | 4                          | 0                                  | 0                 | 22            | 7,165             | 1,228             | 0,198             | 0,198             |                   | 8,591    |
| REFUELING                       |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 31                  | 59                         | 0                                  | 0                 | 90            | 12,620            | 20,074            | 0,015             | 0,015             |                   |          |
| OPERATING PERSONNEL             | 21                  | 0                          | 0                                  | 0                 | 21            | 4,995             | 0,023             | 0,000             | 0,000             |                   |          |
| HEALTH PHYSICS PERSONNEL        | 2                   | 0                          | 9                                  | 0                 | 11            | 0,703             | 0,000             | 2,411             | 2,411             |                   |          |
| SUPERVISORY PERSONNEL           | 0                   | 0                          | 0                                  | 0                 | 0             | 0,000             | 0,117             | 0,003             | 0,003             |                   |          |
| ENGINEERING PERSONNEL           | 0                   | 0                          | 0                                  | 0                 | 0             | 1,328             | 0,149             | 0,323             | 0,323             |                   |          |
| TOTAL                           | 54                  | 59                         | 9                                  | 0                 | 122           | 19,646            | 20,363            | 2,752             | 2,752             |                   | 42,761   |
| TOTAL BY JOB FUNCTION           |                     |                            |                                    |                   |               |                   |                   |                   |                   |                   |          |
| MAINTENANCE PERSONNEL           | 146                 | 132                        | 83                                 | 0                 | 361           | 56,146            | 58,526            | 49,541            | 49,541            |                   | 164,213  |
| OPERATING PERSONNEL             | 60                  | 0                          | 0                                  | 0                 | 60            | 13,294            | 0,113             | 0,109             | 0,109             |                   | 13,516   |
| HEALTH PHYSICS PERSONNEL        | 36                  | 0                          | 38                                 | 0                 | 74            | 11,412            | 0,054             | 10,230            | 10,230            |                   | 21,696   |
| SUPERVISORY PERSONNEL           | 0                   | 2                          | 1                                  | 0                 | 3             | 0,055             | 0,830             | 1,174             | 1,174             |                   | 1,744    |
| ENGINEERING PERSONNEL           | 18                  | 6                          | 20                                 | 0                 | 44            | 7,853             | 1,547             | 8,566             | 8,566             |                   | 17,966   |
| GRAND TOTAL                     | 260                 | 140                        | 142                                | 0                 | 542           | 88,760            | 61,070            | 68,735            | 68,735            |                   | 218,565  |

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

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

PLANT: \* QUAD CITIES 1,2 (BWR)

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |         | TOTAL     |         | STATION   |           | TOTAL     |          | TOTAL     |          | TOTAL     |          |
|----------------------------|----------------------------------|---------|-----------|---------|-----------|-----------|-----------|----------|-----------|----------|-----------|----------|
|                            | EMPLOYEES                        | UTILITY | EMPLOYEES | PERSONS | EMPLOYEES | EMPLOYEES | EMPLOYEES | CONTRACT | EMPLOYEES | CONTRACT | EMPLOYEES | MAN-REMS |
| REACTOR OPERATIONS & SURV. |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 7                                | 0       | 22        |         | 12,340    |           | 0.000     | 24,287   |           |          |           |          |
| OPERATING PERSONNEL        | 47                               | 0       | 54        |         | 53,245    |           | 0.000     | 5,625    |           |          |           |          |
| HEALTH PHYSICS PERSONNEL   | 19                               | 0       | 0         |         | 14,670    |           | 0.000     | 0.000    |           |          |           |          |
| SUPERVISORY PERSONNEL      | 48                               | 0       | 0         |         | 24,676    |           | 0.000     | 0.000    |           |          |           |          |
| ENGINEERING PERSONNEL      | 43                               | 14      | 4         |         | 25,105    |           | 0.480     | 1,532    |           |          |           |          |
| TOTAL                      | 164                              | 14      | 80        | 258     | 130,036   |           | 0.480     | 31,444   |           |          |           | 161,960  |
| ROUTINE MAINTENANCE        |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 121                              | 4       | 82        |         | 212,093   |           | 2,392     | 91,955   |           |          |           |          |
| OPERATING PERSONNEL        | 0                                | 0       | 0         |         | 0.000     |           | 0.000     | 0.000    |           |          |           |          |
| HEALTH PHYSICS PERSONNEL   | 18                               | 0       | 0         |         | 14,115    |           | 0.000     | 0.000    |           |          |           |          |
| SUPERVISORY PERSONNEL      | 62                               | 0       | 0         |         | 32,089    |           | 0.000     | 0.000    |           |          |           |          |
| ENGINEERING PERSONNEL      | 9                                | 0       | 0         |         | 4,744     |           | 0.000     | 0.000    |           |          |           |          |
| TOTAL                      | 210                              | 4       | 82        | 296     | 263,041   |           | 2,392     | 91,955   |           |          |           | 357,388  |
| IN-SERVICE INSPECTION      |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 0                                | 0       | 278       |         | 0.000     |           | 0.000     | 312,070  |           |          |           |          |
| OPERATING PERSONNEL        | 0                                | 0       | 0         |         | 0.000     |           | 0.000     | 0.000    |           |          |           |          |
| HEALTH PHYSICS PERSONNEL   | 3                                | 0       | 8         |         | 2,168     |           | 0.000     | 3,014    |           |          |           |          |
| SUPERVISORY PERSONNEL      | 0                                | 0       | 0         |         | 0.000     |           | 0.000     | 0.000    |           |          |           |          |
| ENGINEERING PERSONNEL      | 13                               | 59      | 151       |         | 6,957     |           | 1,992     | 61,826   |           |          |           |          |
| TOTAL                      | 16                               | 59      | 437       | 512     | 9,125     |           | 1,992     | 376,910  |           |          |           | 388,027  |
| SPECIAL MAINTENANCE        |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 0                                | 39      | 1162      |         | 0.000     |           | 21,530    | 1304,103 |           |          |           |          |
| OPERATING PERSONNEL        | 0                                | 0       | 0         |         | 0.000     |           | 0.000     | 0.000    |           |          |           |          |
| HEALTH PHYSICS PERSONNEL   | 5                                | 0       | 27        |         | 4,336     |           | 0.000     | 9,826    |           |          |           |          |
| SUPERVISORY PERSONNEL      | 4                                | 0       | 0         |         | 2,707     |           | 0.000     | 0.000    |           |          |           |          |
| ENGINEERING PERSONNEL      | 8                                | 48      | 188       |         | 4,236     |           | 1,633     | 76,644   |           |          |           |          |
| TOTAL                      | 17                               | 87      | 1377      | 1481    | 11,279    |           | 23,163    | 1390,573 |           |          |           | 1425,015 |
| WASTE PROCESSING           |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 0                                | 0       | 0         |         | 0.000     |           | 0.000     | 0.000    |           |          |           |          |
| OPERATING PERSONNEL        | 47                               | 0       | 6         |         | 53,175    |           | 0.000     | 0.650    |           |          |           |          |
| HEALTH PHYSICS PERSONNEL   | 11                               | 0       | 0         |         | 8,672     |           | 0.000     | 0.000    |           |          |           |          |
| SUPERVISORY PERSONNEL      | 21                               | 0       | 0         |         | 10,705    |           | 0.000     | 0.000    |           |          |           |          |
| ENGINEERING PERSONNEL      | 0                                | 0       | 0         |         | 0.000     |           | 0.000     | 0.000    |           |          |           |          |
| TOTAL                      | 79                               | 0       | 6         | 85      | 72,552    |           | 0.000     | 0.650    |           |          |           | 73,202   |
| REFUELING                  |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 0                                | 0       | 3         |         | 0.000     |           | 0.000     | 2,740    |           |          |           |          |
| OPERATING PERSONNEL        | 20                               | 0       | 0         |         | 21,920    |           | 0.000     | 0.000    |           |          |           |          |
| HEALTH PHYSICS PERSONNEL   | 3                                | 0       | 0         |         | 2,168     |           | 0.000     | 0.000    |           |          |           |          |
| SUPERVISORY PERSONNEL      | 7                                | 0       | 0         |         | 3,550     |           | 0.000     | 0.000    |           |          |           |          |
| ENGINEERING PERSONNEL      | 6                                | 0       | 0         |         | 0.605     |           | 0.000     | 0.000    |           |          |           |          |
| TOTAL                      | 36                               | 0       | 3         | 39      | 28,243    |           | 0.000     | 2,740    |           |          |           | 30,983   |
| TOTAL BY JOB FUNCTION      |                                  |         |           |         |           |           |           |          |           |          |           |          |
| MAINTENANCE PERSONNEL      | 128                              | 43      | 1547      | 1718    | 224,433   |           | 23,922    | 1735,155 |           |          |           | 1983,510 |
| OPERATING PERSONNEL        | 114                              | 0       | 60        | 174     | 128,340   |           | 0.000     | 6,275    |           |          |           | 134,615  |
| HEALTH PHYSICS PERSONNEL   | 59                               | 0       | 35        | 94      | 46,129    |           | 0.000     | 12,840   |           |          |           | 58,969   |
| SUPERVISORY PERSONNEL      | 142                              | 0       | 0         | 142     | 73,727    |           | 0.000     | 0.000    |           |          |           | 73,727   |
| ENGINEERING PERSONNEL      | 79                               | 121     | 343       | 543     | 41,647    |           | 4,105     | 140,002  |           |          |           | 185,754  |
| GRAND TOTAL                | 522                              | 164     | 1985      | 2671    | 514,276   |           | 28,027    | 1894,272 |           |          |           | 2436,575 |

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

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

| PLANT: *RANCHO SECO (PWR) | NUMBER OF PERSONNEL (>100 M-REM) |                            | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION EMPLOYEES |         | TOTAL PERSONS     |         | STATION EMPLOYEES |                   | UTILITY EMPLOYEES |          | TOTAL MAN-REMS    |                |
|---------------------------|----------------------------------|----------------------------|----------------------------------|-------------------|-------------------|---------|-------------------|---------|-------------------|-------------------|-------------------|----------|-------------------|----------------|
|                           | WORK & JOB FUNCTION              | REACTOR OPERATIONS & SURV. | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | PERSONS | CONTRACT & OTHERS | PERSONS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | MAN-REMS | CONTRACT & OTHERS | TOTAL MAN-REMS |
|                           | 109                              | 268                        | 268                              | 401               | 697               | 45,930  | 8,690             | 0.000   | 0.000             | 7,650             | 137,980           |          |                   |                |
| MAINTENANCE PERSONNEL     | 58                               | 108                        | 108                              | 195               | 303               | 32,360  | 0.000             | 0.000   | 0.000             | 11,930            |                   |          |                   |                |
| OPERATING PERSONNEL       | 26                               | 13                         | 13                               | 0                 | 13                | 0.360   | 0.010             | 0.000   | 0.010             | 0.000             |                   |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 22                               | 15                         | 15                               | 31                | 46                | 0.610   | 0.010             | 0.000   | 0.010             | 0.000             |                   |          |                   |                |
| SUPERVISORY PERSONNEL     | 53                               | 10                         | 10                               | 7                 | 17                | 1.830   | 0.000             | 0.000   | 0.000             | 0.170             |                   |          |                   |                |
| ENGINEERING PERSONNEL     | 27                               | 27                         | 27                               | 71                | 98                | 1,710   | 0.070             | 0.000   | 0.000             | 3,500             |                   |          |                   |                |
| TOTAL                     | 268                              | 173                        | 173                              | 304               | 477               | 36,870  | 0.090             | 0.000   | 0.000             | 17,080            | 54,040            |          |                   |                |
| IN-SERVICE INSPECTION     | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| MAINTENANCE PERSONNEL     | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| OPERATING PERSONNEL       | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| SUPERVISORY PERSONNEL     | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| ENGINEERING PERSONNEL     | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| TOTAL                     | 0                                | 0                          | 0                                | 0                 | 0                 | 0.000   | 0.000             | 0.000   | 0.000             | 0.000             | 0.000             |          |                   |                |
| SPECIAL MAINTENANCE       | 148                              | 148                        | 148                              | 743               | 891               | 32,320  | 0.000             | 0.000   | 0.000             | 282,180           | 352,770           |          |                   |                |
| MAINTENANCE PERSONNEL     | 12                               | 12                         | 12                               | 0                 | 12                | 0.560   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| OPERATING PERSONNEL       | 21                               | 21                         | 21                               | 51                | 72                | 1,850   | 0.000             | 0.000   | 0.000             | 7,670             |                   |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 8                                | 8                          | 8                                | 32                | 40                | 0.950   | 0.000             | 0.000   | 0.000             | 6,180             |                   |          |                   |                |
| SUPERVISORY PERSONNEL     | 33                               | 33                         | 33                               | 130               | 163               | 6,410   | 0.230             | 0.000   | 0.000             | 14,420            |                   |          |                   |                |
| ENGINEERING PERSONNEL     | 222                              | 222                        | 222                              | 956               | 1,178             | 42,090  | 0.230             | 0.000   | 0.000             | 310,450           |                   |          |                   |                |
| TOTAL                     | 148                              | 148                        | 148                              | 743               | 891               | 32,320  | 0.000             | 0.000   | 0.000             | 282,180           | 352,770           |          |                   |                |
| WASTE PROCESSING          | 69                               | 69                         | 69                               | 187               | 256               | 11,820  | 0.030             | 0.000   | 0.000             | 55,280            | 85,320            |          |                   |                |
| MAINTENANCE PERSONNEL     | 29                               | 29                         | 29                               | 0                 | 29                | 0.820   | 0.000             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| OPERATING PERSONNEL       | 25                               | 25                         | 25                               | 35                | 60                | 6,680   | 0.000             | 0.000   | 0.000             | 5,860             |                   |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 10                               | 10                         | 10                               | 6                 | 16                | 1,070   | 0.000             | 0.000   | 0.000             | 3,120             |                   |          |                   |                |
| SUPERVISORY PERSONNEL     | 10                               | 10                         | 10                               | 15                | 25                | 0,220   | 0.000             | 0.000   | 0.000             | 0,420             |                   |          |                   |                |
| ENGINEERING PERSONNEL     | 143                              | 143                        | 143                              | 243               | 387               | 20,610  | 0.030             | 0.000   | 0.000             | 64,680            |                   |          |                   |                |
| TOTAL                     | 69                               | 69                         | 69                               | 187               | 256               | 11,820  | 0.030             | 0.000   | 0.000             | 55,280            | 85,320            |          |                   |                |
| MAINTENANCE PERSONNEL     | 50                               | 50                         | 50                               | 60                | 110               | 5,850   | 0.000             | 0.000   | 0.000             | 32,400            |                   |          |                   |                |
| OPERATING PERSONNEL       | 36                               | 36                         | 36                               | 0                 | 36                | 4,110   | 0.040             | 0.000   | 0.000             | 0.000             |                   |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 8                                | 8                          | 8                                | 12                | 20                | 0,440   | 0.010             | 0.000   | 0.000             | 0,710             |                   |          |                   |                |
| SUPERVISORY PERSONNEL     | 6                                | 6                          | 6                                | 8                 | 14                | 0,730   | 0.000             | 0.000   | 0.000             | 5,740             |                   |          |                   |                |
| ENGINEERING PERSONNEL     | 26                               | 26                         | 26                               | 29                | 55                | 2,050   | 0.000             | 0.000   | 0.000             | 7,270             |                   |          |                   |                |
| TOTAL                     | 126                              | 126                        | 126                              | 109               | 237               | 13,180  | 0.050             | 0.000   | 0.000             | 46,120            | 59,350            |          |                   |                |
| REFUELING                 | 484                              | 484                        | 484                              | 1348              | 1832              | 91,040  | 0.030             | 0.000   | 0.000             | 389,440           | 480,510           |          |                   |                |
| MAINTENANCE PERSONNEL     | 148                              | 148                        | 148                              | 0                 | 148               | 30,190  | 0.380             | 0.000   | 0.000             | 0.000             | 30,570            |          |                   |                |
| OPERATING PERSONNEL       | 95                               | 95                         | 95                               | 207               | 302               | 16,920  | 0.050             | 0.000   | 0.000             | 86,110            | 103,080           |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 56                               | 56                         | 56                               | 88                | 144               | 5,690   | 0.010             | 0.000   | 0.000             | 19,210            | 24,910            |          |                   |                |
| SUPERVISORY PERSONNEL     | 149                              | 149                        | 149                              | 370               | 519               | 14,840  | 1,270             | 0.000   | 0.000             | 34,280            | 50,390            |          |                   |                |
| ENGINEERING PERSONNEL     | 932                              | 932                        | 932                              | 2013              | 2945              | 158,680 | 1,740             | 0.000   | 0.000             | 529,040           | 689,460           |          |                   |                |
| TOTAL                     | 484                              | 484                        | 484                              | 1348              | 1832              | 91,040  | 0.030             | 0.000   | 0.000             | 389,440           | 480,510           |          |                   |                |
| OPERATING PERSONNEL       | 148                              | 148                        | 148                              | 0                 | 148               | 30,190  | 0.380             | 0.000   | 0.000             | 0.000             | 30,570            |          |                   |                |
| HEALTH PHYSICS PERSONNEL  | 95                               | 95                         | 95                               | 207               | 302               | 16,920  | 0.050             | 0.000   | 0.000             | 86,110            | 103,080           |          |                   |                |
| SUPERVISORY PERSONNEL     | 56                               | 56                         | 56                               | 88                | 144               | 5,690   | 0.010             | 0.000   | 0.000             | 19,210            | 24,910            |          |                   |                |
| ENGINEERING PERSONNEL     | 149                              | 149                        | 149                              | 370               | 519               | 14,840  | 1,270             | 0.000   | 0.000             | 34,280            | 50,390            |          |                   |                |
| GRAND TOTAL               | 932                              | 932                        | 932                              | 2013              | 2945              | 158,680 | 1,740             | 0.000   | 0.000             | 529,040           | 689,460           |          |                   |                |

