### TENNESSEE VALLEY AUTHORITY

5N 157B Lookout Place

# JUN 21 1988

TVA-SQN-TS-88-23

10 CFR 50.90

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D.C. 20555

Gentlemen:

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In the Matter of Tennessee Valley Authority

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Docket Nos. 50-327 50-328

SEQUOYAH NUCLEAR PLANT (SON) UNITS 1 AND 2 - OPERATING LICENSE AMENDMENT 88-23

In accordance with 10 CFR 50.90, we are enclosing a requested amendment to licenses DPR-77 and DPR-79 to change the operating licenses for SQN units 1 and 2. The proposed change will revise the expiration dates for the operating licenses to 40 years from the date of issuance of the full-power license for each unit. This request is in accordance with current NRC policy. The present license expiration dates are based on 40 years from the date of issuance of the construction permit.

In accordance with NRC suggested guidelines, TVA has included information to address each of the four recommended areas: (1) Significant environmental impacts, (2) Pressurized Thermal Shock (PTS), (3) Equipment Qualification (10 CFR 50.49), and (4) Inservice Inspection (ISI) and Inservice Test (IST) Programs.

The proposed operating licenses amendment is identified in enclosure 1. The justification for the proposed operating license amendment is provided in enclosure 2. A proposed determination of no significant hazards consideration performed pursuant to 10 CFR 50.92 is provided in enclosure 3.

Enclosed is a check for the \$150 amendment application fee required by 10 CFR 170.12.

Hoo 1/1 w/check \$150 \$25186

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# JUN 21 1988

U.S. Nuclear Regulatory Commission

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Please direct questions you may have concerning this issue to D. V. Goodin at (615) 870-7734.

Very truly yours,

TENNESSIE JALLEY AUTHORITY

M. J. Ray, Manager, Sequoyah Site Licensing

Sworn to and subscribed before me this 21 tay of June 1988 Jusan al

Notary Public My Commission Expires 2/1/90

Enclosures cc (Enclosures): Mr. Michael H. Mobley, Director (w/o enclosures) Division of Radiological Health T.E.R.R.A. Building 150 9th Avenue, N Nashville, Tennessee 37203

Mr. K. P. Barr, Acting Assistant Director for Inspection Programs TVA Projects Division U.S. Nuclear Regulatory Commission Region II 101 Marietta Street, NW, Suite 2900 Atlanta, Georgia 30323

Ms. S. C. Black, Assistant Director for Projects TVA Projects Division U.S. Nuclear Regulatory Commission One White Flint, North 11555 Rockville Pike Rockville, Maryland 20852

Sequoyah Resident Inspector Sequoyah Nuclear Plant 2600 Igou Ferry Road Soddy Daisy, Tennessee 37379

cc: See page 3

PROPOSED OPERATING LICENSE AMENDMENT SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2 DOCKET NOS. 50-327 AND 50-328 (TVA-SQN-TS-88-23)

ENCLOSURE 1

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LIST OF AFFECTED PAGES <u>Unit 1, DPR-77</u> page 13, item 2.K <u>Unit 2, DPR-79</u> page 13, item 2.K an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant active environmental impact that was not evaluated, or that is signified greater than that evaluated in the Final Environmental Stateme prepared by the Tennessee Valley Authority and the Environmental Impact Appraisal prepared by the Commission in May 1979, the Tenne Valley Authority shall provide a written evaluation of such activand obtain prior approval from the Director, Office of Nuclear Re-

- G. If TVA plans to remove or to make significant changes in the normal operation of equipment that controls the amount of radioactivity in effluents from the Sequoyah Nuclear Plant, the Commission shall be notified in writing regardless of whether the change affects the amount of radioactivity in the effluents.
- H. TVA shall report any violations of the requirements contained in Sections 2.C(3) through 2.C.(24), 2.E, 2.F and 2.G of this ficense within 24 hours by telephone and confirmed by telegram, mailgram, or facsimile transmission to the Director of the Regional Office, or his designate, no later than the first working day following the violation with a written followup report within 14 days.
- TVA shall immediately notify the Commission of any accident at this facility which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.
- J TVA shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- K. This license is effective as of the date of issuance and shall expire Nay 27, 2010.

September 17, 2020,

FOR THE NUCLEAR REGULATORY COMMISSION

Harder K With

Harold R. Denton, Director Office of Nuclear Reactor Regulation

Attachment: Appendices A and B Technical Specifications

Date of Issuanc . September 17, 1980

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- 13 -

K. This amended license is effective as of the date of issuance and shall expire May 27, 2010.

September 15, 2021,

FOR THE NUCLEAR REGULATORY COMMISSION

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Harold R. Denton, Director Office of Nuclear Reactor Regulation

Attachments:

1. Attachment 1

 Appendices A and B Technial Specifications

Date of Issuance: September 15, 1981

Amendment 2 9/15/81

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PROPOSED OPERATING LICENSE AMENDMENT

SEQUOYAH NUCLFAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

(TVA-SQN-1S-88-23)

DESCRIPTION AND JUSTIFICATION FOR OPERATING LICENSE AMENDMENT TO EXTEND EXPIRATION DATE TO 40 YEARS FROM DATE OF ISSUANCE OF THE FULL-POWER LICENSE

#### Description of Change

TVA, pursuant to 10 CFR 50.90, requests an amendment to the SQN operating license for unit 1 (DPR-77) and unit 2 (DPR-79). The proposed amendment revises the expiration date of the unit 1 operating license from May 27, 2010, to September 17, 2020, and unit 2 from May 27, 2010, to September 15, 2021.

#### Reason for Change

The current operating license expiration date is 40 years from the date of issuance of the Construction Permit (May 27, 1970, for both units). Because 10 years and 4 months were required in the construction and issuance of the unit 1 full-power operating license (11 years and 4 months for unit 2). The effective period of the unit 1 license would be approximately 29 years and 8 months (28 years and 8 months for unit 2). Current NRC policy is to issue operating licenses for a 40-year period beginning with the date of issuance. The requested amendment to the expiration date of the SQN operating licenses would provide for the 40-year period of operation that the units were initially designed for.

The proposed amendment is an administrative change that allows TVA to operate SQN for the full-design life and spread the capital cost of SQN over a longer period of time. This change will effectively lower the cost of electricity and thereby benefit the residential and industrial customers within TVA's service area.

### Justification for Change

The justification for this change is patterned after the suggested guidelines issued by NRC (reference 1) to supplement the April 30, 1985 policy letter by H. L. Thompson to H. R. Denton to extend the operating license for nuclear power plants. These guidelines suggest that the license address four items: significant environmental impacts, pressurized thermal shock, equipment qualification, and technical specifications for in-service inspection and testing.

Potential Environmental, Health, and Safety Impacts

TVA has reviewed the Sequoyah Nuclear Plant Final Environmental Statement and has concluded that the Environmental Statement is suitable for operation of SQN for a 40-year period ending in the year 2010. The Environmental Statement does not generally use or discuss a specific period of plant operation in the evaluations presented. However, offsite population doses are based on the year 2010 population.

In the approximately 14 years since the Environmenta. Statement was issued, a number of modifications have been made to the SQN and surrounding site and facilities. These modifications, in general, had the effect of improving the reliability and safety of the plant or reducing the environmental impact of plant operation. They include:

Facilities - Many modifications to the plant have been made since the original operating license has been issued. Significant modifications are described in the Sequoyah updated Final Safety Analysis Report. Modifications made without prior NRC approval, in accordance with the provisions of 10 CFR 50.59, were reported on an annual basis to the Commission. Modifications requiring prior NRC approval were made following receipt of an NRC Safety Evaluation Report. No modification was found to affect the conclusions of the Sequoyah Environmental Statement.

Land Use - Additional site buildings have been constructed and existing buildings have been expanded. The actual land area occupied by site buildings has not significantly increased, however.

Thermal Effects - Thermal discharges from SQN are regulated through the National Pollutant Discharge Elimination System (NPDES) Permit. Data collected to date has indicated that the water quality and indigenous biota of Chickamauga Reservoir are protected by the thermal limits specified in the NPDES Permit. Operation of SQN will continue to be governed by the NPDES Permit with no different or greater impact.