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

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

| PLANT: * ROBINSON                           | (PWR) | NUMBER OF PERSONNEL (>100 M-REM)<br>1983 |                      |                      |                  | TOTAL MAN-REMS       |                      |                      |                   |
|---|-------|--|----------------------|----------------------|------------------|----------------------|----------------------|----------------------|-------------------|
|   |       | STATION<br>EMPLOYEES                     | UTILITY<br>EMPLOYEES | CONTRACT<br>& OTHERS | TOTAL<br>PERSONS | STATION<br>EMPLOYEES | UTILITY<br>EMPLOYEES | CONTRACT<br>& OTHERS | TOTAL<br>MAN-REMS |
| <b>WORK &amp; JOB FUNCTIONS &amp; SURV.</b> |       |  |                      |                      |                  |                      |                      |                      |                   |
| REACTOR OPERATIONS PERSONNEL                | 20    | 11                                       | 10                   |                      | 7,060            | 3,975                | 5,225                |                      |                   |
| MAINTENANCE PERSONNEL                       | 23    | 0  | 13                   |                      | 20,809           | 0.000                | 5,117                |                      |                   |
| OPERATING PERSONNEL                         | 12    | 4  | 8                    |                      | 14,982           | 3,325                | 6,472                |                      |                   |
| HEALTH PHYSICS PERSONNEL                    | 3     | 1  | 1                    |                      | 1,150            | 0.250                | 0.175                |                      |                   |
| SUPERVISORY PERSONNEL                       | 37    | 13                                       | 5                    |                      | 15,385           | 4,125                | 2,025                |                      |                   |
| ENGINEERING PERSONNEL                       | 95    | 29                                       | 37                   | 161                  | 59,386           | 11,675               | 19,014               |                      | 90,075            |
| TOTAL                                       |       |  |                      |                      |                  |                      |                      |                      |                   |
| <b>ROUTINE MAINTENANCE</b>                  |       |  |                      |                      |                  |                      |                      |                      |                   |
| MAINTENANCE PERSONNEL                       | 56    | 36                                       | 64                   |                      | 32,770           | 12,471               | 36,895               |                      |                   |
| OPERATING PERSONNEL                         | 0     | 0  | 0                    |                      | 0.050            | 0.000                | 0.000                |                      |                   |
| HEALTH PHYSICS PERSONNEL                    | 20    | 0  | 13                   |                      | 23,372           | 0.100                | 9,708                |                      |                   |
| SUPERVISORY PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.025                | 0.025                |                      |                   |
| ENGINEERING PERSONNEL                       | 16    | 0  | 67                   |                      | 4,670            | 0.400                | 31,750               |                      |                   |
| TOTAL                                       | 92    | 36                                       | 144                  | 272                  | 60,862           | 12,996               | 78,378               |                      | 152,236           |
| <b>IN-SERVICE INSPECTION</b>                |       |  |                      |                      |                  |                      |                      |                      |                   |
| MAINTENANCE PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| OPERATING PERSONNEL                         | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| HEALTH PHYSICS PERSONNEL                    | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| SUPERVISORY PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| ENGINEERING PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| TOTAL                                       | 0     | 0  | 0                    | 0                    | 0.000            | 0.000                | 0.000                |                      | 0.000             |
| <b>SPECIAL MAINTENANCE</b>                  |       |  |                      |                      |                  |                      |                      |                      |                   |
| MAINTENANCE PERSONNEL                       | 58    | 59                                       | 98                   |                      | 49,460           | 25,575               | 54,965               |                      |                   |
| OPERATING PERSONNEL                         | 1     | 0  | 0                    |                      | 0.900            | 0.000                | 0.000                |                      |                   |
| HEALTH PHYSICS PERSONNEL                    | 15    | 0  | 85                   |                      | 17,977           | 0.050                | 64,718               |                      |                   |
| SUPERVISORY PERSONNEL                       | 0     | 0  | 1                    |                      | 0.000            | 0.075                | 0.250                |                      |                   |
| ENGINEERING PERSONNEL                       | 24    | 3  | 366                  |                      | 12,240           | 1.050                | 332,191              |                      |                   |
| TOTAL                                       | 98    | 62                                       | 550                  | 710                  | 80,577           | 26,750               | 452,124              |                      | 559,451           |
| <b>WASTE PROCESSING</b>                     |       |  |                      |                      |                  |                      |                      |                      |                   |
| MAINTENANCE PERSONNEL                       | 7     | 0  | 36                   |                      | 4,700            | 0.200                | 25,475               |                      |                   |
| OPERATING PERSONNEL                         | 17    | 0  | 0                    |                      | 17,026           | 0.000                | 0.000                |                      |                   |
| HEALTH PHYSICS PERSONNEL                    | 3     | 0  | 14                   |                      | 3,596            | 0.000                | 12,420               |                      |                   |
| SUPERVISORY PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| ENGINEERING PERSONNEL                       | 0     | 0  | 4                    |                      | 0.000            | 0.025                | 3,925                |                      |                   |
| TOTAL                                       | 27    | 0  | 54                   | 81                   | 25,322           | 0.225                | 41,820               |                      | 67,367            |
| <b>REFUELING</b>                            |       |  |                      |                      |                  |                      |                      |                      |                   |
| MAINTENANCE PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| OPERATING PERSONNEL                         | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| HEALTH PHYSICS PERSONNEL                    | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| SUPERVISORY PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| ENGINEERING PERSONNEL                       | 0     | 0  | 0                    |                      | 0.000            | 0.000                | 0.000                |                      |                   |
| TOTAL                                       | 0     | 0  | 0                    | 0                    | 0.000            | 0.000                | 0.000                |                      | 0.000             |
| <b>TOTAL BY JOB FUNCTION</b>                |       |  |                      |                      |                  |                      |                      |                      |                   |
| MAINTENANCE PERSONNEL                       | 141   | 106                                      | 208                  | 455                  | 93,990           | 42,221               | 122,560              |                      | 258,771           |
| OPERATING PERSONNEL                         | 41    | 0  | 13                   | 54                   | 38,785           | 0.000                | 5,117                |                      | 43,902            |
| HEALTH PHYSICS PERSONNEL                    | 50    | 4  | 120                  | 174                  | 59,927           | 3,475                | 93,318               |                      | 156,720           |
| SUPERVISORY PERSONNEL                       | 3     | 1  | 2                    | 6                    | 1,150            | 0.350                | 0.450                |                      | 1,950             |
| ENGINEERING PERSONNEL                       | 77    | 16                                       | 442                  | 535                  | 32,295           | 5,600                | 369,891              |                      | 407,786           |
| GRAND TOTAL                                 | 312   | 127                                      | 785                  | 1224                 | 226,147          | 51,646               | 591,336              |                      | 869,129           |

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

APPENDIX C

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

PLANT: † SALEM 1,2 (PWR) 1983

| WORK & JOB FUNCTION        | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL PERSONS | TOTAL MAN-REMS | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS |
|----------------------------|----------------------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|---------------|----------------|-------------------|-------------------|----------------|
|                            | STATION EMPLOYEES                | UTILITY EMPLOYEES | STATION EMPLOYEES                | UTILITY EMPLOYEES |                   |                   |                   |               |                |                   |                   |                |
| REACTOR OPERATIONS & SURV. | 2                                | 0                 | 0                                | 0                 | 1,518             | 0.017             | 0.326             |               |                | 0.017             | 0.326             |                |
| MAINTENANCE PERSONNEL      | 2                                | 0                 | 0                                | 0                 | 3,602             | 0.012             | 0.095             |               |                | 0.012             | 0.095             |                |
| OPERATING PERSONNEL        | 1                                | 0                 | 0                                | 0                 | 0,913             | 0.000             | 2,116             |               |                | 0.000             | 2,116             |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 0                                | 0                 | 0,000             | 0.000             | 0,170             |               |                | 0.000             | 0,170             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                                | 0                 | 0,000             | 0.000             | 0,000             |               |                | 0.000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 5                                | 0                 | 0                                | 0                 | 6,048             | 0.177             | 0,000             |               |                | 0.177             | 0,000             |                |
| TOTAL                      |                                  |                   |                                  |                   |                   |                   |                   | 5             |                |                   |                   | 8,984          |
| ROUTINE MAINTENANCE        |                                  |                   |                                  |                   |                   |                   |                   |               |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 30                               | 0                 | 101                              |                   | 17,976            | 0.210             | 46,913            |               |                | 0.210             | 46,913            |                |
| OPERATING PERSONNEL        | 4                                | 9                 | 23                               |                   | 3,639             | 2,940             | 7,069             |               |                | 2,940             | 7,069             |                |
| HEALTH PHYSICS PERSONNEL   | 1                                | 0                 | 5                                |                   | 0,832             | 0.000             | 22,603            |               |                | 0.000             | 22,603            |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 2                                |                   | 0,000             | 0.094             | 0,950             |               |                | 0.094             | 0,950             |                |
| ENGINEERING PERSONNEL      | 0                                | 0                 | 0                                |                   | 0,020             | 0.479             | 0,020             |               |                | 0.479             | 0,020             |                |
| TOTAL                      | 35                               | 9                 | 131                              |                   | 22,467            | 3,723             | 77,555            |               |                | 3,723             | 77,555            | 103,745        |
| IN-SERVICE INSPECTION      |                                  |                   |                                  |                   |                   |                   |                   |               |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 2                                | 0                 | 57                               |                   | 0,495             | 0.217             | 22,165            |               |                | 0.217             | 22,165            |                |
| OPERATING PERSONNEL        | 0                                | 0                 | 0                                |                   | 0,108             | 0.000             | 0,000             |               |                | 0.000             | 0,000             |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 1                                |                   | 0,172             | 0.000             | 0,515             |               |                | 0.000             | 0,515             |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 1                                |                   | 0,000             | 0.135             | 0,405             |               |                | 0.135             | 0,405             |                |
| ENGINEERING PERSONNEL      | 0                                | 1                 | 0                                |                   | 0,000             | 0.442             | 0,000             |               |                | 0.442             | 0,000             |                |
| TOTAL                      | 2                                | 1                 | 59                               |                   | 0,775             | 0.794             | 23,085            |               |                | 0.794             | 23,085            | 24,654         |
| SPECIAL MAINTENANCE        |                                  |                   |                                  |                   |                   |                   |                   |               |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 53                               | 0                 | 307                              |                   | 21,996            | 0.075             | 168,000           |               |                | 0.075             | 168,000           |                |
| OPERATING PERSONNEL        | 8                                | 1                 | 5                                |                   | 5,442             | 0.635             | 1,680             |               |                | 0.635             | 1,680             |                |
| HEALTH PHYSICS PERSONNEL   | 4                                | 0                 | 54                               |                   | 1,490             | 0.000             | 21,620            |               |                | 0.000             | 21,620            |                |
| SUPERVISORY PERSONNEL      | 0                                | 1                 | 5                                |                   | 0,000             | 0.145             | 1,950             |               |                | 0.145             | 1,950             |                |
| ENGINEERING PERSONNEL      | 1                                | 1                 | 0                                |                   | 0,176             | 0.923             | 0,040             |               |                | 0.923             | 0,040             |                |
| TOTAL                      | 66                               | 3                 | 371                              |                   | 29,104            | 1,578             | 193,290           |               |                | 1,578             | 193,290           | 223,972        |
| WASTE PROCESSING           |                                  |                   |                                  |                   |                   |                   |                   |               |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 14                               | 0                 | 10                               |                   | 4,064             | 0.000             | 4,475             |               |                | 0.000             | 4,475             |                |
| OPERATING PERSONNEL        | 0                                | 0                 | 5                                |                   | 0,235             | 0.040             | 2,415             |               |                | 0.040             | 2,415             |                |
| HEALTH PHYSICS PERSONNEL   | 10                               | 0                 | 137                              |                   | 4,046             | 0.000             | 45,826            |               |                | 0.000             | 45,826            |                |
| SUPERVISORY PERSONNEL      | 0                                | 0                 | 0                                |                   | 0,000             | 0.000             | 0,000             |               |                | 0.000             | 0,000             |                |
| ENGINEERING PERSONNEL      | 2                                | 0                 | 0                                |                   | 0,520             | 0.040             | 0,000             |               |                | 0.040             | 0,000             |                |
| TOTAL                      | 26                               | 0                 | 152                              |                   | 8,865             | 0.080             | 52,716            |               |                | 0.080             | 52,716            | 61,661         |
| REFUELING                  |                                  |                   |                                  |                   |                   |                   |                   |               |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 54                               | 0                 | 120                              |                   | 17,599            | 0.205             | 40,212            |               |                | 0.205             | 40,212            |                |
| OPERATING PERSONNEL        | 22                               | 4                 | 10                               |                   | 11,735            | 1,690             | 1,723             |               |                | 1,690             | 1,723             |                |
| HEALTH PHYSICS PERSONNEL   | 0                                | 0                 | 87                               |                   | 1,355             | 0.000             | 27,004            |               |                | 0.000             | 27,004            |                |
| SUPERVISORY PERSONNEL      | 0                                | 1                 | 3                                |                   | 0,000             | 0.180             | 1,829             |               |                | 0.180             | 1,829             |                |
| ENGINEERING PERSONNEL      | 0                                | 1                 | 0                                |                   | 0,000             | 0.820             | 0,110             |               |                | 0.820             | 0,110             |                |
| TOTAL                      | 76                               | 6                 | 220                              |                   | 30,733            | 2,895             | 70,878            |               |                | 2,895             | 70,878            | 104,506        |
| TOTAL BY JOB FUNCTION      |                                  |                   |                                  |                   |                   |                   |                   |               |                |                   |                   |                |
| MAINTENANCE PERSONNEL      | 155                              | 0                 | 595                              |                   | 63,648            | 0.724             | 282,091           |               |                | 0.724             | 282,091           | 346,463        |
| OPERATING PERSONNEL        | 36                               | 14                | 43                               |                   | 24,761            | 5,117             | 12,982            |               |                | 5,117             | 12,982            | 42,860         |
| HEALTH PHYSICS PERSONNEL   | 16                               | 0                 | 284                              |                   | 8,808             | 0.000             | 119,684           |               |                | 0.000             | 119,684           | 128,492        |
| SUPERVISORY PERSONNEL      | 0                                | 2                 | 11                               |                   | 0,000             | 0.577             | 5,304             |               |                | 0.577             | 5,304             | 5,881          |
| ENGINEERING PERSONNEL      | 3                                | 3                 | 6                                |                   | 0,775             | 2,881             | 0,170             |               |                | 2,881             | 0,170             | 3,826          |
| GRAND TOTAL                | 210                              | 19                | 933                              |                   | 97,992            | 9,299             | 420,231           |               |                | 9,299             | 420,231           | 527,522        |