Occupational radiation exposure at SQN remains below the average of U.S. nuclear generating plants. This is attributed to an excellent history of fuel integrity and a management commitment to as low as reasonably achievable (ALARA) exposures. We expect that below average occupational exposures will continue to be the norm for the life of the SQN facility.

TVA has an aggressive ALARA program at SQN to maintain occupational radiation exposure. Exposure goals have been established for station man-rem to minimize collective doses. ALARA reviews and analyses are conducted for workplans for proposed jobs which are projected to exceed one man-rem. Steps are built in to the jobs to reduce dose. All proposed facility modifications receive similar reviews. Pre-job briefings are held with workers to cover dose savings measures and mock-ups are used as appropriate to train workers.

Radiological impacts to offsite individuals due to releases of radioactive liquid and gaseous wastes from the plant remain well within all applicable regulatory limits. Computed gaseous offsite doses are typically less than 3 percent of the 10 CFR 50, Appendix I, guidelines (for a two-unit plant) of 20 millirad/year gamma and 40 millirad/year beta air dose and 30 millirem/year organ dose. Computed offsite liquid doses are typically less than 10 percent of the 10 CFR 50, Appendix I, guidelines of 6 millirem/year total body and 20 millirem/year organ dose. Radioactive effluent releases are controlled by the technical specifications in section 3.11. These specifications implement the release limits specified in 10 CFR 20 and set performance goals based on 10 CFR 30, Appendix I. TVA does not expect any increase in the annual dose for the operations of SQN for the years of 2010 to 2021. Doses calculated for offsite populations in the year 2021 would be less than 15 percent greater than those estimated for the 2010 population. This increase would be due solely to an estimated growth of population during 2010 through 2021. However, population doses would remain less than 0.1 percent of the natural background dose to the offsite population. We expect decommissioning doses beginning in 2022 to be reduced as compared to doses that would be expected for a 2011 decommissioning due to improvements made in the technology.

Table 1 shows TVA's projected operational schedule for SQN. Table 2 shows projected occupational exposure for Sequoyah. Table 3 shows TVA's past personnel exposure for SQN for the years 1982 through 1987. The person-rem exposure is by plant area regardless of how these exposures were obtained (normal operations, maintenance, repair or refueling operations, etc., and by whom (plant operations/maintenance personnel, contractor/vendor personnel, etc.). This data is the same data provided yearly as required by 10 CFR 20.407(b) and SQN technical specification 6.9.1.5.

The following information is furnished consistent with 10 CFR 51.52(a):

- The licensed reactor core thermal power limit for SQN is 3411 megawatts.
- 2) The initial uranium-235 enrichment for fuel assemblies at SQN is less than 4 percent by weight. Fuel pellets are clad in zircaloy rods. These parameters are controlled by technical specification 5.3.1
- 3) The average expected level of burnup of the irradiated fuel from SQN is about 45,000 megawatt-days per metric ton of uranium (MWD/MTU). Although this is greater than the burnup of 10 CFR 51.52(a), the effective levels of radioactivity from a fuel assembly with an average burnup of 45,000 MWD/MTU will be cooled for a period of time to meet the requirements of a fuel assembly with an average burnup of 33,000 MWD/MTU that has cooled for 90 days. Additionally, based on TVA's contract with the Department of Energy and the current progress of the development of a high level waste repository, most fuel assemblies will have decayed for several years.
- 4) All radioactive waste, other than irradiated fuel, is packaged and transported in solid form by either truck or rail. SQN technical specification 3.11.3 establishes requirements for the Solid Radioactive Waste System.
- 5) Irradiated fuel assemblies will be transported either by truck, rail, or barge from the reactor.
- 6) The transportation of radioactive material is regulated by the Department of Transportation and the NRC. The regulations provide protection of the public and transport workers from radiation. This protection is achieved by a combination of standards and requirements applicable to packaging, limitations on the contents of packages and radiation levels from packages, and procedures to limit the exposure of persons under normal and accident conditions.

1.8

Primary reliance for safety in transport of radioactive material is placed on the packaging. The packaging must meet regulatory standards (10 CFR 71 and 49 CFR 173) established according to the type and form of material for containment, shielding, nuclear criticality safety, and heat dissipation.

The standards provide that the packaging shall prevent the loss or dispersal of the radioactive contents, retain shielding efficiency, assure nuclear criticality safety, and provide adequate heat dissipation under normal conditions of transport and under specified accident damage test conditions. The contents of packages not designed to withstand accidents are limited, thereby limiting the risk from releases which could occur in an accident. The contents of the package also must be limited so that the standards for external radiation levels, temperature, pressure, and containment are met.

Furthermore, the additional amount of nuclear fuel and waste resulting from an extended operating period will continue to be within the limits assumed for the original licensing basis. Because of improved fuel cycle designs and longer operation between refueling outages, the total amount of spent fuel produced over a 40-year operating lifetime will be less than that originally projected by the Final Safety Analysis Report (FSAR) for SQN.

Based on the above concludes that the radiological impact from the transportation of 1. adiated fuel and solid radioactive waste is in accordance with the impacts set forth in table S-4 of 10 CFR 51.52. The environmental costs will not be significantly affected during the additional years of operation.

As originally predicted, approximately 70 percent of the population within the 10-mile zone is concentrated in the southern one-third of the zone. The land use in the vicinity of SQN has remained predominately rural although the growth in the southern area has exceeded original estimates especially in development along Lake Chickamauga. Highways, both east and west of the Tennessee River (Interstate I-75, Highway 29, Highway 153, south Hixson Pike, and Highway 58), have been upgraded and bridges across the Tennessee River have been "xpanded (Chickamauga Dam expanded from 2 to 4 lanes, the new C. B. Robinson Bridge added 6 lanes, and the new Veteran's Bridge added 4 additional lanes). Highway 29 is also in the final stages of construction to provide an interceptor to Interstate I-124 and thereby further improving the traffic flow from the southern evacuation area. With the improved highway system compensating for the expansion, there continues to be assurance that appropriate measures can be taken to protect the populace in the event of a radiological release.

#### Pressurized Thermal Shock

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TVA provided an assessment of the fracture tough ess requirements for protection against pressurized thermal shock as required by 10 CFR 50.61 (reference 2). That assessment concluded that the screening values would not be exceeded for the SQN reactor pressure vessels through at least 32 effective full-power years. This time is consistent with the design life of 40 years for the reactor pressure vessels as presented in FSAR, table 5.1-1, with a projected capacity factor of 80 percent. The NRC evaluation and acceptance of the fracture toughness assessment is documented in a safety evaluation for protection against pressurized thermal shock events (reference 3).

#### Equipment Qualification

The environmental qualification (EQ) program for electrical equipment operating in a harsh environment is described in section III.1 of the SQN Nuclear Performance Plan (NPP) (reference 4). The program ensures that EQ is maintained for electrical equipment necessary to ensure reactor coolant pressure boundary integrity, shut down of the reactor and maintain it in a safe chutdown condition, and to prevent or mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 guidelines. Non-safety-related electrical equipment whose failure under postulated harsh environmental conditions could prevent satisfactory accomplishment of safety functions by safety-related equipment was also included in the program.

Aging analyses have been performed for all safety-related electrical equipment within the scope of 10 CFR 50.49 (harsh environment). The qualified life of the equipment or component is incorporated within SQN's maintenance and replacement practices to ensure that this safety-related electrical equipment remains qualified and available to perform its safety function regardless of the overall age of the plant.

The SQN EQ was evaluated by NRC and found acceptable. The acceptance is documented in section 3.2 of the safety evaluation report for the SQN NPP (NUREG-1232, Volume 2).

TVA is currently working with the NRC staff to establish the program to extend the qualified life of silicone rubber cable (reference 5). TVA is also working with the NRC staff to perform confirmatory work for the ice condenser containment analyses for main steam line breaks that involve superheat (reference 6). These ongoing program activities have also been considered by NRC in their evaluation of the EQ program. This consideration is documented in sections 3.12 and 3.2.2.2, respectively, of NUREG-1232, Volume 2.