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

PLANT: \* SAN ONOFRE 1 (PWR)

| 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; SURV.</b> |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 2                 | 5                 | 0                 | 0                 | 0                 | 0                 | 7                | 0.154             | 0.000             | 0.000             | 0.000             | 0.595             | 0.000             | 23.716         |
| OPERATING PERSONNEL                   | 20                | 0                 | 0                 | 0                 | 0                 | 0                 | 20               | 9.158             | 0.000             | 0.000             | 0.000             | 7.689             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL              | 24                | 23                | 0                 | 0                 | 0                 | 0                 | 47               | 5.017             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL                 | 1                 | 0                 | 0                 | 0                 | 0                 | 0                 | 1                | 0.110             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                 | 6                 | 1                 | 0                 | 0                 | 0                 | 0                 | 7                | 0.893             | 0.000             | 0.000             | 0.000             | 0.100             | 0.000             |                |
| <b>TOTAL</b>                          | <b>53</b>         | <b>29</b>         | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>82</b>        | <b>15.332</b>     | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>8.384</b>      | <b>0.000</b>      | <b>23.716</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 24                | 96                | 0                 | 0                 | 0                 | 0                 | 120              | 10.416            | 0.000             | 0.000             | 0.000             | 36.653            | 0.000             |                |
| OPERATING PERSONNEL                   | 1                 | 0                 | 0                 | 0                 | 0                 | 0                 | 1                | 0.042             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL              | 7                 | 69                | 0                 | 0                 | 0                 | 0                 | 76               | 0.121             | 0.000             | 0.000             | 0.000             | 29.292            | 0.000             |                |
| SUPERVISORY PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                 | 16                | 26                | 0                 | 0                 | 0                 | 0                 | 42               | 5.349             | 0.000             | 0.000             | 0.000             | 6.612             | 0.000             |                |
| <b>TOTAL</b>                          | <b>48</b>         | <b>191</b>        | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>239</b>       | <b>15.928</b>     | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>72.557</b>     | <b>0.000</b>      | <b>88.485</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 1                 | 1                 | 0                 | 0                 | 0                 | 0                 | 2                | 0.016             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.016          |
| OPERATING PERSONNEL                   | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL              | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| SUPERVISORY PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| <b>TOTAL</b>                          | <b>1</b>          | <b>1</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>2</b>         | <b>0.016</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.016</b>   |
| <b>SPECIAL MAINTENANCE</b>            |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 0                 | 1                 | 0                 | 0                 | 0                 | 0                 | 1                | 0.000             | 0.000             | 0.000             | 0.000             | 0.005             | 0.000             | 0.005          |
| OPERATING PERSONNEL                   | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL              | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| SUPERVISORY PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| <b>TOTAL</b>                          | <b>0</b>          | <b>1</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>1</b>         | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.005</b>      | <b>0.000</b>      | <b>0.005</b>   |
| <b>WASTE PROCESSING</b>               |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 1                 | 9                 | 0                 | 0                 | 0                 | 0                 | 10               | 0.005             | 0.000             | 0.000             | 0.000             | 0.879             | 0.000             | 0.884          |
| OPERATING PERSONNEL                   | 5                 | 0                 | 0                 | 0                 | 0                 | 0                 | 5                | 0.122             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL              | 1                 | 31                | 0                 | 0                 | 0                 | 0                 | 32               | 0.528             | 0.000             | 0.000             | 0.000             | 3.575             | 0.000             |                |
| SUPERVISORY PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL                 | 1                 | 3                 | 0                 | 0                 | 0                 | 0                 | 4                | 0.046             | 0.000             | 0.000             | 0.000             | 0.533             | 0.000             |                |
| <b>TOTAL</b>                          | <b>8</b>          | <b>43</b>         | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>51</b>        | <b>0.701</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>4.987</b>      | <b>0.000</b>      | <b>5.688</b>   |
| <b>REFUELING</b>                      |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 1                 | 0                 | 0                 | 0                 | 0                 | 0                 | 1                | 0.050             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.050          |
| OPERATING PERSONNEL                   | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| HEALTH PHYSICS PERSONNEL              | 0                 | 5                 | 0                 | 0                 | 0                 | 0                 | 5                | 0.000             | 0.000             | 0.000             | 0.000             | 0.131             | 0.000             | 0.131          |
| SUPERVISORY PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| ENGINEERING PERSONNEL                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                 | 0                | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000          |
| <b>TOTAL</b>                          | <b>1</b>          | <b>5</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>6</b>         | <b>0.050</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.131</b>      | <b>0.000</b>      | <b>0.181</b>   |
| <b>TOTAL BY JOB FUNCTION</b>          |                   |                   |                   |                   |                   |                   |                  |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 29 (25)           | 112 (101)         | 0                 | 0                 | 0                 | 0                 | 141 (126)        | 10.641            | 0.000             | 0.000             | 0.000             | 38.132            | 0.000             | 48.773         |
| OPERATING PERSONNEL                   | 26 (20)           | 0 (0)             | 0                 | 0                 | 0                 | 0                 | 26 (20)          | 9.322             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 9.322          |
| HEALTH PHYSICS PERSONNEL              | 32 (25)           | 128 (83)          | 0                 | 0                 | 0                 | 0                 | 160 (108)        | 5.666             | 0.000             | 0.000             | 0.000             | 40.687            | 0.000             | 46.353         |
| SUPERVISORY PERSONNEL                 | 1 (1)             | 0                 | 0                 | 0                 | 0                 | 0                 | 1                | 0.110             | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             | 0.110          |
| ENGINEERING PERSONNEL                 | 23 (21)           | 30 (28)           | 0                 | 0                 | 0                 | 0                 | 53 (49)          | 6.288             | 0.000             | 0.000             | 0.000             | 7.245             | 0.000             | 13.533         |
| <b>GRAND TOTAL</b>                    | <b>111 (92)</b>   | <b>270 (212)</b>  | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>381 (304)</b> | <b>32.027</b>     | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>86.064</b>     | <b>0.000</b>      | <b>118.091</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  
1983

| PLANT: * SEQUOYAH 1,2 (PWR) | NUMBER OF PERSONNEL (>100 M-REM) |                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | STATION EMPLOYEES |                   | STATION EMPLOYEES |                   | TOTAL PERSONS     |                   | TOTAL MAN-REMS    |                   |
|-----------------------------|----------------------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                             | WORK & JOB FUNCTION              | STATION EMPLOYEES | UTILITY EMPLOYEES                | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | STATION EMPLOYEES | UTILITY EMPLOYEES |
| REACTOR OPERATIONS & SURV.  | 188                              | 477               | 6                                |                   | 12,237            | 19,316            | 2,408             |                   |                   | 19,316            | 19,316            | 2,408             |
| MAINTENANCE PERSONNEL       | 86                               | 0                 | 0                                |                   | 8,664             | 0.000             | 0.000             |                   |                   | 8,664             | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 34                               | 0                 | 33                               |                   | 4,686             | 0.000             | 10,758            |                   |                   | 4,686             | 0.000             | 10,758            |
| HEALTH PHYSICS PERSONNEL    | 32                               | 11                | 2                                |                   | 5,011             | 0.720             | 0.128             |                   |                   | 5,011             | 0.720             | 0.128             |
| SUPERVISORY PERSONNEL       | 48                               | 60                | 7                                |                   | 5,296             | 7.044             | 0.315             |                   |                   | 5,296             | 7.044             | 0.315             |
| ENGINEERING PERSONNEL       | 388                              | 548               | 48                               |                   | 35,894            | 27,080            | 13,609            |                   |                   | 35,894            | 27,080            | 13,609            |
| TOTAL                       |                                  |                   |                                  |                   | 984               | 984               | 13,609            |                   |                   | 984               | 27,080            | 13,609            |
| ROUTINE MAINTENANCE         | 197                              | 535               | 3                                |                   | 43,789            | 78,759            | 0.031             |                   |                   | 43,789            | 78,759            | 0.031             |
| MAINTENANCE PERSONNEL       | 86                               | 0                 | 0                                |                   | 6,514             | 0.000             | 0.000             |                   |                   | 6,514             | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 34                               | 0                 | 33                               |                   | 3,573             | 0.000             | 1,906             |                   |                   | 3,573             | 0.000             | 1,906             |
| HEALTH PHYSICS PERSONNEL    | 32                               | 11                | 2                                |                   | 5,408             | 1.753             | 0.109             |                   |                   | 5,408             | 1.753             | 0.109             |
| SUPERVISORY PERSONNEL       | 49                               | 74                | 39                               |                   | 9,364             | 14,430            | 9.045             |                   |                   | 9,364             | 14,430            | 9.045             |
| ENGINEERING PERSONNEL       | 398                              | 620               | 77                               |                   | 68,648            | 94,942            | 11,091            |                   |                   | 68,648            | 94,942            | 11,091            |
| TOTAL                       |                                  |                   |                                  |                   | 1095              | 1095              | 11,091            |                   |                   | 1095              | 94,942            | 11,091            |
| IN-SERVICE INSPECTION       | 37                               | 295               | 0                                |                   | 0.243             | 29.878            | 0.000             |                   |                   | 0.243             | 29.878            | 0.000             |
| MAINTENANCE PERSONNEL       | 38                               | 0                 | 0                                |                   | 0.144             | 0.000             | 0.000             |                   |                   | 0.144             | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 11                               | 0                 | 23                               |                   | 0.284             | 0.000             | 3,916             |                   |                   | 0.284             | 0.000             | 3,916             |
| HEALTH PHYSICS PERSONNEL    | 7                                | 7                 | 1                                |                   | 0.208             | 0.310             | 0.000             |                   |                   | 0.208             | 0.310             | 0.000             |
| SUPERVISORY PERSONNEL       | 32                               | 48                | 32                               |                   | 2,770             | 9.914             | 15,743            |                   |                   | 2,770             | 9.914             | 15,743            |
| ENGINEERING PERSONNEL       | 125                              | 350               | 56                               |                   | 3,649             | 40.102            | 19,659            |                   |                   | 3,649             | 40.102            | 19,659            |
| TOTAL                       |                                  |                   |                                  |                   | 531               | 531               | 19,659            |                   |                   | 531               | 40.102            | 19,659            |
| SPECIAL MAINTENANCE         | 174                              | 508               | 0                                |                   | 3,435             | 91,244            | 0.000             |                   |                   | 3,435             | 91,244            | 0.000             |
| MAINTENANCE PERSONNEL       | 75                               | 0                 | 0                                |                   | 0.445             | 0.000             | 0.000             |                   |                   | 0.445             | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 25                               | 0                 | 21                               |                   | 0.586             | 0.000             | 0.311             |                   |                   | 0.586             | 0.000             | 0.311             |
| HEALTH PHYSICS PERSONNEL    | 24                               | 8                 | 2                                |                   | 0.255             | 0.266             | 0.006             |                   |                   | 0.255             | 0.266             | 0.006             |
| SUPERVISORY PERSONNEL       | 46                               | 49                | 9                                |                   | 4.038             | 8.542             | 0.636             |                   |                   | 4.038             | 8.542             | 0.636             |
| ENGINEERING PERSONNEL       | 344                              | 565               | 32                               |                   | 8,759             | 100.052           | 0.953             |                   |                   | 8,759             | 100.052           | 0.953             |
| TOTAL                       |                                  |                   |                                  |                   | 941               | 941               | 109,764           |                   |                   | 941               | 109,764           | 109,764           |
| WASIE PROCESSING            | 158                              | 239               | 2                                |                   | 3,545             | 3,006             | 0.250             |                   |                   | 3,545             | 3,006             | 0.250             |
| MAINTENANCE PERSONNEL       | 81                               | 0                 | 0                                |                   | 7,768             | 0.000             | 0.000             |                   |                   | 7,768             | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 32                               | 0                 | 20                               |                   | 1,586             | 0.000             | 0.164             |                   |                   | 1,586             | 0.000             | 0.164             |
| HEALTH PHYSICS PERSONNEL    | 15                               | 2                 | 0                                |                   | 0.458             | 0.010             | 0.000             |                   |                   | 0.458             | 0.010             | 0.000             |
| SUPERVISORY PERSONNEL       | 28                               | 11                | 0                                |                   | 0.033             | 0.040             | 0.000             |                   |                   | 0.033             | 0.040             | 0.000             |
| ENGINEERING PERSONNEL       | 314                              | 252               | 22                               |                   | 13,390            | 3,056             | 0.414             |                   |                   | 13,390            | 3,056             | 0.414             |
| TOTAL                       |                                  |                   |                                  |                   | 588               | 588               | 16,860            |                   |                   | 588               | 16,860            | 16,860            |
| REFUELING                   | 113                              | 309               | 1                                |                   | 4,106             | 44,872            | 0.115             |                   |                   | 4,106             | 44,872            | 0.115             |
| MAINTENANCE PERSONNEL       | 43                               | 0                 | 0                                |                   | 3,081             | 0.000             | 0.000             |                   |                   | 3,081             | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 8                                | 0                 | 20                               |                   | 0.024             | 0.000             | 1,893             |                   |                   | 0.024             | 0.000             | 1,893             |
| HEALTH PHYSICS PERSONNEL    | 17                               | 6                 | 1                                |                   | 2,070             | 0.069             | 0.002             |                   |                   | 2,070             | 0.069             | 0.002             |
| SUPERVISORY PERSONNEL       | 42                               | 31                | 0                                |                   | 2,955             | 6.552             | 0.000             |                   |                   | 2,955             | 6.552             | 0.000             |
| ENGINEERING PERSONNEL       | 223                              | 346               | 22                               |                   | 12,236            | 51,493            | 2,010             |                   |                   | 12,236            | 51,493            | 2,010             |
| TOTAL                       |                                  |                   |                                  |                   | 591               | 591               | 65,739            |                   |                   | 591               | 65,739            | 65,739            |
| TOTAL BY JOB FUNCTION       | 867                              | 2363              | 12                               |                   | 67,355            | 267,075           | 2,804             |                   |                   | 67,355            | 267,075           | 2,804             |
| MAINTENANCE PERSONNEL       | 409                              | 0                 | 0                                |                   | 26,616            | 0.000             | 0.000             |                   |                   | 26,616            | 0.000             | 0.000             |
| OPERATING PERSONNEL         | 144                              | 0                 | 150                              |                   | 10,739            | 0.000             | 18,948            |                   |                   | 10,739            | 0.000             | 18,948            |
| HEALTH PHYSICS PERSONNEL    | 127                              | 45                | 8                                |                   | 13,410            | 3,128             | 0.245             |                   |                   | 13,410            | 3,128             | 0.245             |
| SUPERVISORY PERSONNEL       | 245                              | 273               | 87                               |                   | 24,456            | 46,522            | 25,739            |                   |                   | 24,456            | 46,522            | 25,739            |
| ENGINEERING PERSONNEL       | 1792                             | 2681              | 257                              |                   | 142,576           | 316,725           | 47,736            |                   |                   | 142,576           | 316,725           | 47,736            |
| GRAND TOTAL                 |                                  |                   |                                  |                   | 4730              | 4730              | 507,037           |                   |                   | 4730              | 507,037           | 507,037           |

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



APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

| PLANT: ST LUCIE 1,2 (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 FUNCTIONS &amp; SURV.</b> |                                  |                   |                   |               |                   |                   |                   |                 |
| REACTOR OPERATIONS PERSONNEL                | 2                                | 0                 | 0                 | 0             | 0.440             | 0.000             | 0.000             | 0.440           |
| MAINTENANCE PERSONNEL                       | 5                                | 0                 | 0                 | 0             | 2.970             | 0.000             | 0.000             | 2.970           |
| OPERATING PERSONNEL                         | 0                                | 0                 | 0                 | 0             | 0.130             | 0.000             | 0.000             | 0.130           |
| HEALTH PHYSICS PERSONNEL                    | 2                                | 0                 | 0                 | 0             | 0.600             | 0.000             | 0.000             | 0.600           |
| SUPERVISORY PERSONNEL                       | 1                                | 0                 | 0                 | 0             | 0.310             | 0.000             | 0.000             | 0.310           |
| ENGINEERING PERSONNEL                       | 10                               | 0                 | 0                 | 10            | 4.450             | 0.000             | 0.240             | 4.690           |
| <b>TOTAL</b>                                | <b>18</b>                        | <b>0</b>          | <b>0</b>          | <b>18</b>     | <b>11.320</b>     | <b>0.000</b>      | <b>0.240</b>      | <b>11.560</b>   |
| <b>ROUTINE MAINTENANCE</b>                  |                                  |                   |                   |               |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                       | 47                               | 18                | 90                | 90            | 32.300            | 11.320            | 47.520            | 47.520          |
| OPERATING PERSONNEL                         | 8                                | 2                 | 0                 | 0             | 5.370             | 1.550             | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL                    | 3                                | 0                 | 6                 | 6             | 3.170             | 0.000             | 5.800             | 5.800           |
| SUPERVISORY PERSONNEL                       | 8                                | 0                 | 6                 | 6             | 3.110             | 0.000             | 2.850             | 2.850           |
| ENGINEERING PERSONNEL                       | 0                                | 0                 | 1                 | 1             | 0.000             | 0.000             | 1.400             | 1.400           |
| <b>TOTAL</b>                                | <b>66</b>                        | <b>20</b>         | <b>103</b>        | <b>189</b>    | <b>43.950</b>     | <b>12.870</b>     | <b>57.570</b>     | <b>114.390</b>  |
| <b>IN-SERVICE INSPECTION</b>                |                                  |                   |                   |               |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                       | 5                                | 3                 | 86                | 86            | 2.970             | 2.170             | 56.940            | 56.940          |
| OPERATING PERSONNEL                         | 3                                | 0                 | 0                 | 0             | 0.770             | 0.000             | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL                    | 2                                | 0                 | 3                 | 3             | 2.070             | 0.000             | 3.780             | 3.780           |
| SUPERVISORY PERSONNEL                       | 2                                | 0                 | 5                 | 5             | 0.930             | 0.000             | 3.000             | 3.000           |
| ENGINEERING PERSONNEL                       | 3                                | 0                 | 1                 | 1             | 0.600             | 0.000             | 0.900             | 0.900           |
| <b>TOTAL</b>                                | <b>15</b>                        | <b>3</b>          | <b>95</b>         | <b>113</b>    | <b>7.340</b>      | <b>2.170</b>      | <b>64.620</b>     | <b>74.130</b>   |
| <b>SPECIAL MAINTENANCE **</b>               |                                  |                   |                   |               |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                       | 73                               | 1                 | 566               | 566           | 54.390            | 0.590             | 486.830           | 486.830         |
| OPERATING PERSONNEL                         | 6                                | 0                 | 0                 | 0             | 2.590             | 0.000             | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL                    | 12                               | 0                 | 25                | 25            | 19.140            | 0.000             | 35.000            | 35.000          |
| SUPERVISORY PERSONNEL                       | 17                               | 0                 | 50                | 50            | 8.660             | 0.000             | 46.680            | 46.680          |
| ENGINEERING PERSONNEL                       | 1                                | 0                 | 28                | 28            | 0.300             | 0.000             | 32.790            | 32.790          |
| <b>TOTAL</b>                                | <b>109</b>                       | <b>1</b>          | <b>669</b>        | <b>779</b>    | <b>85.080</b>     | <b>0.590</b>      | <b>601.300</b>    | <b>686.970</b>  |
| <b>WASTE PROCESSING</b>                     |                                  |                   |                   |               |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                       | 0                                | 0                 | 58                | 58            | 0.000             | 0.000             | 58.420            | 58.420          |
| OPERATING PERSONNEL                         | 0                                | 0                 | 0                 | 0             | 0.000             | 0.000             | 0.000             | 0.000           |
| HEALTH PHYSICS PERSONNEL                    | 1                                | 0                 | 2                 | 2             | 1.810             | 0.000             | 3.310             | 3.310           |
| SUPERVISORY PERSONNEL                       | 0                                | 0                 | 3                 | 3             | 0.780             | 0.000             | 0.910             | 0.910           |
| ENGINEERING PERSONNEL                       | 0                                | 0                 | 0                 | 0             | 0.000             | 0.000             | 0.000             | 0.000           |
| <b>TOTAL</b>                                | <b>2</b>                         | <b>0</b>          | <b>63</b>         | <b>65</b>     | <b>2.590</b>      | <b>0.000</b>      | <b>62.640</b>     | <b>65.230</b>   |
| <b>REFUELING</b>                            |                                  |                   |                   |               |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                       | 30                               | 25                | 75                | 75            | 31.110            | 34.230            | 33.990            | 33.990          |
| OPERATING PERSONNEL                         | 52                               | 1                 | 5                 | 5             | 20.430            | 0.630             | 2.570             | 2.570           |
| HEALTH PHYSICS PERSONNEL                    | 3                                | 0                 | 7                 | 7             | 3.930             | 0.000             | 7.180             | 7.180           |
| SUPERVISORY PERSONNEL                       | 8                                | 0                 | 3                 | 3             | 3.370             | 0.000             | 1.650             | 1.650           |
| ENGINEERING PERSONNEL                       | 0                                | 0                 | 4                 | 4             | 0.000             | 0.000             | 1.870             | 1.870           |
| <b>TOTAL</b>                                | <b>93</b>                        | <b>26</b>         | <b>94</b>         | <b>213</b>    | <b>58.840</b>     | <b>34.860</b>     | <b>47.260</b>     | <b>140.960</b>  |
| <b>TOTAL BY JOB FUNCTION</b>                |                                  |                   |                   |               |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                       | 157                              | 47                | 875               | 1079          | 121.210           | 48.310            | 683.700           | 853.220         |
| OPERATING PERSONNEL                         | 74                               | 3                 | 5                 | 82            | 32.130            | 2.180             | 2.570             | 36.880          |
| HEALTH PHYSICS PERSONNEL                    | 21                               | 0                 | 43                | 64            | 30.250            | 0.000             | 55.310            | 85.560          |
| SUPERVISORY PERSONNEL                       | 38                               | 0                 | 67                | 105           | 17.450            | 0.000             | 55.090            | 72.540          |
| ENGINEERING PERSONNEL                       | 5                                | 0                 | 34                | 39            | 1.210             | 0.000             | 36.960            | 38.170          |
| <b>GRAND TOTAL</b>                          | <b>295</b>                       | <b>50</b>         | <b>1024</b>       | <b>1369</b>   | <b>202.250</b>    | <b>50.490</b>     | <b>833.630</b>    | <b>1086.370</b> |

\*\*Includes ICI flange mods., seal water injection mods., core cooling mods., core barrel repair, thermal shield removal and feedwater nozzle replacement.

APPENDIX C

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

PLANT: \*SURRY 1,2 (PWR)

1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   |               | NUMBER OF PERSONNEL (>100 M-REM) |                   |                   |                | TOTAL             |                   |                   |                |
|---------------------------------------|----------------------------------|-------------------|-------------------|---------------|----------------------------------|-------------------|-------------------|----------------|-------------------|-------------------|-------------------|----------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL PERSONS | STATION EMPLOYEES                | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS | STATION EMPLOYEES | UTILITY EMPLOYEES | CONTRACT & OTHERS | TOTAL MAN-REMS |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 172                              | 65                | 170               |               | 55,642                           | 3,345             | 16,366            |                |                   |                   |                   |                |
| OPERATING PERSONNEL                   | 192                              | 13                | 10                |               | 206,335                          | 0,128             | 0,446             |                |                   |                   |                   |                |
| HEALTH PHYSICS PERSONNEL              | 33                               | 12                | 139               |               | 43,141                           | 5,119             | 121,448           |                |                   |                   |                   |                |
| SUPERVISORY PERSONNEL                 | 70                               | 3                 | 3                 |               | 34,164                           | 0,268             | 0,103             |                |                   |                   |                   |                |
| ENGINEERING PERSONNEL                 | 34                               | 7                 | 60                |               | 6,757                            | 0,196             | 7,164             |                |                   |                   |                   |                |
| <b>TOTAL</b>                          | <b>501</b>                       | <b>100</b>        | <b>382</b>        | <b>983</b>    | <b>346,039</b>                   | <b>9,036</b>      | <b>145,527</b>    |                |                   |                   | <b>500,622</b>    |                |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 179                              | 139               | 599               |               | 433,266                          | 167,396           | 703,560           |                |                   |                   |                   |                |
| OPERATING PERSONNEL                   | 127                              | 31                | 45                |               | 41,877                           | 4,103             | 20,360            |                |                   |                   |                   |                |
| HEALTH PHYSICS PERSONNEL              | 42                               | 8                 | 206               |               | 9,716                            | 0,116             | 96,205            |                |                   |                   |                   |                |
| SUPERVISORY PERSONNEL                 | 64                               | 5                 | 7                 |               | 60,513                           | 3,733             | 0,171             |                |                   |                   |                   |                |
| ENGINEERING PERSONNEL                 | 41                               | 16                | 163               |               | 21,670                           | 0,899             | 42,943            |                |                   |                   |                   |                |
| <b>TOTAL</b>                          | <b>453</b>                       | <b>199</b>        | <b>1020</b>       | <b>1672</b>   | <b>567,042</b>                   | <b>176,247</b>    | <b>863,239</b>    |                |                   |                   | <b>1606,528</b>   |                |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 13                               | 4                 | 49                |               | 1,765                            | 0,764             | 7,418             |                |                   |                   |                   |                |
| OPERATING PERSONNEL                   | 34                               | 4                 | 1                 |               | 7,822                            | 0,040             | 0,011             |                |                   |                   |                   |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 1                 |               | 0,000                            | 0,000             | 0,002             |                |                   |                   |                   |                |
| SUPERVISORY PERSONNEL                 | 3                                | 0                 | 0                 |               | 0,108                            | 0,000             | 0,000             |                |                   |                   |                   |                |
| ENGINEERING PERSONNEL                 | 28                               | 4                 | 29                |               | 14,788                           | 0,051             | 10,008            |                |                   |                   |                   |                |
| <b>TOTAL</b>                          | <b>78</b>                        | <b>12</b>         | <b>80</b>         | <b>170</b>    | <b>24,483</b>                    | <b>0,855</b>      | <b>17,439</b>     |                |                   |                   | <b>42,777</b>     |                |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 65                               | 23                | 339               |               | 6,484                            | 1,428             | 329,755           |                |                   |                   |                   |                |
| OPERATING PERSONNEL                   | 16                               | 27                | 35                |               | 0,812                            | 5,078             | 15,770            |                |                   |                   |                   |                |
| HEALTH PHYSICS PERSONNEL              | 2                                | 4                 | 49                |               | 0,011                            | 0,085             | 4,499             |                |                   |                   |                   |                |
| SUPERVISORY PERSONNEL                 | 10                               | 1                 | 7                 |               | 0,738                            | 0,004             | 0,175             |                |                   |                   |                   |                |
| ENGINEERING PERSONNEL                 | 10                               | 26                | 48                |               | 0,678                            | 7,366             | 14,203            |                |                   |                   |                   |                |
| <b>TOTAL</b>                          | <b>103</b>                       | <b>81</b>         | <b>478</b>        | <b>662</b>    | <b>8,723</b>                     | <b>13,961</b>     | <b>364,402</b>    |                |                   |                   | <b>387,086</b>    |                |
| <b>WASTE PROCESSING</b>               |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 40                               | 0                 | 91                |               | 7,744                            | 0,000             | 8,973             |                |                   |                   |                   |                |
| OPERATING PERSONNEL                   | 43                               | 1                 | 11                |               | 26,714                           | 0,002             | 0,553             |                |                   |                   |                   |                |
| HEALTH PHYSICS PERSONNEL              | 28                               | 3                 | 206               |               | 31,020                           | 0,053             | 153,352           |                |                   |                   |                   |                |
| SUPERVISORY PERSONNEL                 | 10                               | 0                 | 2                 |               | 6,270                            | 0,000             | 0,060             |                |                   |                   |                   |                |
| ENGINEERING PERSONNEL                 | 9                                | 1                 | 11                |               | 3,787                            | 0,001             | 0,959             |                |                   |                   |                   |                |
| <b>TOTAL</b>                          | <b>130</b>                       | <b>5</b>          | <b>321</b>        | <b>456</b>    | <b>75,535</b>                    | <b>0,056</b>      | <b>163,877</b>    |                |                   |                   | <b>239,468</b>    |                |
| <b>REFUELING</b>                      |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 44                               | 44                | 16                |               | 5,907                            | 13,158            | 2,489             |                |                   |                   |                   |                |
| OPERATING PERSONNEL                   | 40                               | 9                 | 2                 |               | 7,326                            | 1,139             | 1,192             |                |                   |                   |                   |                |
| HEALTH PHYSICS PERSONNEL              | 5                                | 0                 | 20                |               | 0,659                            | 0,000             | 1,343             |                |                   |                   |                   |                |
| SUPERVISORY PERSONNEL                 | 14                               | 4                 | 0                 |               | 4,050                            | 0,000             | 0,000             |                |                   |                   |                   |                |
| ENGINEERING PERSONNEL                 | 17                               | 0                 | 16                |               | 1,397                            | 0,000             | 5,864             |                |                   |                   |                   |                |
| <b>TOTAL</b>                          | <b>110</b>                       | <b>57</b>         | <b>54</b>         | <b>221</b>    | <b>19,139</b>                    | <b>15,059</b>     | <b>10,868</b>     |                |                   |                   | <b>45,066</b>     |                |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                   |               |                                  |                   |                   |                |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 513                              | 275               | 1264              | 2052          | 510,808                          | 186,091           | 1068,561          |                |                   |                   | 1765,460          |                |
| OPERATING PERSONNEL                   | 452                              | 85                | 104               | 641           | 290,886                          | 10,490            | 38,332            |                |                   |                   | 339,708           |                |
| HEALTH PHYSICS PERSONNEL              | 110                              | 27                | 621               | 758           | 84,347                           | 5,373             | 376,829           |                |                   |                   | 466,549           |                |
| SUPERVISORY PERSONNEL                 | 171                              | 13                | 19                | 203           | 105,843                          | 4,767             | 0,509             |                |                   |                   | 111,119           |                |
| ENGINEERING PERSONNEL                 | 129                              | 54                | 327               | 510           | 49,077                           | 8,513             | 81,121            |                |                   |                   | 138,711           |                |
| <b>GRAND TOTAL</b>                    | <b>1375</b>                      | <b>454</b>        | <b>2335</b>       | <b>4164</b>   | <b>1040,961</b>                  | <b>215,234</b>    | <b>1565,352</b>   |                |                   |                   | <b>2821,547</b>   |                |