Inservice Inspection (ISI) and Inservice Test (IST) Programs

TVA has ongoing ISI and IST programs for SQN that are maintained in accordance with 10 CFR 50.55a. The surveillance requirements for these programs are contained in SQN technical specification 4.0.5 and are required to conform to section XI of the ASME Boiler and Pressure Vessel Code. Where specific relief from the section XI code was necessary, TVA has provided written relief requests to NRC for review and approval in accordance with 10 CFR 50.55(a) (g)(6)(i).

In addition to the ISI and IST programs, the following SQN technical specifications also provide an additional requirements for monitoring component aging and the cumulative effects of power operation over the life of the plant.

#### A. Specification 3.4.5 - Steam Generators

In addition to the requirements of specification 4.0.5, TVA has an augmented ISI program for ensuring operability of the SQN steam generators. The results of these augmented 'nspections are submited by report to NRC and include:

- 1. Number of steam generator tubes inspected.
- 2. Location and percent of wall thickness penetration for
- each indication of an imperfection.
- 3. Identification of tubes plugged.

### B. Specification 3.4.9.1 - Reactor Coolant System Pressure/Temperature Limits

Temperature and pressure changes during heatup, cooldown, and normal operation of the reactor coolant system are limited to protect against non-ductile failure of the reactor coolant system. These limits are calculated using the methods derived from Appendix G in section III of the ASME Boiler and Pressure Vessel Code as required by Appendix G to 10 CFR 50.

The above specification also includes a reactor vessel material surveillance program that monitors reactor vessel embrittlement over the 40-year design life in accordance with 10 CFR 50, Appendix H. Reactor vessel irradation specimens are removed and examined at specific intervals to determine changes in material properties. The results of the examinations are used to update the pressure and temperature limits.

### C. <u>Specification 3.4.10 - Reactor Coolant System Structural</u> Integrity

The ISI and IST programs for ASME Code Class 1, 2, and 3 components ensure that the structural integrity and operational readiness of these components will be maintained at in acceptable level throughout the life of the plant.

In addition to the ISI and IST programs, additional special inspections are specified for the Reactor Coolant Pump flywheels and reactor vessel nozzles.

### D. Sprrification 5.7.1 - Component Cyclic or Transient Limit

This requirement ensures that certain components within the reactor coolant and secondary systems are maintained within their cyclic or transient limits over the life of the plant. These limits are monitored, recorded, and evaluated for component fatigue to provide confidence that each component will perform its intended function over a 40-year design life.

#### Conclusion

No new safety concerns are introduced by this proposed amendment since (1) a 40-year life was considered in the design of the plant and since (2) new or revised accident analyses, plant modifications, procedure changes, FSAR revisions, and technical specification revisions are not required. Note, however, that since the issuance of the operating licenses, numerous changes have been implemented to enhance safety and to address issues such as fire protection, ALARA, Equipment Qualification, and the TMI-2 Lessons Learned (NUREG 0737).

#### References

- Memorandum from Thomas A. Novak to Project Directors and Project Managers dated November 25, 1986, "Suggested Guidelines for Preparing License Amendment Dealing with Extension of Expiration Date of Operating Licenses"
- 2. Letter from TVA to NRC dated January 21, 1986.
- Letter from NRC to TVA dated May 5, 1988, "Safety Evaluations on Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events, 10 CFR 50.61 (TAC 59983/59984, MPA A-21)"
- 4. Sequoyah Nuclear Performance Plan, Revision 3.
- 5. Letter from TVA to NRC dated March 17, 1988, "Sequoyah Nuclear Plant (SQN) - Silicone Rubber Cable Environmental Qualification"
- 6. Letter from TVA to NRC dated June 1, 1988, "Sequoyah Nuclear Plant (SQN) Units 1 and 2; Watts Bar Nuclear Plant (WBN) Units 1 and 2 - Request for Additional Information Regarding Main Steam Line Breaks in Ice Condenser Plants"

### TABLE 1

# Sequoyah Nuclear Plant Unit 1

|       | Operation S | chedule  | Refueling Sc | chedule  |
|-------|-------------|----------|--------------|----------|
|       | Start       | End      | Start        | End      |
| Cycle | DATE        | DATE     | DATE         | DATE     |
| 3     | 4/17/84     | 8/22/85  | 8/22/85      | 8/15/88  |
| 4     | 8/15/88     | 2/07/90  | 2/07/90      | 4/26/90  |
| 5     | 4/26/90     | 10/27/91 | 10/27/91     | 1/13/92  |
| 6     | 1/13/92     | 7/15/93  | 7/15/93      | 10/01/93 |
| 7     | 10/01/93    | 4/03/95  | 4/03/95      | 6/20/95  |
| 8     | 6/20/95     | 12/20/96 | 12/20/96     | 3/08/97  |
| 9     | 3/08/97     | 9/08/98  | 9/08/98      | 11/25/98 |
| 10    | 11/25/98    | 5/27/00  | 5/27/00      | 8/13/00  |
| 11    | 8/13/00     | 2/13/02  | 2/13/02      | 5/02/02  |
| 12    | 5/02/02     | 11/02/03 | 11/02/03     | 1/19/04  |
| 13    | 1/19/04     | 7/21/05  | 7/21/05      | 10/07/05 |
| 14    | 10/07/05    | 4/09/07  | 4/09/07      | 6,26/07  |
| 15    | 6/26/07     | 12/26/08 | 12/26/08     | 3/14/09  |
| 16    | 3/14/09     | 5/31/10  | 22,20,00     | 5/14/09  |

# With License Extension +

| Operation Sche                   |  | chedule   | Refueling So  | chedule  |
|----------------------------------|--|---|---|--|
|                                  | Start  | End   | Start   | End  |
| Cycle                            | DATE   | DATE  | DATE  | DATE   |
| 16<br>17<br>18<br>19<br>20<br>21 | 3/14/09<br>12/01/10<br>8/19/12<br>5/08/14<br>1/25/16<br>10/13/17 | 9/14/10<br>6/02/12<br>2/19/14<br>11/08/15<br>7/27/17<br>4/15/19 | 9/14/10<br>6/02/12<br>2/19/14<br>11/08/15<br>7/27/17<br>4/15/19 | 12/01/10<br>8/19/12<br>5/08/14<br>1/25/16<br>10/13/17<br>7/02/19 |

+Cycles 3 through 15 would be the same

## TABLE 1 (Continued)

## Sequoyah Nuclear Plant Unit 2

|       | Operation Se | chedule  | Refueling So | chedule  |
|-------|--------------|----------|--------------|----------|
|       | Start        | End      | Start        | End      |
| Cycle | DATE         | DATE     | DATE         | DATE     |
| 3     | 12/26/84     | 11/09/88 | 11/09/88     | 1/26/89  |
| 4     | 1/26/89      | 8/02/90  | 8/02/90      | 10/19/90 |
| 5     | 10/19/90     | 4/25/92  | 4/25/92      | 7/12/92  |
| 6     | 7/12/92      | 1/16/94  | 1/16/94      | 4/05/94  |
| 7     | 4/05/94      | 10/10/95 | 10/10/95     | 12/27/95 |
| 8     | 12/27/95     | 7/02/97  | 7/02/97      | 9/18/97  |
| 9     | 9/18/97      | 3/25/99  | 3/25/99      | 6/11/99  |
| 10    | 6/11/99      | 12/15/00 | 12/15/00     | 3/03/01  |
| 11    | 3/03/01      | 9/07/02  | 9/07/02      | 11/24/02 |
| 12    | 11/24/02     | 5/30/04  | 5/30/04      | 8/16/04  |
| 13    | 8/16/04      | 2/20/06  | 2/20/05      | 5/09/06  |
| 14    | 5/09/06      | 11/13/07 | 11/13/07     | 1/30/08  |
| 15    | 1/30/08      | 8/05/09  | 8/05/09      | 10/22/09 |
| 16    | 10/22/09     | 5/31/10  |              |          |