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

APPENDIX C  
NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
1983

| PLANT: * THREE MILE ISLAND 1 (PWR)    | STATION EMPLOYEES |            | UTILITY EMPLOYEES |            | CONTRACT & OTHERS |            | TOTAL PERSONS      | STATION EMPLOYEES |                   | UTILITY EMPLOYEES |                   | CONTRACT & OTHERS |                   | TOTAL MAN-REMS |
|---------------------------------------|-------------------|------------|-------------------|------------|-------------------|------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
|                                       | EMPLOYEES         | >100 M-REM | EMPLOYEES         | >100 M-REM | EMPLOYEES         | >100 M-REM | PERSONS            | EMPLOYEES         | CONTRACT & OTHERS | EMPLOYEES         | CONTRACT & OTHERS | EMPLOYEES         | CONTRACT & OTHERS | MAN-REMS       |
| <b>WORK &amp; JOB FUNCTION</b>        |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 147               |            | 1                 |            | 50                |            |                    | 1,747             |                   | 0.008             |                   | 0.201             |                   |                |
| OPERATING PERSONNEL                   | 191               |            | 27                |            | 30                |            |                    | 12,579            |                   | 0.030             |                   | 0.167             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 99                |            | 6                 |            | 27                |            |                    | 34,667            |                   | 0.020             |                   | 2.819             |                   |                |
| SUPERVISORY PERSONNEL                 | 80                |            | 4                 |            | 22                |            |                    | 2,374             |                   | 0.027             |                   | 0.061             |                   |                |
| ENGINEERING PERSONNEL                 | 77                |            | 17                |            | 57                |            |                    | 2,411             |                   | 0.081             |                   | 0.230             |                   |                |
| <b>TOTAL</b>                          | <b>594</b>        |            | <b>55</b>         |            | <b>186</b>        |            | <b>835</b>         | <b>53,778</b>     |                   | <b>0.166</b>      |                   | <b>3.478</b>      |                   | <b>57.422</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 185               |            | 1                 |            | 52                |            |                    | 15,647            |                   | 0.000             |                   | 0.301             |                   |                |
| OPERATING PERSONNEL                   | 135               |            | 0                 |            | 8                 |            |                    | 0,446             |                   | 0.000             |                   | 0.061             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 78                |            | 0                 |            | 3                 |            |                    | 1,622             |                   | 0.000             |                   | 0.007             |                   |                |
| SUPERVISORY PERSONNEL                 | 55                |            | 0                 |            | 8                 |            |                    | 0,919             |                   | 0.000             |                   | 0.016             |                   |                |
| ENGINEERING PERSONNEL                 | 21                |            | 4                 |            | 19                |            |                    | 0,240             |                   | 0.012             |                   | 0.053             |                   |                |
| <b>TOTAL</b>                          | <b>474</b>        |            | <b>5</b>          |            | <b>90</b>         |            | <b>569</b>         | <b>18,874</b>     |                   | <b>0.012</b>      |                   | <b>0.438</b>      |                   | <b>19.324</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 57                |            | 1                 |            | 48                |            |                    | 1,428             |                   | 0.002             |                   | 1.030             |                   |                |
| OPERATING PERSONNEL                   | 48                |            | 2                 |            | 10                |            |                    | 0,664             |                   | 0.109             |                   | 0.049             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 44                |            | 0                 |            | 1                 |            |                    | 0,347             |                   | 0.000             |                   | 0.000             |                   |                |
| SUPERVISORY PERSONNEL                 | 31                |            | 0                 |            | 4                 |            |                    | 0,779             |                   | 0.000             |                   | 0.157             |                   |                |
| ENGINEERING PERSONNEL                 | 17                |            | 10                |            | 41                |            |                    | 1,584             |                   | 0.038             |                   | 4.450             |                   |                |
| <b>TOTAL</b>                          | <b>197</b>        |            | <b>13</b>         |            | <b>104</b>        |            | <b>314</b>         | <b>4,802</b>      |                   | <b>0.149</b>      |                   | <b>5.686</b>      |                   | <b>10.637</b>  |
| <b>SPECIAL MAINTENANCE</b>            |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 183               |            | 5                 |            | 283               |            |                    | 145,134           |                   | 5.727             |                   | 447.364           |                   |                |
| OPERATING PERSONNEL                   | 121               |            | 3                 |            | 22                |            |                    | 63,938            |                   | 0.034             |                   | 9.607             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 62                |            | 0                 |            | 6                 |            |                    | 15,549            |                   | 0.000             |                   | 0.572             |                   |                |
| SUPERVISORY PERSONNEL                 | 72                |            | 1                 |            | 29                |            |                    | 29,395            |                   | 0.004             |                   | 22.262            |                   |                |
| ENGINEERING PERSONNEL                 | 56                |            | 23                |            | 89                |            |                    | 6,190             |                   | 1.151             |                   | 35.901            |                   |                |
| <b>TOTAL</b>                          | <b>494</b>        |            | <b>32</b>         |            | <b>429</b>        |            | <b>955</b>         | <b>260,206</b>    |                   | <b>6.916</b>      |                   | <b>515.706</b>    |                   | <b>782.828</b> |
| <b>WASTE PROCESSING</b>               |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 90                |            | 3                 |            | 31                |            |                    | 14,631            |                   | 0.170             |                   | 0.240             |                   |                |
| OPERATING PERSONNEL                   | 78                |            | 0                 |            | 4                 |            |                    | 10,380            |                   | 0.000             |                   | 0.064             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 57                |            | 0                 |            | 6                 |            |                    | 1,006             |                   | 0.000             |                   | 0.878             |                   |                |
| SUPERVISORY PERSONNEL                 | 23                |            | 0                 |            | 5                 |            |                    | 2,495             |                   | 0.000             |                   | 0.331             |                   |                |
| ENGINEERING PERSONNEL                 | 6                 |            | 1                 |            | 5                 |            |                    | 1,430             |                   | 0.000             |                   | 0.028             |                   |                |
| <b>TOTAL</b>                          | <b>254</b>        |            | <b>4</b>          |            | <b>51</b>         |            | <b>309</b>         | <b>29,942</b>     |                   | <b>0.170</b>      |                   | <b>1.541</b>      |                   | <b>31.653</b>  |
| <b>REFUELING</b>                      |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 1                 |            | 0                 |            | 0                 |            |                    | 0,002             |                   | 0.000             |                   | 0.000             |                   |                |
| OPERATING PERSONNEL                   | 0                 |            | 0                 |            | 0                 |            |                    | 0,000             |                   | 0.000             |                   | 0.000             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 0                 |            | 0                 |            | 0                 |            |                    | 0,000             |                   | 0.000             |                   | 0.000             |                   |                |
| SUPERVISORY PERSONNEL                 | 1                 |            | 0                 |            | 0                 |            |                    | 0,000             |                   | 0.000             |                   | 0.000             |                   |                |
| ENGINEERING PERSONNEL                 | 0                 |            | 0                 |            | 0                 |            |                    | 0,000             |                   | 0.000             |                   | 0.000             |                   |                |
| <b>TOTAL</b>                          | <b>2</b>          |            | <b>0</b>          |            | <b>0</b>          |            | <b>2</b>           | <b>0.002</b>      |                   | <b>0.000</b>      |                   | <b>0.000</b>      |                   | <b>0.002</b>   |
| <b>TOTAL BY JOB FUNCTION</b>          |                   |            |                   |            |                   |            |                    |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 663 (214)         |            | 11 (8)            |            | 464 (291)         |            | 1138 (513)         | 178,589           |                   | 5.907             |                   | 449.136           |                   | 633.632        |
| OPERATING PERSONNEL                   | 573 (220)         |            | 32 (28)           |            | 74 (42)           |            | 679 (290)          | 88,007            |                   | 0.173             |                   | 9.948             |                   | 98.128         |
| HEALTH PHYSICS PERSONNEL              | 340 (112)         |            | 6 (6)             |            | 43 (35)           |            | 389 (153)          | 53,191            |                   | 0.020             |                   | 4.276             |                   | 57.487         |
| SUPERVISORY PERSONNEL                 | 262 (102)         |            | 5 (4)             |            | 68 (43)           |            | 335 (149)          | 35,962            |                   | 0.031             |                   | 22.820            |                   | 58.820         |
| ENGINEERING PERSONNEL                 | 177 (89)          |            | 55 (36)           |            | 211 (140)         |            | 443 (265)          | 11,855            |                   | 1.282             |                   | 40.662            |                   | 53.799         |
| <b>GRAND TOTAL</b>                    | <b>2015 (737)</b> |            | <b>109 (82)</b>   |            | <b>860 (551)</b>  |            | <b>2984 (1370)</b> | <b>367,604</b>    |                   | <b>7.413</b>      |                   | <b>526.849</b>    |                   | <b>901.866</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: THREE MILE ISLAND 2 (PWR)

1983

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 |
|---------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
|                                       | 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                 | 99                | 123               | 3                 |                   |                   |                   | 123            | 2,183             | 0.005             |                   |                   | 1,381             |                   |                |
| OPERATING PERSONNEL                   | 110               | 23                | 13                |                   |                   |                   | 23             | 5,975             | 0.002             |                   |                   | 0.113             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 117               | 43                | 0                 |                   |                   |                   | 43             | 17,111            | 0.000             |                   |                   | 2,786             |                   |                |
| SUPERVISORY PERSONNEL                 | 64                | 16                | 0                 |                   |                   |                   | 16             | 0,595             | 0.000             |                   |                   | 0,316             |                   |                |
| ENGINEERING PERSONNEL                 | 35                | 85                | 1                 |                   |                   |                   | 85             | 1,297             | 0.000             |                   |                   | 2,985             |                   |                |
| <b>TOTAL</b>                          | <b>425</b>        | <b>290</b>        | <b>17</b>         |                   |                   | <b>732</b>        |                | <b>27,161</b>     | <b>0.007</b>      |                   |                   | <b>7,581</b>      |                   | <b>34,749</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                   |                   |                   |                   |                   |                   |                |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 99                | 124               | 1                 |                   |                   |                   | 124            | 7,731             | 0.000             |                   |                   | 3,935             |                   |                |
| OPERATING PERSONNEL                   | 47                | 7                 | 0                 |                   |                   |                   | 7              | 1,327             | 0.000             |                   |                   | 0,476             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 67                | 21                | 0                 |                   |                   |                   | 21             | 2,777             | 0.000             |                   |                   | 1,155             |                   |                |
| SUPERVISORY PERSONNEL                 | 28                | 7                 | 0                 |                   |                   |                   | 7              | 0,258             | 0.000             |                   |                   | 0,028             |                   |                |
| ENGINEERING PERSONNEL                 | 14                | 29                | 1                 |                   |                   |                   | 29             | 0,045             | 0.000             |                   |                   | 0,039             |                   |                |
| <b>TOTAL</b>                          | <b>255</b>        | <b>188</b>        | <b>2</b>          |                   |                   | <b>445</b>        |                | <b>12,138</b>     | <b>0.000</b>      |                   |                   | <b>5,633</b>      |                   | <b>17,771</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                   |                   |                   |                   |                   |                   |                |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 14                | 2                 | 0                 |                   |                   |                   | 2              | 1,860             | 0.000             |                   |                   | 0,274             |                   |                |
| OPERATING PERSONNEL                   | 7                 | 3                 | 0                 |                   |                   |                   | 3              | 1,153             | 0.000             |                   |                   | 0,295             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 2                 | 1                 | 0                 |                   |                   |                   | 1              | 0,352             | 0.000             |                   |                   | 0,557             |                   |                |
| SUPERVISORY PERSONNEL                 | 2                 | 1                 | 0                 |                   |                   |                   | 1              | 0,158             | 0.000             |                   |                   | 0,025             |                   |                |
| ENGINEERING PERSONNEL                 | 1                 | 11                | 0                 |                   |                   |                   | 11             | 0,098             | 0.000             |                   |                   | 1,945             |                   |                |
| <b>TOTAL</b>                          | <b>26</b>         | <b>18</b>         | <b>0</b>          |                   |                   | <b>44</b>         |                | <b>3,621</b>      | <b>0.000</b>      |                   |                   | <b>3,096</b>      |                   | <b>6,717</b>   |
| <b>SPECIAL MAINTENANCE</b>            |                   |                   |                   |                   |                   |                   |                |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 96                | 179               | 1                 |                   |                   |                   | 179            | 70,771            | 0.000             |                   |                   | 160,940           |                   |                |
| OPERATING PERSONNEL                   | 86                | 10                | 0                 |                   |                   |                   | 10             | 21,806            | 0.000             |                   |                   | 4,388             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 106               | 29                | 0                 |                   |                   |                   | 29             | 62,515            | 0.000             |                   |                   | 7,424             |                   |                |
| SUPERVISORY PERSONNEL                 | 36                | 17                | 0                 |                   |                   |                   | 17             | 7,128             | 0.000             |                   |                   | 4,031             |                   |                |
| ENGINEERING PERSONNEL                 | 23                | 66                | 1                 |                   |                   |                   | 66             | 2,782             | 0.000             |                   |                   | 18,767            |                   |                |
| <b>TOTAL</b>                          | <b>347</b>        | <b>301</b>        | <b>2</b>          |                   |                   | <b>650</b>        |                | <b>165,002</b>    | <b>0.000</b>      |                   |                   | <b>195,550</b>    |                   | <b>360,552</b> |
| <b>WASTE PROCESSING</b>               |                   |                   |                   |                   |                   |                   |                |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 105               | 119               | 2                 |                   |                   |                   | 119            | 5,263             | 1.126             |                   |                   | 3,236             |                   |                |
| OPERATING PERSONNEL                   | 122               | 17                | 2                 |                   |                   |                   | 17             | 8,859             | 0.005             |                   |                   | 0,523             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 110               | 40                | 0                 |                   |                   |                   | 40             | 9,527             | 0.092             |                   |                   | 0,981             |                   |                |
| SUPERVISORY PERSONNEL                 | 53                | 14                | 0                 |                   |                   |                   | 14             | 1,829             | 0.000             |                   |                   | 0,018             |                   |                |
| ENGINEERING PERSONNEL                 | 38                | 70                | 0                 |                   |                   |                   | 70             | 0,260             | 0.000             |                   |                   | 0,283             |                   |                |
| <b>TOTAL</b>                          | <b>428</b>        | <b>260</b>        | <b>4</b>          |                   |                   | <b>692</b>        |                | <b>25,738</b>     | <b>1.223</b>      |                   |                   | <b>5,041</b>      |                   | <b>32,002</b>  |
| <b>REFUELING</b>                      |                   |                   |                   |                   |                   |                   |                |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 0                 | 0                 | 0                 |                   |                   |                   | 0              | 0,000             | 0.000             |                   |                   | 0,000             |                   |                |
| OPERATING PERSONNEL                   | 0                 | 0                 | 0                 |                   |                   |                   | 0              | 0,000             | 0.000             |                   |                   | 0,000             |                   |                |
| HEALTH PHYSICS PERSONNEL              | 0                 | 0                 | 0                 |                   |                   |                   | 0              | 0,000             | 0.000             |                   |                   | 0,000             |                   |                |
| SUPERVISORY PERSONNEL                 | 0                 | 0                 | 0                 |                   |                   |                   | 0              | 0,000             | 0.000             |                   |                   | 0,000             |                   |                |
| ENGINEERING PERSONNEL                 | 0                 | 0                 | 0                 |                   |                   |                   | 0              | 0,000             | 0.000             |                   |                   | 0,000             |                   |                |
| <b>TOTAL</b>                          | <b>0</b>          | <b>0</b>          | <b>0</b>          |                   |                   | <b>0</b>          |                | <b>0,000</b>      | <b>0.000</b>      |                   |                   | <b>0,000</b>      |                   | <b>0,000</b>   |
| <b>TOTAL BY JOB FUNCTION</b>          |                   |                   |                   |                   |                   |                   |                |                   |                   |                   |                   |                   |                   |                |
| MAINTENANCE PERSONNEL                 | 413 (124)         | 547 (191)         | 7 (2)             |                   |                   |                   | 967 (317)      | 87,808            | 1.131             |                   |                   | 169,766           |                   | 258,705        |
| OPERATING PERSONNEL                   | 372 (151)         | 60 (32)           | 15 (15)           |                   |                   |                   | 447 (198)      | 39,120            | 0.007             |                   |                   | 5,795             |                   | 44,922         |
| HEALTH PHYSICS PERSONNEL              | 402 (118)         | 134 (49)          | 0                 |                   |                   |                   | 536 (167)      | 92,282            | 0.092             |                   |                   | 12,903            |                   | 105,277        |
| SUPERVISORY PERSONNEL                 | 183 (83)          | 55 (28)           | 0                 |                   |                   |                   | 238 (111)      | 9,968             | 0.000             |                   |                   | 4,418             |                   | 14,386         |
| ENGINEERING PERSONNEL                 | 111 (56)          | 261 (134)         | 3 (2)             |                   |                   |                   | 375 (192)      | 4,482             | 0.000             |                   |                   | 24,019            |                   | 28,501         |
| <b>GRAND TOTAL</b>                    | <b>1481 (532)</b> | <b>1057 (434)</b> | <b>25 (19)</b>    |                   |                   | <b>2563 (985)</b> | <b>233,660</b> | <b>216,901</b>    | <b>1.230</b>      |                   |                   | <b>216,901</b>    |                   | <b>451,791</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-REMS BY WORK AND JOB FUNCTION  
1983

| PLANT: IROJAN<br>(PMR)                | NUMBER OF PERSONNEL (>100 M-REM) |                      |                      |                  |                      |                      | TOTAL MAN-REMS       |                   |                |
|---------------------------------------|----------------------------------|----------------------|----------------------|------------------|----------------------|----------------------|----------------------|-------------------|----------------|
|                                       | STATION<br>EMPLOYEES             | UTILITY<br>EMPLOYEES | CONTRACT<br>& OTHERS | TOTAL<br>PERSONS | STATION<br>EMPLOYEES | UTILITY<br>EMPLOYEES | CONTRACT<br>& OTHERS | TOTAL<br>MAN-REMS | MAN-REMS       |
| <b>WORK &amp; JOB FUNCTION</b>        |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 5                                | 3                    | 4                    |                  | 1,600                | 1,220                | 0.870                |                   |                |
| OPERATING PERSONNEL                   | 30                               | 0                    | 1                    |                  | 10,360               | 0.000                | 0.570                |                   |                |
| HEALTH PHYSICS PERSONNEL              | 18                               | 0                    | 15                   |                  | 6,200                | 0.000                | 4.270                |                   |                |
| SUPERVISORY PERSONNEL                 | 0                                | 0                    | 3                    |                  | 0.130                | 0.020                | 2.760                |                   |                |
| ENGINEERING PERSONNEL                 | 2                                | 0                    | 0                    |                  | 1,020                | 1.020                | 0.030                |                   |                |
| <b>TOTAL</b>                          | <b>55</b>                        | <b>3</b>             | <b>23</b>            | <b>81</b>        | <b>18,990</b>        | <b>2,260</b>         | <b>8.500</b>         |                   | <b>29,750</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 45                               | 33                   | 27                   |                  | 12,640               | 16,500               | 10.520               |                   |                |
| OPERATING PERSONNEL                   | 6                                | 0                    | 1                    |                  | 1,390                | 0.000                | 0.610                |                   |                |
| HEALTH PHYSICS PERSONNEL              | 4                                | 2                    | 11                   |                  | 1,720                | 0.910                | 4.570                |                   |                |
| SUPERVISORY PERSONNEL                 | 2                                | 0                    | 10                   |                  | 0.430                | 0.020                | 7.270                |                   |                |
| ENGINEERING PERSONNEL                 | 3                                | 5                    | 1                    |                  | 1,520                | 3.100                | 0.230                |                   |                |
| <b>TOTAL</b>                          | <b>60</b>                        | <b>40</b>            | <b>50</b>            | <b>150</b>       | <b>17,700</b>        | <b>20,530</b>        | <b>23.200</b>        |                   | <b>61.430</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 0                                | 0                    | 0                    |                  | 0.000                | 0.000                | 0.000                |                   |                |
| OPERATING PERSONNEL                   | 0                                | 0                    | 0                    |                  | 0.000                | 0.000                | 0.000                |                   |                |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                    | 0                    |                  | 0.000                | 0.000                | 0.000                |                   |                |
| SUPERVISORY PERSONNEL                 | 0                                | 0                    | 0                    |                  | 0.000                | 0.000                | 0.000                |                   |                |
| ENGINEERING PERSONNEL                 | 0                                | 0                    | 0                    |                  | 0.000                | 0.000                | 0.000                |                   |                |
| <b>TOTAL</b>                          | <b>0</b>                         | <b>0</b>             | <b>0</b>             | <b>0</b>         | <b>0.000</b>         | <b>0.000</b>         | <b>0.000</b>         |                   | <b>0.000</b>   |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 17                               | 19                   | 118                  |                  | 9,580                | 10,290               | 60.260               |                   |                |
| OPERATING PERSONNEL                   | 3                                | 0                    | 0                    |                  | 0.830                | 0.000                | 0.050                |                   |                |
| HEALTH PHYSICS PERSONNEL              | 20                               | 2                    | 8                    |                  | 9,460                | 1,490                | 2.660                |                   |                |
| SUPERVISORY PERSONNEL                 | 3                                | 0                    | 7                    |                  | 0.680                | 0.010                | 2.860                |                   |                |
| ENGINEERING PERSONNEL                 | 1                                | 2                    | 0                    |                  | 0.310                | 0.670                | 0.090                |                   |                |
| <b>TOTAL</b>                          | <b>44</b>                        | <b>23</b>            | <b>133</b>           | <b>200</b>       | <b>20,860</b>        | <b>12,460</b>        | <b>65.920</b>        |                   | <b>99.240</b>  |
| <b>WASTE PROCESSING</b>               |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 0                                | 0                    | 0                    |                  | 0.070                | 0.090                | 0.490                |                   |                |
| OPERATING PERSONNEL                   | 0                                | 0                    | 0                    |                  | 0.440                | 0.000                | 0.020                |                   |                |
| HEALTH PHYSICS PERSONNEL              | 18                               | 8                    | 8                    |                  | 13,940               | 3.310                | 3.510                |                   |                |
| SUPERVISORY PERSONNEL                 | 0                                | 0                    | 0                    |                  | 0.010                | 0.000                | 0.030                |                   |                |
| ENGINEERING PERSONNEL                 | 0                                | 0                    | 0                    |                  | 0.000                | 0.000                | 0.000                |                   |                |
| <b>TOTAL</b>                          | <b>18</b>                        | <b>8</b>             | <b>8</b>             | <b>34</b>        | <b>14,460</b>        | <b>3,400</b>         | <b>4.050</b>         |                   | <b>21.910</b>  |
| <b>REFUELLING</b>                     |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 17                               | 0                    | 5                    |                  | 15,830               | 0.360                | 0.990                |                   |                |
| OPERATING PERSONNEL                   | 12                               | 0                    | 0                    |                  | 20,560               | 0.000                | 0.020                |                   |                |
| HEALTH PHYSICS PERSONNEL              | 12                               | 0                    | 17                   |                  | 3,440                | 0.040                | 5.080                |                   |                |
| SUPERVISORY PERSONNEL                 | 1                                | 0                    | 9                    |                  | 0.320                | 0.000                | 2.740                |                   |                |
| ENGINEERING PERSONNEL                 | 1                                | 0                    | 0                    |                  | 0.610                | 0.360                | 0.000                |                   |                |
| <b>TOTAL</b>                          | <b>43</b>                        | <b>1</b>             | <b>31</b>            | <b>75</b>        | <b>40,760</b>        | <b>0.760</b>         | <b>8.830</b>         |                   | <b>50.350</b>  |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                      |                      |                  |                      |                      |                      |                   |                |
| MAINTENANCE PERSONNEL                 | 84                               | 55                   | 154                  | 293              | 39,720               | 28,460               | 73.130               |                   | 141,310        |
| OPERATING PERSONNEL                   | 51                               | 0                    | 2                    | 53               | 33,580               | 0.000                | 1.270                |                   | 34,850         |
| HEALTH PHYSICS PERSONNEL              | 72                               | 12                   | 59                   | 143              | 34,760               | 5,750                | 20.090               |                   | 60,600         |
| SUPERVISORY PERSONNEL                 | 6                                | 0                    | 29                   | 35               | 1,570                | 0.050                | 15.660               |                   | 17,280         |
| ENGINEERING PERSONNEL                 | 7                                | 8                    | 1                    | 16               | 3,140                | 5,150                | 0.350                |                   | 8,640          |
| <b>GRAND TOTAL</b>                    | <b>220</b>                       | <b>75</b>            | <b>245</b>           | <b>540</b>       | <b>112,770</b>       | <b>39,410</b>        | <b>110.500</b>       |                   | <b>262,680</b> |

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

PLANT: \*TURKEY POINT 1,2 (PWR) NUMBER OF PERSONNEL (>100 M-REM) 1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS      |         | STATION EMPLOYEES |               | UTILITY EMPLOYEES |                   | TOTAL MAN-REMS |                 |
|---------------------------------------|----------------------------------|-------------------|--------------------|---------|-------------------|---------------|-------------------|-------------------|----------------|-----------------|
|                                       | STATION EMPLOYEES                | CONTRACT & OTHERS | PERSONS            | PERSONS | EMPLOYEES         | EMPLOYEES     | EMPLOYEES         | CONTRACT & OTHERS | MAN-REMS       | MAN-REMS        |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 186                              | 172               |                    |         | 67,445            | 5,740         | 59,425            |                   |                |                 |
| OPERATING PERSONNEL                   | 26                               | 0                 |                    |         | 31,780            | 0,000         | 0,000             |                   |                |                 |
| HEALTH PHYSICS PERSONNEL              | 26                               | 118               |                    |         | 24,355            | 0,000         | 109,110           |                   |                |                 |
| SUPERVISORY PERSONNEL                 | 17                               | 7                 |                    |         | 7,795             | 0,490         | 2,390             |                   |                |                 |
| ENGINEERING PERSONNEL                 | 37                               | 27                |                    |         | 12,635            | 0,560         | 13,990            |                   |                |                 |
| <b>TOTAL</b>                          | <b>292</b>                       | <b>324</b>        | <b>639</b>         |         | <b>144,010</b>    | <b>7,550</b>  | <b>184,915</b>    |                   |                | <b>336,475</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 185                              | 283               |                    |         | 151,480           | 21,295        | 164,975           |                   |                |                 |
| OPERATING PERSONNEL                   | 5                                | 0                 |                    |         | 1,015             | 0,050         | 0,000             |                   |                |                 |
| HEALTH PHYSICS PERSONNEL              | 15                               | 43                |                    |         | 6,865             | 0,000         | 15,920            |                   |                |                 |
| SUPERVISORY PERSONNEL                 | 5                                | 3                 |                    |         | 1,635             | 0,155         | 0,645             |                   |                |                 |
| ENGINEERING PERSONNEL                 | 13                               | 9                 |                    |         | 7,670             | 0,090         | 3,245             |                   |                |                 |
| <b>TOTAL</b>                          | <b>223</b>                       | <b>338</b>        | <b>596</b>         |         | <b>168,665</b>    | <b>21,590</b> | <b>184,785</b>    |                   |                | <b>375,040</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 17                               | 118               |                    |         | 6,820             | 1,785         | 117,685           |                   |                |                 |
| OPERATING PERSONNEL                   | 1                                | 1                 |                    |         | 1,010             | 0,000         | 2,230             |                   |                |                 |
| HEALTH PHYSICS PERSONNEL              | 5                                | 10                |                    |         | 2,140             | 0,000         | 2,210             |                   |                |                 |
| SUPERVISORY PERSONNEL                 | 3                                | 3                 |                    |         | 1,900             | 0,000         | 3,215             |                   |                |                 |
| ENGINEERING PERSONNEL                 | 8                                | 4                 |                    |         | 2,110             | 1,215         | 0,720             |                   |                |                 |
| <b>TOTAL</b>                          | <b>34</b>                        | <b>136</b>        | <b>177</b>         |         | <b>13,980</b>     | <b>3,000</b>  | <b>126,060</b>    |                   |                | <b>143,040</b>  |
| <b>SPECIAL MAINTENANCE**</b>          |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 128                              | 1325              |                    |         | 84,295            | 11,425        | 1878,730          |                   |                |                 |
| OPERATING PERSONNEL                   | 5                                | 0                 |                    |         | 1,755             | 0,000         | 0,000             |                   |                |                 |
| HEALTH PHYSICS PERSONNEL              | 15                               | 93                |                    |         | 8,790             | 0,000         | 58,515            |                   |                |                 |
| SUPERVISORY PERSONNEL                 | 11                               | 77                |                    |         | 4,640             | 0,930         | 75,550            |                   |                |                 |
| ENGINEERING PERSONNEL                 | 16                               | 85                |                    |         | 9,345             | 0,750         | 82,210            |                   |                |                 |
| <b>TOTAL</b>                          | <b>175</b>                       | <b>1580</b>       | <b>1782</b>        |         | <b>108,825</b>    | <b>13,105</b> | <b>2093,005</b>   |                   |                | <b>2214,935</b> |
| <b>WASTE PROCESSING</b>               |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 18                               | 2                 |                    |         | 7,585             | 0,750         | 0,620             |                   |                |                 |
| OPERATING PERSONNEL                   | 0                                | 0                 |                    |         | 0,210             | 0,000         | 0,000             |                   |                |                 |
| HEALTH PHYSICS PERSONNEL              | 7                                | 21                |                    |         | 6,870             | 0,000         | 11,495            |                   |                |                 |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 |                    |         | 0,075             | 0,000         | 0,015             |                   |                |                 |
| ENGINEERING PERSONNEL                 | 2                                | 1                 |                    |         | 0,815             | 0,000         | 0,395             |                   |                |                 |
| <b>TOTAL</b>                          | <b>27</b>                        | <b>24</b>         | <b>52</b>          |         | <b>15,555</b>     | <b>0,750</b>  | <b>12,525</b>     |                   |                | <b>28,830</b>   |
| <b>REFUELING</b>                      |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 127                              | 24                |                    |         | 121,450           | 33,000        | 11,350            |                   |                |                 |
| OPERATING PERSONNEL                   | 48                               | 0                 |                    |         | 19,360            | 0,780         | 0,000             |                   |                |                 |
| HEALTH PHYSICS PERSONNEL              | 7                                | 18                |                    |         | 2,045             | 0,000         | 5,455             |                   |                |                 |
| SUPERVISORY PERSONNEL                 | 8                                | 5                 |                    |         | 3,990             | 0,070         | 1,205             |                   |                |                 |
| ENGINEERING PERSONNEL                 | 20                               | 2                 |                    |         | 16,580            | 0,120         | 0,905             |                   |                |                 |
| <b>TOTAL</b>                          | <b>210</b>                       | <b>49</b>         | <b>297</b>         |         | <b>163,425</b>    | <b>33,970</b> | <b>18,915</b>     |                   |                | <b>216,310</b>  |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |                    |         |                   |               |                   |                   |                |                 |
| MAINTENANCE PERSONNEL                 | 661 (229)                        | 117 (48)          | 2702 (1784)        |         | 439,075           | 73,995        | 2232,785          |                   |                | 2745,855        |
| OPERATING PERSONNEL                   | 85 (61)                          | 4 (4)             | 90 (66)            |         | 55,130            | 1,590         | 2,230             |                   |                | 58,950          |
| HEALTH PHYSICS PERSONNEL              | 75 (28)                          | 0                 | 378 (212)          |         | 51,065            | 0,000         | 200,770           |                   |                | 251,770         |
| SUPERVISORY PERSONNEL                 | 44 (28)                          | 3 (3)             | 142 (114)          |         | 20,035            | 1,645         | 83,020            |                   |                | 104,700         |
| ENGINEERING PERSONNEL                 | 96 (47)                          | 7 (7)             | 231 (161)          |         | 49,155            | 2,735         | 101,465           |                   |                | 153,355         |
| <b>GRAND TOTAL</b>                    | <b>961 (393)</b>                 | <b>131 (82)</b>   | <b>3543 (2337)</b> |         | <b>614,460</b>    | <b>79,965</b> | <b>2620,205</b>   |                   |                | <b>3314,630</b> |