## With License Extension +

| Operation So | chedule  | Refueling So   | chedule   |
|--------------|--|--|---|
| Start        | End  | Start  | End   |
| DATE         | DATE   | DATE   | DATE  |
| 10/22/09     | 4/28/11  | 4/28/11  | 7/15/11   |
| 7/15/11      | 1/18/13  | 1/18/13  | 4/06/13   |
| 4/06/13      | 10/11/14   | 10/11/14   | 12/28/14  |
| 12/28/14     | 7/03/16  | 7/03/16  | 9/19/16   |
| 9/19/16      | 3/26/18  | 3/26/18  | 6/12/18   |
| 6/12/18      | 12/16/19   | 12/16/19   | 3/04/20   |
| 3/04/20      | 8/31/21  |  |   |
|              | Operation So<br>Start<br>DATE<br>10/22/09<br>7/15/11<br>4/06/13<br>12/28/14<br>9/19/16<br>6/12/18<br>3/04/20 | Operation     Schedule       Start     End       DATE     DATE       10/22/09     4/28/11       7/15/11     1/18/13       4/06/13     10/11/14       12/28/14     7/03/16       9/19/16     3/26/18       6/12/18     12/16/19       3/04/20     8/31/21 | Operation Schedule     Refueling Schedule       Start     End     Start       DATE     DATE     DATE       10/22/09     4/28/11     4/28/11       7/15/11     1/18/13     1/18/13       4/06/13     10/11/14     10/11/14       12/28/14     7/03/16     7/03/16       9/19/16     3/26/18     3/26/18       6/12/18     12/16/19     12/16/19       3/04/20     8/31/21     10/12/18 |

+Cycles 3 through 15 would be the same

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### TABLE 2

## Sequoyah Nuclear Plant Unit 1

# Projected Occupational Exposure \*

### MAN-REM

| YEAR | OUTAGE    | NON-OUTAGE | TOTAL |
|------|-----------|------------|-------|
| 2010 | 450       | 180        | 630   |
| 2011 | NO OUTAGE | 250        | 250   |
| 2012 | 450       | 180        | 630   |
| 2013 | NO OUTAGE | 250        | 250   |
| 2014 | 450       | 180        | 630   |
| 2015 | 275       | 200        | 475   |
| 2016 | 150       | 225        | 375   |
| 2017 | 450       | 180        | 630   |
| 2018 | NO OUTAGE | 250        | 250   |
| 2019 | 450       | 180        | 630   |
| 2020 | 450       | 180        | 630   |

\* Assumes 20 man-rem per month during .on-outage and 150 man-rem per month during outage.

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## TABLE 2 (Continued)

# Sequoyah Nuclear Plant Unit 2

## Projected Occupational Exposure

### MAN-REM

| YEAR | OUTAGE    | NON-OUTAGE | <u>TO</u> ''. |
|------|-----------|------------|---------------|
| 2011 | 450       | 180        | 630           |
| 2012 | NO OUTAGE | 250        | 250           |
| 2013 | 450       | 180        | 630           |
| 2014 | 450       | 180        | 630           |
| 2015 | NO OUTAGE | 250        | 250           |
| 2016 | 450       | 180        | 630           |
| 2017 | NO OUTAGE | 250        | 250           |
| 2018 | 450       | 180        | 630           |
| 2019 | 80        | 240        | 320           |
| 2020 | 370       | 200        | 570           |
| 2021 | 450       | 180        | 630           |

ENCLOSURE 2 - TABLE 3 NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

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| PLANT: SEQUOYAH 1 (1                            | PWR) Number A | f Dorenood | 1982     |         |             |           |          |          |
|---|---------------|------------|----------|---------|-------------|-----------|----------|----------|
| INDIA 0 10D CLINICATON                          | Station       | Utility    | Contract | Total   | Station     | Utility   | Contract | Total    |
| REACTOR OPERATIONS & SURV.                      | capyoyees     | ceptores   | & Uthers | rersons | CITY LOYEES | cipioyees | a vuera  | TIAT-TAT |
| MAINTENANCE PERSONNEL                           | 29            | 26         | 0        |         | 10.800      | 7.900     | 0.0      |          |
| OPERATING PERSONNEL                             | 23            | -          | 27       |         | 5.100       | 0.500     | 7.400    |          |
| HEALTH PHYSICS PERSONNEL                        | m e           | - <        | 0 0      |         | 1.800       | 0.100     | 0.0      |          |
| ENGINEERING PERSONNEL                           | 00            |            | 00       |         | 0.0         | 0.0       | 0.0      |          |
| TOTAL   | 55            | 28         | 27       | 110     | 17.700      | 8.500     | 7.400    | 33.60    |
| ROUTINE MAINTENANCE                             |               |            |          |         |             |           |          |          |
| MAINTENANCE PERSONNEL                           | 375           | 40         | 0        |         | 89.400      | 7.200     | 0.0      |          |
| OPERATING PERSONNEL                             | 89            | 24         | 4        |         | 14.700      | 6.000     | 0.800    |          |
| HEALTH PHYSICS PERSONNEL                        | - 0           | 0 0        | 0        |         | 0.100       | 0.0       | 0.0      |          |
| SUPERVISORY PERSONNEL                           | 00            |            |          |         | 0.0         | 0.0       | 0.0      |          |
| TOTAL   | 465           | 64         | 4        | 533     | 104.200     | 13.200    | 0.800    | 118.20   |
| IN-SERVICE INSPECTION                           |               | 36         | 4        |         | 16 100      | 01 600    | 0        |          |
| DEDATTAC DEDEMANEL                              | +0            | 0/         | 0        |         | 001.01      | 000.12    | 0.01     |          |
| HEALTH PHYSICS DEDSONNEL                        | 20            | 0 -        | 0        |         | 0.0         | 0.200     | 0.0      |          |
| SUPERVISORY PERSONNEL                           | 0             | 0          | 0        |         | 0.0         | 0.0       | 0.0      |          |
| ENGINEERING PERSONNEL                           | 0             | 0          | 0        |         | 0.0         | 0.0       | 0.0      | Sec. 1   |
| TOTAL   | 67            | 85         | 37       | 189     | 17.200      | 24,400    | 19.100   | 60.70    |
| SPECIAL MAINTENANCE                             |               |            |          |         |             |           |          |          |
| MAINTENANCE PERSONNEL                           | 61            |            | 0        |         | 3.400       | 0.100     | 0.0      |          |
| OPERATING PERSONNEL                             | 0 0           | 0 0        | 0 0      |         | 0.0         | 0.0       | 0.0      |          |
| CUDEDUTEDOV DEDECAMACI                          |               |            |          |         | 0.0         | 0.0       | 0.0      |          |
| SUTERVISORI FERSONNEL                           | 00            | 00         | 00       |         | 0.0         | 0.0       | 0.0      |          |
| TOTAL   | 19            | 1          | 0        | 20      | 3.400       | 0.100     | 0.0      | 3.50     |
| MASTE PROCESSING<br>MAINTENANCE PERSONNEL       | 9             | 0          | 0        |         | 1.300       | 0.0       | 0.0      |          |
| OPERATING PERSONNEL                             | 22            | 0          | 0        |         | 3.500       | 0.0       | 0.0      |          |
| HEALTH PHYSICS PERSONNEL                        | 2             | 0          | 0        |         | 0.400       | 0.0       | 0.0      |          |
| SUPERVISORY PERSONNEL                           | 0 0           | 0 0        | 0 0      |         | 0.0         | 0.0       | 0.0      |          |
| CHUMMERAINS TENDUMEL                            | 30            | 0          | 0        | 30      | 5.200       | 0.0       | 0.0      | 5.20     |
| REFUELING                                       |               |            |          |         |             |           |          |          |
| MAIN FENANCE PERSONNEL                          | 101           | 77         | 0        |         | 43.900      | 4.600     | 0.0      |          |
| UPERATING PENJUNNEL<br>HEALTH DHVETCS PERSONNEL | 6             | 20         | 00       |         | 0.500       | 0 700     | 0.00     |          |
| SUPERVISORY PERSONNEL                           | 0             | 0          | 0        |         | 0.0         | 0.0       | 0.0      |          |
| ENGINEERING PERSONNEL                           |               | 0          | 0        |         | 0.0         | 0.0       | 0.0      |          |
| TOTAL   | 153           | 33         | 9        | 192     | 54.600      | 7.300     | 1.000    | 62.90    |
| TOTAL BY JOB FUNCTION<br>MAINTENANCE PERSONNEL  | 690           | 165        | o        | 765     | 163 900     | 41 400    | 0.0      | 205 30   |
| OPERATING PERSONNEL                             | 161           | 42         | 74       | 307     | 35.600      | 11.100    | 28.300   | 75.00    |
| HEALTH PHYSICS PERSONNEL                        | 9             | 4          | 0        | 12      | 2.800       | 1.000     | 0.0      | 3.80(    |
| SUPERVISORY F RSONNEL                           | 00            | 00         | 0 0      | 0 0     | 0.0         | 0.0       | 0.0      | 0.0      |
| GRAND TOTAL                                     | 789           | 211        | 74       | 1074    | 202.300     | 53.500    | 28.300   | 284.100  |

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|                            | Station     | litility   | Contract | Total       | Station   | Utility    | Contract    | Total       |
|----------------------------|-------------|------------|----------|-------------|-----------|------------|-------------|-------------|
| WORK & JOB FUNCTION        | Employees   | Employees  | & Others | Persons     | Employees | Employees  | & Others    | Man-Rems    |
| REACTOR OPERATIONS & SURV. | . suprepase | supregread | a same a | L'ALANINA . | supressed | amp ragaes | N. S. SUGLA | LINILLING   |
| MAINTENANCE PERSONNEL      | 188         | 477        | 6        |             | 12.237    | 19.316     | 2.408       |             |
| OPERATING PERSONNEL        | 86          | 0          | 0        |             | 8.664     | 0.000      | 0.000       |             |
| HEALTH PHYSICS PERSONNEL   | 34          | 0          | 33       |             | 4.686     | 0.000      | 10.758      |             |
| SUPERVISORY PERSONNEL      | 32          | 11         | 2        |             | 5.011     | 0.720      | 0.128       |             |
| ENGINEERING PERSONNEL      | 48          | 60         | 7        |             | 5.296     | 7.044      | 0.315       |             |
| TOTAL                      | 388         | 548        | 48       | 984         | 35.894    | 27.080     | 13.609      | 76.583      |
| ROUTINE MAINTENANCE        |             |            |          |             |           |            |             |             |
| MAINTENANCE PERSONNEL      | 197         | 535        | 3        |             | 43.789    | 78.759     | 0.031       |             |
| OPERATING PERSONNEL        | 86          | 0          | 0        |             | 6.514     | 0.000      | 0.000       |             |
| HEALTH PHYSICS PERSONNEL   | 34          | 0          | 33       |             | 3.573     | 0.000      | 1.906       |             |
| SUPERVISORY PERSONNEL      | 32          | 11         | 2        |             | 5.408     | 1.753      | 0.109       |             |
| ENGINEERING PERSONNEL      | 49          | 74         | 39       |             | 9.364     | 14.430     | 9.045       | - Andrewski |
| TOTAL                      | 398         | 620        |          | 1095        | 68.648    | 94.942     | 11.091      | 174.681     |
| IN-SERVICE INSPECTION      |             | 2025       |          |             | 0.040     | 00.070     |             |             |
| MAINTENANCE PERSONNEL      | 37          | 295        | 0        |             | 0.243     | 29.878     | 0.000       |             |
| OPERATING PERSONNEL        | 38          | 0          | 0        |             | 6.144     | 0.000      | 0.000       |             |
| HEALTH PHYSICS PERSONNEL   | 11          | 0          | 23       |             | 0.284     | 0.000      | 3.916       |             |
| SUPERVISORY PERSONNEL      | 22          | 1          | 22       |             | 0.208     | 0.310      | 0.000       |             |
| ENGINEERING PERSONNEL      | 36          | 48         | 36       | 621         | 2.640     | 40, 102    | 10.650      | 62 410      |
| IUIAL                      | 165         | 350        | 20       | 231         | 3.049     | 40.102     | 19.059      | 63.410      |
| SPECIAL MAINTENANCE        |             | 600        |          |             | 2.425     | 01.044     | 0.000       |             |
| MAINTENANCE PERSONNEL      | 174         | 508        | 0        |             | 3.435     | 91.244     | 0.000       |             |
| OPERATING PERSONNEL        | 75          | 0          | 0        |             | 0.445     | 0.000      | 0.000       |             |
| HEALTH PHYSICS PERSONNEL   | 25          | 0          | 21       |             | 0.586     | 0.000      | 0.311       |             |
| SUPERVISORY PERSONNEL      | 24          | 8          | 2        |             | 0.255     | 0.266      | 0.006       |             |
| ENGINEERING PERSONNEL      | 46          | 49         | 9        |             | 4.038     | 8.542      | 0.636       |             |
| IUTAL                      | 344         | 505        | 32       | 941         | 8.759     | 100.052    | 0.953       | 109.764     |
| WASTE PROCESSING           | 150         | 220        | 2        |             | 2.545     | 2.000      | 0.000       |             |
| MAINTENANCE PERSONNEL      | 100         | 239        | 2        |             | 3.345     | 3.000      | 0.250       |             |
| HEALTH DUVETCE DEDSONNEL   | 22          | 0          | 20       |             | 1.708     | 0.000      | 0.000       |             |
| CUDEDVISADY DEDSONNEL      | 32          | 2          | 20       |             | 0.469     | 0.000      | 0.164       |             |
| ENCINEEDING DEDSONNEL      | 28          | 11         | 0        |             | 0.430     | 0.010      | 0.000       |             |
| TOTAL                      | 314         | 252        | 22       | 588         | 13.390    | 3.056      | 0.414       | 16.860      |
| REFUELTING                 |             |            |          |             |           |            |             |             |
| MAINTENANCE PERSONNEL      | 113         | 309        | 1        |             | 4.106     | 44.872     | 0.115       |             |
| OPERATING PERSONNEL        | 43          | 0          | U        |             | 3,081     | 0.000      | 0.000       |             |
| HEALTH PHYSICS PERSONNEL   | 8           | 0          | 20       |             | 0.024     | 0.000      | 1.893       |             |
| SUPERVISORY PERSONNEL      | 17          | 6          | 1        |             | 2.070     | 0.069      | 0.002       |             |
| ENGINEERING PERSONNEL      | 42          | 31         | 0        |             | 2,955     | 6.552      | 0.000       |             |
| TOTAL                      | 223         | 346        | 22       | 591         | 12.236    | 51.493     | 2.010       | 65.739      |
| TOTAL BY JOB FUNCTION      |             |            |          |             |           |            |             |             |
| MAINTENANCE PERSONNEL      | 867         | 2363       | 12       | 3242        | 67.355    | 267.075    | 2.804       | 337,234     |
| OPERATING PERSONNEL        | 409         | 0          | 0        | 409         | 26.616    | 0.000      | 0.000       | 26,616      |
| HEALTH PHYSICS PERSONNEL   | 144         | 0          | 150      | 294         | 10.739    | 0.000      | 18,948      | 29,687      |
| SUPERVISORY PERSONNEL      | 127         | 45         | 8        | 180         | 13,410    | 3,128      | 0.245       | 16.783      |
| ENGINEERING PERSONNEL      | 245         | 273        | 87       | 605         | 24,456    | 46.522     | 25.739      | 96.717      |
| GRAND TOTAL                | 1792        | 2681       | 257      | 4730        | 142 576   | 316 725    | 47 736      | 507 037     |

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ENCLOSURE 2 - TABLE 3

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\* Workers may be counted in more than one category