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

\*\* Steam generator replacement.

APPENDIX C  
 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION  
 1983

\* † VERMONT YANKEE (BWR)

| WORK & JOB FUNCTION        | STATION EMPLOYEES | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL PERSONS | STATION EMPLOYEES | TOTAL MAN-REMS    |                   | TOTAL MAN-REMS |
|----------------------------|-------------------|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|----------------|
|                            |                   | UTILITY EMPLOYEES                | CONTRACT & OTHERS |               |                   | UTILITY EMPLOYEES | CONTRACT & OTHERS |                |
| REACTOR OPERATIONS & SURV. |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 10                | 0                                | 2                 |               | 18,860            | 0.000             | 1.218             |                |
| OPERATING PERSONNEL        | 67                | 0                                | 1                 |               | 66,710            | 0.000             | 0.101             |                |
| HEALTH PHYSICS PERSONNEL   | 24                | 2                                | 52                |               | 44,612            | 0.303             | 51.750            |                |
| SUPERVISORY PERSONNEL      | 1                 | 0                                | 13                |               | 2,089             | 0.313             | 4.159             |                |
| ENGINEERING PERSONNEL      | 26                | 0                                | 17                |               | 23,424            | 0.000             | 1.542             |                |
| TOTAL                      | 128               | 3                                | 75                | 206           | 155,695           | 0.616             | 58.770            | 215.081        |
| ROUTINE MAINTENANCE        |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 33                | 129                              | 582               |               | 79,085            | 220.192           | 329.652           |                |
| OPERATING PERSONNEL        | 20                | 0                                | 0                 |               | 9,881             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 5                 | 0                                | 15                |               | 2,555             | 0.000             | 5.216             |                |
| SUPERVISORY PERSONNEL      | 3                 | 0                                | 1                 |               | 1,345             | 0.015             | 0.193             |                |
| ENGINEERING PERSONNEL      | 7                 | 0                                | 1                 |               | 3,871             | 0.000             | 0.280             |                |
| TOTAL                      | 68                | 129                              | 599               | 796           | 96,537            | 220.207           | 335.341           | 652.085        |
| IN-SERVICE INSPECTION      |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 1                 | 102                              | 211               |               | 0.329             | 87.001            | 110.719           |                |
| OPERATING PERSONNEL        | 2                 | 0                                | 0                 |               | 0.888             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 0                 | 0                                | 0                 |               | 0.031             | 0.000             | 0.058             |                |
| SUPERVISORY PERSONNEL      | 1                 | 0                                | 0                 |               | 0.539             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL      | 3                 | 0                                | 1                 |               | 0.904             | 0.000             | 0.570             |                |
| TOTAL                      | 7                 | 102                              | 212               | 321           | 2.691             | 87.001            | 111.347           | 201.039        |
| SPECIAL MAINTENANCE        |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 19                | 69                               | 612               |               | 41,595            | 114.325           | 278.051           |                |
| OPERATING PERSONNEL        | 11                | 0                                | 0                 |               | 5,103             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 2                 | 0                                | 7                 |               | 1,217             | 0.000             | 2.694             |                |
| SUPERVISORY PERSONNEL      | 2                 | 1                                | 0                 |               | 1,343             | 0.535             | 0.100             |                |
| ENGINEERING PERSONNEL      | 5                 | 0                                | 0                 |               | 3,159             | 0.000             | 0.210             |                |
| TOTAL                      | 39                | 70                               | 619               | 728           | 52,417            | 114.860           | 281.055           | 448.332        |
| WASTE PROCESSING           |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 0                 | 0                                | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| OPERATING PERSONNEL        | 8                 | 0                                | 0                 |               | 7.412             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 0                 | 0                                | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL      | 0                 | 0                                | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL      | 0                 | 0                                | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| TOTAL                      | 8                 | 0                                | 0                 | 8             | 7.412             | 0.000             | 0.000             | 7.412          |
| REFUELING                  |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 1                 | 0                                | 0                 |               | 0.613             | 0.120             | 0.155             |                |
| OPERATING PERSONNEL        | 1                 | 0                                | 0                 |               | 1.411             | 0.000             | 0.000             |                |
| HEALTH PHYSICS PERSONNEL   | 0                 | 0                                | 0                 |               | 0.004             | 0.000             | 0.000             |                |
| SUPERVISORY PERSONNEL      | 0                 | 0                                | 0                 |               | 0.000             | 0.000             | 0.000             |                |
| ENGINEERING PERSONNEL      | 4                 | 0                                | 0                 |               | 0.869             | 0.000             | 0.000             |                |
| TOTAL                      | 6                 | 0                                | 0                 | 6             | 2.897             | 0.120             | 0.237             | 3.254          |
| TOTAL BY JOB FUNCTION      |                   |                                  |                   |               |                   |                   |                   |                |
| MAINTENANCE PERSONNEL      | 64                | 300                              | 1407              | 1771          | 140,482           | 421.638           | 719.795           | 1281.915       |
| OPERATING PERSONNEL        | 109               | 0                                | 1                 | 110           | 91,405            | 0.000             | 0.101             | 91.506         |
| HEALTH PHYSICS PERSONNEL   | 31                | 2                                | 74                | 107           | 48,219            | 0.303             | 59.718            | 108.240        |
| SUPERVISORY PERSONNEL      | 7                 | 2                                | 14                | 23            | 5,316             | 0.863             | 4.452             | 10.631         |
| ENGINEERING PERSONNEL      | 45                | 0                                | 9                 | 54            | 32,227            | 0.000             | 2.684             | 34.911         |
| GRAND TOTAL                | 256               | 304                              | 1505              | 2065          | 317,649           | 422.804           | 786.750           | 1527.203 **    |

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

\*\* NRC mandated torus modifications and piping resupports contributed 93 man-rems.

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

PLANT: \*YANKEE-ROWE (PHR) 1983

| WORK & JOB FUNCTION                   | NUMBER OF PERSONNEL (>100 M-REM) |                   | TOTAL    |            | STATION       |               | TOTAL             |                   | TOTAL MAN-REMS    |              |
|---------------------------------------|----------------------------------|-------------------|----------|------------|---------------|---------------|-------------------|-------------------|-------------------|--------------|
|                                       | STATION EMPLOYEES                | UTILITY EMPLOYEES | PERSONS  | PERSONS    | EMPLOYEES     | EMPLOYEES     | CONTRACT & OTHERS | CONTRACT & OTHERS | UTILITY EMPLOYEES | MAN-REMS     |
| <b>REACTOR OPERATIONS &amp; SURV.</b> |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 7                                | 0                 | 0        | 0          | 1,715         | 0.430         | 0.010             | 0.010             | 0.430             | 0.010        |
| OPERATING PERSONNEL                   | 33                               | 0                 | 0        | 0          | 11,932        | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 8                                | 0                 | 0        | 0          | 2,033         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0        | 0          | 0,310         | 0.000         | 0.065             | 0.065             | 0.000             | 0.065        |
| ENGINEERING PERSONNEL                 | 0                                | 1                 | 0        | 0          | 0.000         | 0.290         | 0.040             | 0.040             | 0.290             | 0.040        |
| <b>TOTAL</b>                          | <b>49</b>                        | <b>1</b>          | <b>0</b> | <b>50</b>  | <b>16,255</b> | <b>0.720</b>  | <b>0.115</b>      | <b>0.115</b>      | <b>0.720</b>      | <b>0.115</b> |
| <b>ROUTINE MAINTENANCE</b>            |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 13                               | 2                 | 0        | 0          | 3,756         | 1.204         | 0.065             | 0.065             | 1.204             | 0.065        |
| OPERATING PERSONNEL                   | 5                                | 0                 | 0        | 0          | 1,295         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 2                                | 0                 | 0        | 0          | 0,945         | 0.000         | 0.040             | 0.040             | 0.000             | 0.040        |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.030             | 0.030             | 0.000             | 0.030        |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.075         | 0.050             | 0.050             | 0.000             | 0.050        |
| <b>TOTAL</b>                          | <b>20</b>                        | <b>2</b>          | <b>0</b> | <b>22</b>  | <b>5,996</b>  | <b>1.279</b>  | <b>0.185</b>      | <b>0.185</b>      | <b>1.279</b>      | <b>0.185</b> |
| <b>IN-SERVICE INSPECTION</b>          |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| <b>TOTAL</b>                          | <b>0</b>                         | <b>0</b>          | <b>0</b> | <b>0</b>   | <b>0.000</b>  | <b>0.000</b>  | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b>      | <b>0.000</b> |
| <b>SPECIAL MAINTENANCE</b>            |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 22                               | 16                | 1        | 1          | 15,450        | 6.650         | 1.415             | 1.415             | 6.650             | 1.415        |
| OPERATING PERSONNEL                   | 2                                | 0                 | 2        | 2          | 0,575         | 0.000         | 2.025             | 2.025             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 7                                | 0                 | 0        | 0          | 2,895         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0,020         | 0.000         | 0.090             | 0.090             | 0.000             | 0.000        |
| ENGINEERING PERSONNEL                 | 0                                | 4                 | 0        | 0          | 0.165         | 1.355         | 0.070             | 0.070             | 0.000             | 0.000        |
| <b>TOTAL</b>                          | <b>31</b>                        | <b>20</b>         | <b>3</b> | <b>54</b>  | <b>19,105</b> | <b>8.005</b>  | <b>3.600</b>      | <b>3.600</b>      | <b>8.005</b>      | <b>3.600</b> |
| <b>WASTE PROCESSING</b>               |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 6                                | 6                 | 0        | 0          | 1,555         | 1.395         | 0.000             | 0.000             | 1.395             | 0.000        |
| OPERATING PERSONNEL                   | 10                               | 0                 | 0        | 0          | 2,871         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 5                                | 0                 | 1        | 1          | 1,405         | 0.000         | 0.135             | 0.135             | 0.000             | 0.000        |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.025         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| <b>TOTAL</b>                          | <b>21</b>                        | <b>6</b>          | <b>1</b> | <b>28</b>  | <b>5,856</b>  | <b>1.395</b>  | <b>0.135</b>      | <b>0.135</b>      | <b>1.395</b>      | <b>0.135</b> |
| <b>REFUELING</b>                      |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.025         | 0.005         | 0.000             | 0.000             | 0.005             | 0.000        |
| OPERATING PERSONNEL                   | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 0                                | 0                 | 0        | 0          | 0.015         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| SUPERVISORY PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.000         | 0.000         | 0.000             | 0.000             | 0.000             | 0.000        |
| ENGINEERING PERSONNEL                 | 0                                | 0                 | 0        | 0          | 0.010         | 0.040         | 0.000             | 0.000             | 0.040             | 0.000        |
| <b>TOTAL</b>                          | <b>0</b>                         | <b>0</b>          | <b>0</b> | <b>0</b>   | <b>0.050</b>  | <b>0.045</b>  | <b>0.000</b>      | <b>0.000</b>      | <b>0.045</b>      | <b>0.000</b> |
| <b>TOTAL BY JOB FUNCTION</b>          |                                  |                   |          |            |               |               |                   |                   |                   |              |
| MAINTENANCE PERSONNEL                 | 48                               | 24                | 1        | 73         | 22,501        | 9.684         | 1.490             | 1.490             | 9.684             | 1.490        |
| OPERATING PERSONNEL                   | 50                               | 0                 | 2        | 52         | 16,673        | 0.000         | 2.025             | 2.025             | 0.000             | 0.000        |
| HEALTH PHYSICS PERSONNEL              | 22                               | 0                 | 1        | 23         | 7,293         | 0.000         | 0.175             | 0.175             | 0.000             | 0.000        |
| SUPERVISORY PERSONNEL                 | 1                                | 0                 | 0        | 1          | 0,330         | 0.000         | 0.185             | 0.185             | 0.000             | 0.000        |
| ENGINEERING PERSONNEL                 | 0                                | 5                 | 0        | 5          | 0.465         | 1.760         | 0.160             | 0.160             | 0.000             | 0.000        |
| <b>GRAND TOTAL</b>                    | <b>121</b>                       | <b>29</b>         | <b>4</b> | <b>154</b> | <b>47,262</b> | <b>11.444</b> | <b>4.035</b>      | <b>4.035</b>      | <b>11.444</b>     | <b>4.035</b> |

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



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

PLANT: ZION 1,2 (PMR)