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|  | NUMBER    | OF PERSONNE | ENCLOSURE 2 - | TABLE 3<br>1 BY WORK AN | ND JOB FUNCTI | ON               |          |                    |
|--|-----------|-------------|---------------|-------------------------|---------------|------------------|----------|--------------------|
| PLANT: *SEQUOYAH 1.2 (   | PWR)      |             | 1984          |                         |               |                  |          |                    |
|  | Number of | Personnel   | (>100 M-REM)  |                         |               |                  |          |                    |
| HODE & TOD CUNCTION  | Station   | Utility     | Contract      | lotal                   | Station       | Utility          | Contract | lotal<br>Mag Bornt |
| WUKK & JUB FUNCTION  | Employees | Employees   | & Others      | Persons                 | Employees     | <u>cmproyees</u> | & Uthers | righ-keins         |
| MATHTENANCE DEDSONNEL  | 602       | 662         | 0             |                         | 25 007        | 21 450           | 0 548    |                    |
| MAINTENANCE PERSONNEL  | 30.5      | 302         | 9             |                         | 16,703        | 0.000            | 0.000    |                    |
| WEATTH DUVETCE DEDSCHINET  | 50        | 2           | 6.9           |                         | 10.703        | 0.000            | 21 220   |                    |
| SUSEDVISODY DEDSONNEL  | 74        | 22          | 2             |                         | 10 738        | 2 388            | 0.226    |                    |
| ENCINEEDING DEDSONNE.  | 62        | 106         | 27            |                         | 12 357        | 15.559           | 1 218    |                    |
| TOTAL  | 794       | 692         | 96            | 1582                    | 85,177        | 39,397           | 23.212   | 147.786            |
|  |           |             |               |                         |               |                  |          |                    |
| ROUTINE MAINTENANCE  |           |             |               |                         |               |                  |          |                    |
| MAINTENANCE PERSONNEL  | 540       | 587         | 3             |                         | 120.746       | 72.022           | 0.030    |                    |
| OPERATING PERSONNEL  | 82        | 0           | 0             |                         | 1.737         | 0.000            | 0.000    |                    |
| HEALTH PHYSICS PERSONNEL   | 59        | 1           | 51            |                         | 4.741         | 0.000            | 1.288    |                    |
| SUPERVISORY PERSONNEL  | 63        | 23          | 2             |                         | 6.177         | 2.743            | 0.103    |                    |
| ENGINEERING PERSONNEL  | 62        | 95          | 39            |                         | 10.448        | 8.477            | 30.117   |                    |
| TOTAL  | 806       | 706         | 95            | 1607                    | 143.849       | 83.242           | 31.538   | 258.629            |
| IN_SERVICE INSPECTION  |           |             |               |                         |               |                  |          |                    |
| MAINTENANCE DEDSONNEL  | 226       | 236         | 9             |                         | 34 218        | 37 300           | 7.001    |                    |
| ODEDATING DEDSONNEL  | 26        | 0           | 0             |                         | 0.400         | 0.000            | 0.000    |                    |
| WEATTH DHYSTCS DEDSONNEL   | 20        | 0           | 35            |                         | 2 024         | 0.000            | 6.798    |                    |
| SUDEDVISODY DEDSONNEL  | 10        | 6           | 2             |                         | 0 938         | 2 191            | 0.053    |                    |
| SUPERVISURT PERSONNEL  | 55        | 54          | 17            |                         | 5 960         | 13 607           | 31 173   |                    |
| TOTAL  | 356       | 296         | 93            | 745                     | 43.540        | 53,197           | 45.025   | 141.762            |
|  |           | 6.2.V       |               |                         |               | 223.23           |          |                    |
| SPECIAL MAINTENANCE  |           |             |               |                         |               |                  |          |                    |
| MAINTENANCE PERSONNEL  | 415       | 622         | 6             |                         | 37.351        | 229.127          | 1.955    |                    |
| OPERATING PERSONNEL  | 75        | 0           | 0             |                         | 0.990         | 0.000            | 0.000    |                    |
| HEALTH PHYSICS PERSONNEL   | 57        | 0           | 37            |                         | 5.936         | 0.000            | 0.618    |                    |
| SUPERVISORY PERSONNEL  | 60        | 18          | 1             |                         | 8.158         | 2.120            | 0.032    |                    |
| ENGINEERING PERSONNEL  | 58        | 33          | 11            |                         | 12.280        | 10,183           | 1.670    | in the second      |
| TOTAL  | 665       | 723         | 55            | 1443                    | 64.715        | 241,430          | 4.275    | 310.420            |
| WASTE DROCESSING   |           |             |               |                         |               |                  |          |                    |
| MATHTENANCE DEDSONNEL  | 368       | 271         | 3             |                         | 19 822        | 8 197            | 0 840    |                    |
| ODEDATING DEDSONNEL  | 01        | 0           | ñ             |                         | 11.831        | 0.000            | 0.000    |                    |
| HEALTH DHYSTCS DEDSONNEL   | 60        | 0           | 47            |                         | 5 849         | 0.000            | 0.721    |                    |
| SUPERVISORY PERSONNEL  | 40        | 9           | 1             |                         | 0.992         | 0.105            | 0.007    |                    |
| ENGINEERING PERSONNEL  | 45        | 40          | 2             |                         | 0,193         | 1.024            | 0.005    |                    |
| TOTAL  | 604       | 320         | 53            | 977                     | 38.687        | 9.326            | 1.573    | 49.500             |
| A REAL PROPERTY AND A REAL |           |             |               |                         |               |                  |          |                    |
| REFUELING  |           | -           |               |                         |               |                  |          |                    |
| MAINTENANCE PERSONNEL  | 352       | 347         | 4             |                         | 69.132        | 64.188           | 0.025    |                    |
| OPERATING PERSONNEL  | 66        | 0           | 0             |                         | 10.394        | 0.000            | 0.000    |                    |
| HEALTH PHYSICS PERSONNEL   | 47        | 0           | 30            |                         | 1.698         | 0.000            | 1.106    |                    |
| SUPERVISORY PERSONNEL  | 35        | 3           | 1             |                         | 12.428        | 0.997            | 0.137    |                    |
| ENGINEERING PERSONNEL  | 55        | 36          | 5             |                         | 8.856         | 5.648            | 0.798    |                    |
| TOTAL  | 555       | 386         | 40            | 981                     | 102.508       | 70.833           | 2.066    | 175.407            |
| TOTAL BY JOB FUNCTION  |           |             |               |                         |               |                  |          |                    |
| MAINTENANCE PERSONNEL  | 2404      | 2625        | 34            | 5063                    | 307,176       | 432.383          | 10.399   | 749,958            |
| OPERATING PERSONNEL  | 435       | 0           | 0             | 435                     | 42.055        | 0.000            | 0.000    | 42.055             |
| HEALTH PHYSICS PERSONNEL   | 313       | 3           | 258           | 574                     | 39 720        | 0.000            | 31,751   | 71 471             |
| SUPERVISORY DEDCONNEL  | 201       | 81          | 9             | 381                     | 39 431        | 10.544           | 0.558    | 50 533             |
| ENGINEEDING DEDSONNEL  | 337       | 414         | 131           | 882                     | 50.094        | 54 498           | 64 981   | 169 573            |
| CRAND TOTAL  | 3780      | 3123        | 432           | 7335                    | 478 476       | 497 425          | 107 689  | 1083 590           |
|  | 17010     | 116.3       | 10.16         |                         | 14/12/14/12   |                  |          |                    |

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\* Workers may be counted in more than one category

|                            | NUMBER    | OF FLRSONNE | L AND MAN-RE    | M BY WORK A | ND JOB FUNCTION | ON        |                |             |
|----------------------------|-----------|-------------|-----------------|-------------|-----------------|-----------|----------------|-------------|
| PLANT: SEQUOYAH 1. 2       | (PWR)     |             | 1985            | )           |                 |           |                |             |
|                            | Number of | Personnel   | (>100 M-REM)    |             | e               |           | Contract       | Tetal       |
| LIGHT A TOD CUNCTION       | Station   | Utility     | Contract        | lotal       | Station         | Utility   | Contract       | Total       |
| WURK & JUB FUNCTION        | Employees | Employees   | & <u>Others</u> | Persons     | Employees       | Employees | & Uthers       | man-kems    |
| REACTOR OPERATIONS & SURV. | 110       |             |                 | 6.2.0       | 10 100          | 1.040     | 0.040          | 26. 220     |
| MAINTENANCE PERSONN' _     | 613       | 4           | Z               | 519         | 15.468          | 1,042     | 0.040          | 36.370      |
| OPERATING PERSONNEL        | 14        | 1           | 9               | 84          | 14.258          | 0.005     | 0.586          | 14.347      |
| HEALTH PHYSICS PERSONNEL   | 65        | 25          | 14              | 104         | 24.649          | 7.400     | 3.260          | 35.515      |
| SUPERVISORY PERSONNEL      | 33        | 21          | 2               | 56          | 3.305           | 0.916     | 0.190          | 4.411       |
| ENGINEERING PERSONNEL      | 119       | 49          | 50              | 218         | 17.799          | 3.104     | 0.792          | 21.695      |
| TOTAL                      | 904       | 100         | 11              | 1081        | 95.477          | 12.467    | 4.894          | 112.338     |
| ROUTINE MAINTENANCE        |           |             |                 |             |                 |           |                |             |
| MAINTENANCE PERSONNEL      | 642       | 2           | 2               | 546         | 200.390         | 0.010     | 0.109          | 201.013     |
| OPERATING PERSONNEL        | 66        | 0           | 5               | 71          | 1.224           | v.000     | 2.922          | 4.146       |
| HEALTH PHYSICS PERSONNEL   | 64        | 23          | 11              | 98          | 8.549           | 0.715     | 1.745          | 11.027      |
| SUPERVISORY PERSONNEL      | 31        | 15          | 2               | 48          | 5.019           | 0.137     | 0.091          | 5.247       |
| ENGINEERING PERSONNEL      | 111       | 38          | 63              | 212         | 18.593          | 5.336     | 46.645         | 70,974      |
| TOTAL                      | 914       | 78          | 83              | 1075        | 234.375         | 6.322     | 51.510         | 292.407     |
| IN-SERVICE INSPECTION      |           |             |                 |             |                 |           |                |             |
| MAINTENANCE PERSONNEL      | 303       | 5           | 18              | 326         | 56.969          | 0.201     | 18.004         | 75.174      |
| OPERATING PERSONNEL        | 33        | 2           | 4               | 39          | 0.599           | 0.057     | 0.055          | 0.711       |
| HEALTH PHYSICS PERSONNEL   | 48        | 19          | 9               | 76          | 11.978          | 3.982     | 3.019          | 18,979      |
| SUPERVISORY PERSONNEL      | 17        | 17          | 3               | 37          | 0.898           | 1.753     | 0.165          | 2.314       |
| ENGINEERING PERSONNEL      | 77        | 42          | 63              | 182         | 7.840           | 34,478    | 42.012         | 84,330      |
| ΤΟΤΑΙ                      | 478       | 85          | 97              | 660         | 77.764          | 40,471    | 63.253         | 181.508     |
| SPECIAL MAINTENANCE        |           | ~~~         |                 |             |                 |           |                | 1011000     |
| MAINTENANCE PERSONNEL      | 560       | 2           | 2               | 564         | 164.383         | 0.037     | 0.333          | 164.753     |
| OPERATING PERSONNEL        | 52        | 0           | 3               | 55          | 0.386           | 0.000     | 0.342          | 0.728       |
| HEALTH PHYSTOS DEPSONNEL   | 62        | 18          | 10              | 90          | 5 784           | 2 742     | 2 037          | 10.563      |
| SUPERVISORY PERSONNEL      | 25        | 10          | 2               | 28          | 1 520           | 0.005     | 0.003          | 1 533       |
| ENCINEEDING DEDSONNEL      | 109       | 21          | 100             | 249         | 14 717          | 2 157     | 102 805        | 110 570     |
| ENGINEERING PERSUNNEL      | 907       | 52          | 126             | 0.95        | 186 700         | 4 941     | 105 525        | 207 256     |
| IVIAL                      | 007       | 26          | 160             | 200         | 100.790         | 4.241     | 102.265        | 671.620     |
| WASTE PROLESSING           | 206       | 0           | 0               | 206         | 14 452          | 0.000     | 0 000          | 14 462      |
| MAINTENANCE PERSONNEL      | 300       | 0           | 0               | 300         | 14.400          | 0.000     | 0.000          | 14.400      |
| UPERATING PERSONNEL        | 13        | 0           | 5               | 78          | 11.417          | 0.000     | 2.549          | 13.905      |
| HEALTH PHYSICS PERSONNEL   | 03        | 9           | 5               | 11          | 4.451           | 0.054     | 0.205          | 4.770       |
| SUPERVISORY PERSONNEL      | 17        | 0           | 0               | 17          | 1.179           | 0.000     | 0.000          | 1.179       |
| ENGINEERING PERSONNEL      | 43        |             |                 | 40          | 0.182           | 0.022     | 0.305          | 0.510       |
| TOTAL                      | 502       |             | li              | 524         | 31,682          | 0.076     | 3.119          | 34.877      |
| REFUELING                  |           |             |                 | 1           |                 |           | and the second | and shared  |
| MAINTENANCE PERSONNEL      | 315       | 2           | 2               | 319         | 70.886          | 1.350     | 1.500          | 74.236      |
| OPERATING PERSONNEL        | 46        | 3           | 2               | 51          | 6.563           | 0.328     | 2.335          | 9.226       |
| HEALTH PHYSICS PERSONNEL   | 39        | 15          | 5               | 59          | 1.469           | 2.965     | 1.423          | 5.357       |
| SUPERVISORY PERSONNEL      | 16        | 0           | 2               | 18          | 7.300           | 0.000     | 0.023          | 7.413       |
| ENGINEERING PERSONNEL      | 70        | 21          | 4               | 95          | 11.379          | 1.153     | 0.058          | 12.588      |
| TOTAL                      | 486       | 41          | 15              | 542         | 97.687          | 6.296     | 5.337          | 109.520     |
| TOTAL BY JOB FUNCTION      |           |             |                 |             |                 |           |                |             |
| MAINTENANCE PERSONNEL      | 2739      | 15          | 26              | 2780        | 543.069         | 3.144     | 20.006         | 566.199     |
| OPERATING PERSONNEL        | 34-4      | 6           | 28              | 378         | 34.445          | 0.390     | 8,788          | 43.623      |
| HEALTH PHYSICS PERSONNEL   | 341       | 109         | 54              | 504         | 56.830          | 17.878    | 11,753         | 86.511      |
| SUPERVISORY PERSONNEL      | 139       | 54          | 11              | 204         | 18,811          | 2.811     | 0.475          | 22.097      |
| ENGINEERING PERSONNEL      | 528       | 183         | 290             | 1001        | 70,610          | 46.550    | 192,616        | 309.776     |
| GRAND TOTAL                | 4091      | 367         | 409             | 4867        | 723,795         | 70.773    | 233,638        | 1028,206    |
| WINDER IVITE               | 18.2      | M M I       | A 4             | 1XXI        | - N.M. S        | NIT A     | PERCENT MARK   | MAN MALEN Y |