1983

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  |
|---------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|
|                                       | 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                 | 46                | 0                 | 0                 | 24                |                   |                   |               | 20.560            | 0.000             |                   |                   | 12.070            |                   |                 |
| OPERATING PERSONNEL                   | 57                | 0                 | 0                 | 0                 |                   |                   |               | 23.143            | 0.000             |                   |                   | 0.000             |                   |                 |
| HEALTH PHYSICS PERSONNEL              | 9                 | 0                 | 0                 | 45                |                   |                   |               | 4.077             | 0.000             |                   |                   | 9.500             |                   |                 |
| SUPERVISORY PERSONNEL                 | 88                | 0                 | 0                 | 0                 |                   |                   |               | 16.424            | 0.000             |                   |                   | 0.000             |                   |                 |
| ENGINEERING PERSONNEL                 | 36                | 46                | 120               | 120               |                   |                   |               | 17.464            | 0.819             |                   |                   | 8.500             |                   |                 |
| <b>TOTAL</b>                          | <b>236</b>        | <b>46</b>         | <b>189</b>        | <b>471</b>        |                   |                   | <b>471</b>    | <b>81.688</b>     | <b>0.819</b>      |                   |                   | <b>30.070</b>     |                   | <b>112.557</b>  |
| <b>ROUTINE MAINTENANCE</b>            |                   |                   |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                 | 31                | 0                 | 66                |                   |                   |                   |               | 61.028            | 0.000             |                   |                   | 213.215           |                   |                 |
| OPERATING PERSONNEL                   | 0                 | 0                 | 0                 |                   |                   |                   |               | 0.000             | 0.000             |                   |                   | 0.000             |                   |                 |
| HEALTH PHYSICS PERSONNEL              | 19                | 0                 | 46                |                   |                   |                   |               | 8.197             | 0.000             |                   |                   | 53.126            |                   |                 |
| SUPERVISORY PERSONNEL                 | 24                | 0                 | 0                 |                   |                   |                   |               | 7.349             | 0.000             |                   |                   | 0.000             |                   |                 |
| ENGINEERING PERSONNEL                 | 9                 | 0                 | 0                 |                   |                   |                   |               | 2.222             | 0.000             |                   |                   | 0.000             |                   |                 |
| <b>TOTAL</b>                          | <b>83</b>         | <b>0</b>          | <b>112</b>        | <b>195</b>        |                   |                   | <b>195</b>    | <b>78.796</b>     | <b>0.000</b>      |                   |                   | <b>266.341</b>    |                   | <b>345.137</b>  |
| <b>IN-SERVICE INSPECTION</b>          |                   |                   |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                 | 40                | 0                 | 334               |                   |                   |                   |               | 14.217            | 0.000             |                   |                   | 67.844            |                   |                 |
| OPERATING PERSONNEL                   | 26                | 0                 | 0                 |                   |                   |                   |               | 2.819             | 0.000             |                   |                   | 0.000             |                   |                 |
| HEALTH PHYSICS PERSONNEL              | 4                 | 0                 | 66                |                   |                   |                   |               | 1.909             | 0.000             |                   |                   | 8.222             |                   |                 |
| SUPERVISORY PERSONNEL                 | 6                 | 0                 | 0                 |                   |                   |                   |               | 2.660             | 0.000             |                   |                   | 0.000             |                   |                 |
| ENGINEERING PERSONNEL                 | 16                | 0                 | 0                 |                   |                   |                   |               | 4.100             | 0.000             |                   |                   | 0.000             |                   |                 |
| <b>TOTAL</b>                          | <b>92</b>         | <b>0</b>          | <b>400</b>        | <b>492</b>        |                   |                   | <b>492</b>    | <b>25.705</b>     | <b>0.000</b>      |                   |                   | <b>76.066</b>     |                   | <b>101.771</b>  |
| <b>SPECIAL MAINTENANCE</b>            |                   |                   |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                 | 80                | 99                | 675               |                   |                   |                   |               | 102.366           | 7.981             |                   |                   | 348.313           |                   |                 |
| OPERATING PERSONNEL                   | 0                 | 0                 | 0                 |                   |                   |                   |               | 0.000             | 0.000             |                   |                   | 0.000             |                   |                 |
| HEALTH PHYSICS PERSONNEL              | 18                | 0                 | 26                |                   |                   |                   |               | 12.435            | 0.000             |                   |                   | 59.167            |                   |                 |
| SUPERVISORY PERSONNEL                 | 12                | 0                 | 0                 |                   |                   |                   |               | 10.000            | 0.000             |                   |                   | 0.000             |                   |                 |
| ENGINEERING PERSONNEL                 | 70                | 85                | 63                |                   |                   |                   |               | 19.513            | 0.711             |                   |                   | 15.945            |                   |                 |
| <b>TOTAL</b>                          | <b>180</b>        | <b>184</b>        | <b>764</b>        | <b>1128</b>       |                   |                   | <b>1128</b>   | <b>144.314</b>    | <b>8.692</b>      |                   |                   | <b>423.425</b>    |                   | <b>576.431</b>  |
| <b>WASTE PROCESSING</b>               |                   |                   |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                 | 34                | 0                 | 24                |                   |                   |                   |               | 10.936            | 0.000             |                   |                   | 36.380            |                   |                 |
| OPERATING PERSONNEL                   | 26                | 0                 | 19                |                   |                   |                   |               | 2.168             | 0.000             |                   |                   | 1.930             |                   |                 |
| HEALTH PHYSICS PERSONNEL              | 4                 | 0                 | 12                |                   |                   |                   |               | 1.468             | 0.000             |                   |                   | 6.325             |                   |                 |
| SUPERVISORY PERSONNEL                 | 10                | 0                 | 0                 |                   |                   |                   |               | 2.745             | 0.000             |                   |                   | 0.000             |                   |                 |
| ENGINEERING PERSONNEL                 | 8                 | 0                 | 0                 |                   |                   |                   |               | 0.875             | 0.000             |                   |                   | 0.000             |                   |                 |
| <b>TOTAL</b>                          | <b>82</b>         | <b>0</b>          | <b>55</b>         | <b>137</b>        |                   |                   | <b>137</b>    | <b>18.192</b>     | <b>0.000</b>      |                   |                   | <b>44.635</b>     |                   | <b>62.827</b>   |
| <b>REFUELING</b>                      |                   |                   |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                 | 20                | 0                 | 115               |                   |                   |                   |               | 9.624             | 0.000             |                   |                   | 23.115            |                   |                 |
| OPERATING PERSONNEL                   | 24                | 0                 | 0                 |                   |                   |                   |               | 17.062            | 0.000             |                   |                   | 0.000             |                   |                 |
| HEALTH PHYSICS PERSONNEL              | 4                 | 0                 | 19                |                   |                   |                   |               | 1.293             | 0.000             |                   |                   | 1.615             |                   |                 |
| SUPERVISORY PERSONNEL                 | 49                | 0                 | 0                 |                   |                   |                   |               | 2.650             | 0.000             |                   |                   | 0.000             |                   |                 |
| ENGINEERING PERSONNEL                 | 4                 | 0                 | 0                 |                   |                   |                   |               | 0.050             | 0.000             |                   |                   | 0.000             |                   |                 |
| <b>TOTAL</b>                          | <b>101</b>        | <b>0</b>          | <b>134</b>        | <b>235</b>        |                   |                   | <b>235</b>    | <b>30.679</b>     | <b>0.000</b>      |                   |                   | <b>24.730</b>     |                   | <b>55.409</b>   |
| <b>TOTAL BY JOB FUNCTION</b>          |                   |                   |                   |                   |                   |                   |               |                   |                   |                   |                   |                   |                   |                 |
| MAINTENANCE PERSONNEL                 | 251               | 99                | 1238              | 1588              |                   |                   | 1588          | 218.731           | 7.981             |                   |                   | 700.937           |                   | 927.669         |
| OPERATING PERSONNEL                   | 133               | 0                 | 19                | 152               |                   |                   | 152           | 45.192            | 0.000             |                   |                   | 1.930             |                   | 47.122          |
| HEALTH PHYSICS PERSONNEL              | 58                | 0                 | 214               | 272               |                   |                   | 272           | 29.379            | 0.000             |                   |                   | 137.955           |                   | 167.334         |
| SUPERVISORY PERSONNEL                 | 189               | 0                 | 0                 | 189               |                   |                   | 189           | 41.828            | 0.000             |                   |                   | 0.000             |                   | 41.828          |
| ENGINEERING PERSONNEL                 | 143               | 131               | 183               | 457               |                   |                   | 457           | 44.224            | 1.530             |                   |                   | 24.445            |                   | 70.199          |
| <b>GRAND TOTAL</b>                    | <b>774</b>        | <b>230</b>        | <b>1654</b>       | <b>2658</b>       |                   |                   | <b>2658</b>   | <b>379.354</b>    | <b>9.511</b>      |                   |                   | <b>865.267</b>    |                   | <b>1254.132</b> |

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



## APPENDIX D

### Occupational Doses at Foreign Reactors

Note on: COMPARISON OF OCCUPATIONAL DOSES AT U.S. AND FOREIGN REACTORS

When comparisons of occupational radiation doses incurred at U.S. power reactors with those incurred at foreign power reactors are made, they are usually in terms of averages based on data reported by all U.S. reactors. In an effort to determine how newer U.S. plants might compare with the foreign plants, many of which are less than ten years old, the following analyses were performed.

1. In order to examine the exposures experienced at the newest U.S. plants, those plants that had completed no more than one full year of commercial operations as of 12/31/81 were selected. The collective dose and gross megawatt-years (electric) were summed for each year to yield the following results for PWRs (there are no BWRs that fit this criterion). The collective dose per megawatt-year indicates a decreasing trend, but there has not been enough time to fully allow for the effects of any cobalt buildup.

| <u>Year</u> | <u>No. of Sites</u> | <u>Collective Dose<br/>(man-rems)</u> | <u>Megawatt-Years</u> | <u>Dose Per MW-YR</u> |
|-------------|---------------------|---------------------------------------|-----------------------|-----------------------|
| 1981        | 2                   | 3518                                  | 2347                  | 1.50                  |
| 1982        | 6                   | 5496                                  | 5537                  | 0.99                  |
| 1983        | 6                   | 4676                                  | 6574                  | 0.71                  |

2. In an effort to examine the exposure experienced at the newer U.S. plants while taking into account cobalt buildup, those U.S. plants that had completed no more than one full year of commercial operation as of 12/31/77 were selected. To focus on the cobalt buildup, the collective dose and gross megawatt-years (electric) for the first three years of operation were not included in the summation of these two parameters. This yielded the following information, again for PWRs only.

| <u>Year<br/>Operation<br/>Begin</u> | <u>Year of<br/>Data</u> | <u>No. of<br/>Sites</u> | <u>Collective<br/>Dose (man-rems)</u> | <u>Megawatt-<br/>Years</u> | <u>Dose Per<br/>MW-Yr</u> |
|-------------------------------------|-------------------------|-------------------------|---------------------------------------|----------------------------|---------------------------|
| 1977                                | 1980                    | 3                       | 1534                                  | 1349                       | 1.14                      |
| 1978                                | 1981                    | 8                       | 3679                                  | 3869                       | 0.62                      |
| 1979                                | 1982                    | 9                       | 6570                                  | 8315                       | 0.79                      |
| 1980                                | 1983                    | 9                       | 6201                                  | 7964                       | 0.78                      |

These analyses indicate that the collective dose per megawatt-year at the newer U.S. PWRs is between 0.7 and 0.8. This can be compared to the following values of the collective dose per megawatt-year for foreign reactors. It appears that the value of this parameter is still two to four times that found for most foreign reactors (except the Japanese). Under an NRC contract,

Mr. J. Baum, Brookhaven National Lab., will soon publish the "Proceedings of an International Workshop on Historical Dose Experience and Dose Reduction at Nuclear Power Plants" which will have more details about the exposures experienced at many foreign reactors.

| <u>Country</u> | <u>Reactor Type</u> | <u>1981</u> | <u>1982</u> |
|----------------|---------------------|-------------|-------------|
| Japan          | PWRs                |             | 0.61        |
| France         | PWRS                | 0.24        | 0.28        |
| Britain        | GCRs                | 0.67        | 0.36        |
| Canada         | PHWRs               | 0.25        |             |
| Sweden         | BWRs & PWRs         |             | 0.2         |



|  |  |   |                 |   |  |
|--|--|---|-----------------|---|--|
| NRC FORM 335<br>(6-83)   |  | U.S. NUCLEAR REGULATORY COMMISSION                          |                 | 1 REPORT NUMBER (Assigned by TIDC, add Vol No., if any)<br><br>NUREG-0713, Vol. 5 |  |
| <b>BIBLIOGRAPHIC DATA SHEET</b>  |  |   |                 | 2 Leave blank   |  |
| 3 TITLE AND SUBTITLE<br><br>Occupational Radiation Exposure at Commercial Nuclear Power Reactors - 1983 Annual Report  |  |   |                 | 4 RECIPIENT'S ACCESSION NUMBER  |  |
| 6. AUTHOR(S)<br><br>Barbara G. Brooks  |  |   |                 | 5 DATE REPORT COMPLETED<br>MONTH   YEAR<br>October   1984                         |  |
|  |  |   |                 | 7 DATE REPORT ISSUED<br>MONTH   YEAR<br>March   1985                              |  |
| 8. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code)<br>Division of Radiation Programs & Earth Sciences<br>Office of Nuclear Regulatory Research<br>U.S. Nuclear Regulatory Commission<br>Washington, DC 20555   |  |   |                 | 9. PROJECT/TASK/WORK UNIT NUMBER  |  |
| 11 SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code)<br>Same as 8 above.   |  |   |                 | 10 FIN NUMBER   |  |
| 13 SUPPLEMENTARY NOTES   |  |   |                 | 12a TYPE OF REPORT<br><br>Annual  |  |
|  |  |   |                 | 12b PERIOD COVERED (Inclusive dates)<br><br>1983                                  |  |
| 14 ABSTRACT (200 words or less)<br><br><p>This report summarizes the occupational radiation exposure information that has been reported to the U.S.N.R.C. by commercial nuclearpower reactors during the years 1969 through 1983. The bulk of the data presented in the report was obtained from annual radiation exposure reports submitted in accordance with the requirements of 10 CFR 20.407 and license technical specifications. Data on workers terminating their employment at nuclear power facilities was obtained from reports submitted pursuant to 10 CFR 20.408. The annual reports submitted by the 76 nuclear power plants that had completed at least one full year of operation as of December 31, 1983, indicated that the number of personnel monitored during 1983 was 136,700 persons and the annual collective dose incurred by these individuals was 56,500 man-rems (man-cSv). The average annual dose for each worker that received a measurable dose was 0.66 rems(cSv), and the average collective dose per reactor was 753 man-rems (man-cSv). The termination reports revealed that some 56,500 individuals completed their employment with one or more reactor facilities during 1982.* Approximately 4,500 of these workers could be considered transients and they received an average dose of 1.11 rems(cSv).</p> <p>*The most recent year for which most of the termination data are available for analysis.</p> |  |   |                 |   |  |
| 15a KEY WORDS AND DOCUMENT ANALYSIS<br><br>occupational radiation exposure<br>nuclear power reactors   |  |   | 15b DESCRIPTORS |   |  |
| 16 AVAILABILITY STATEMENT<br><br>Unlimited   |  | 17 SECURITY CLASSIFICATION<br>(This report)<br>Unclassified |                 | 18 NUMBER OF PAGES  |  |
|  |  | 19 SECURITY CLASSIFICATION<br>(This page)<br>Unclassified   |                 | 20 PRICE<br><br>\$  |  |



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555**

**OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300**

**FOURTH CLASS MAIL  
POSTAGE & FEES PAID  
USNRC  
WASH. D.C.  
PERMIT No. G-67**