ENCLOSURE 2 - TABLE 3

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| PLANT:     SEQUOYAH     1.2     (PMR)     Number of Personnel 1010     Monthey of Personnel 1010     Formation       MORK & JOB FUNCTION<br>REALTOR OPERATIONS & SURV.     Station     Utility     Contract     Total     Station     Utility     Contract     Total       MORK & JOB FUNCTION<br>REALTOR OPERATIONS & SURV.     Employees     Enthers     Persons     Employees     & Others     Maintenance     Station     Utility     Contract     Total       REALTOR OPERATIONS & SURV.     71     0     3     1     1.1,298     0.000     0.0400     1.4,597       SELINCERING PERSONEL     71     0     3     1.4     1.1,298     0.000     0.0400     1.4,597       SELINCERING PERSONEL     72     1.7     60     149     9.005     2.435     19.365     92.007       OPERATING PERSONEL     76     42     79     987     68.297     1.900     7.67     3.90       OPERATING PERSONEL     76     2.436     0.000     1.927     3.90       OPERATING PERSONEL     75     0.010     0  |  | NUMBED    |             | ENCLOSURE 2 - | TABLE 3   | ND TOR FUNCTI | ON        |          |          |
|--|--|-----------|-------------|---------------|-----------|---------------|-----------|----------|----------|
| Number of Personnel (>100 P-RCM)     Station     Utility     Contract     Total       MORK & JOR FUNCTION     Employees     Subters     Fersons     Employees     Subters     Fersons     Employees     Subters     Man.Ref       MORK & JOR FUNCTION     Supervision     47     1     5     5/3     29.716     0.000     1.682     31.300       MORATING PERSONEL     47     0     0     -7     14.974     0.000     0.000     1.482       SUPERVISORY PERSONEL     72     14.074     0.000     1.918     8.136     4.444       MULINE SUPERVISORY PERSONEL     72     1/4     0.01     1.922     2.005     2.4350     17.021     2.007       MORITIMENTERMATE     559     0     16     5.75     143.973     0.000     3.807     151.781       DEPRENTING PERSONEL     26     0     0.48     7.638     0.000     2.365     1.43.972     23.67       DEPRENTING PERSONEL     26     2.4     1     51.781     0.000     2.26.92     1.92.92   | PLANT: SEQUOYAH 1. 2   | (PWR)     | UF PERSUNNI | 1986          | DI WUKK A | ND JUB FUNCTI | UN        |          |          |
| MORK S. JOB FUNCTION     Station     Utility     Contract     Total     Station     Station <th< th=""><th></th><th>Number of</th><th>Personnel</th><th>(&gt;100 M-REM)</th><th></th><th></th><th></th><th></th><th></th></th<>   |  | Number of | Personnel   | (>100 M-REM)  |           |               |           |          |          |
| MORK A. JOB FUNCTION     Imployees     Employees   | And a second | Station   | Utility     | Contract      | Total     | Station       | Utility   | Contract | lotal    |
| REACLOR QPERAILONS & SUPX<br>REAL OF QPERAILONS & SUPX<br>MEDINICAMEL PERSONALL 547 1 0 3 -2 11.708 0.000 0.0466 11.809<br>OPERAILING PERSONALL 71 0 3 -2 11.708 0.000 0.0466 11.809<br>OPERAILING PERSONALL 72 17 0 1 -2 17.98 0.000 0.0466 11.809<br>SIGLE SPERSONAL 72 17 0 1 -2 17.98 0.000 0.0466 11.809<br>SUPERVISES PERSONAL 72 17 0 1 -2 17 0 1 -2 17.98 0.000 0.0466 11.809<br>SUPERVISES PERSONAL 72 17 0 1 -2 17 0 0 1 -2 198 0.136 4.949<br>UTIME MAINTENANCE<br>MAINTENANCE SERVICE 1559 0 16 575 143.973 0.000 3.807 151.781<br>OPERAILING PERSONAL 559 0 16 575 143.973 0.000 1.807 151.781<br>OPERAILING PERSONAL 56 0 5 71 2.267 0.000 1.727 3.99<br>PERAILING PERSONAL 64 9 62 155 6.311 1.000 1.6027 2.627<br>ENGINEERING PERSONAL 76 -2 16 -2 189 0.436 0.000 0.0000 7.633<br>DEPERVISEY PERSONAL 76 -2 15 6.311 1.000 1.637 151.781<br>DIAL 763 33 26 900 166.377 1.449 20.023 1193.91<br>DIAL 763 33 26 900 166.317 1.449 20.023 1193.91<br>DIAL 763 33 26 900 165.317 1.449 20.023 1193.91<br>DIAL 763 33 26 900 165.317 1.449 20.023 1193.91<br>DIAL 763 33 26 900 165.317 1.449 20.023 1193.91<br>DIAL 763 33 26 900 165.358 0.000 0.000 3.585<br>SUPERVISORY PERSONAL 16 0 0 157 19.495 0.000 0.000 5.68<br>SUPERVISORY PERSONAL 428 0 32 0.038 5.044 0.000 5.68<br>SUPERVISORY PERSONAL 42 10 4 64 63 0.018 0.2577 0.000 0.000 3.557<br>SUPERVISORY PERSONAL 475 21 0.02 0.5572 0.000 0.000 3.557<br>SUPERVISORY PERSONAL 45 0 4 60 0.46 1.40.95 1.9554 18.548 161.55<br>SUPERVISORY PERSONAL 45 0 0 0 141 5.827 0.000 0.000 2.57<br>SUPERVISORY PERSONAL 45 0 0 0 12 0.000 0.000 2.748<br>SUPERVISORY PERSONAL 46 0 0 141 5.827 0.000 0.000 2.748<br>SUPERVISORY PERSONAL 475 21 0.00 12 0.000 0.000 0.000 2.748<br>SUPERVISORY PERSONAL 475 21 0.00 12 0.000 0.000 0.000 0.000 0. | WORK & JOB FUNCTION  | Employees | Employees   | & Others      | Persons   | Employees     | Employees | & Others | Man-Kems |
| MAINTRANCE     Solar     21 H     10 S     50 S     21 H     71 B     00 S     1 - 36 L     31 - 30 L       PERATINE PERSONNEL     71 O     0     3     1 H     11 H     10 B     0.000     0.000     14 97       PERATINE PERSONNEL     70 D     24 O     54 D     2.744 D     1.918     8.136 d     4.497       INCINETRINE PERSONNEL     72 D     60 D     149 D     3.005 Z     2.436 D     7.621 Z     22.07       INCINETRINE PERSONNEL     76 D     16 S     75 D     143.973 D     0.000 D     3.807 D     151.780       OPERATINE PERSONNEL     56 D     5 7 D     14 7.630 D.000 D     3.807 D     151.780       MAINTENANCE PERSONNEL     66 D     5 7 D     12 Z.67 D.0000 D     1.727 D     2.99       INCINETRINE PERSONNEL     16 D     9 G2 D     155 B.510 D     0.000 D     0.000 Z.57       SUPERVISORY PERSONNEL     16 D     0 D     157 D     9.495 D.000 D     0.000 D  | REACTOR OPERATIONS & SURV.   |           |             |               |           | 20. 716       | 0.000     | 1 602    | 21 201   |
| OPERATING PERSONNEL     71     0     3     73     11.793     0.0000     <  | MAINTENANCE PERSONNEL  | 547       | 1           | 15            | 503       | 29.716        | 0.003     | 1.582    | 31.301   |
| HALTH PHYSICS PERSONNEL 29 24 1 54 2.974 0.000 0.000 1.927 2.436 17.662 29 27 17 101AL 76 42 79 88 68.297 4.357 19.385 29.83<br>BOUTINE MERTERING PERSONNEL 72 11 0.0 149 3.000 2.436 17.662 29.43<br>BOUTINE MERTERING PERSONNEL 72 11 0.0 149 3.000 2.436 17.662 29.43<br>BOUTINE MERTERING PERSONNEL 75 9 0 16 575 143.973 0.000 3.807 151.761<br>OPERATING PERSONNEL 55 9 0 16 575 143.973 0.000 1.727 3.99<br>HALTH PHYSICS PERSONNEL 64 9 6 0 5 71 2.267 0.000 1.727 3.99<br>HALTH PHYSICS PERSONNEL 64 9 6 2 155 2.189 0.436 0.000 2.66<br>SUPERVISORY PERSONNEL 64 9 62 155 2.189 0.436 0.000 2.602 2.62<br>IN-SERVISORY PERSONNEL 64 9 62 2155 8.510 1.004 14.557 23.87<br>ININERETING PERSONNEL 64 9 62 155 8.510 1.004 14.557 23.87<br>ININEL 16 0 0 157 19.495 0.000 0.000 19.49<br>OPERATING PERSONNEL 16 0 0 156 0.019 0.000 0.000 19.49<br>OPERATING PERSONNEL 16 0 0 156 0.019 0.000 0.000 19.49<br>OPERATING PERSONNEL 16 0 0 156 0.019 0.000 0.000 19.49<br>OPERATING PERSONNEL 16 0 0 156 0.019 0.000 0.000 0.000 0.558<br>SUPERVISORY PERSONNEL 16 0 0 156 0.019 0.000 0.000 0.558<br>SUPERVISORY PERSONNEL 16 0 0 156 0.019 0.000 0.000 0.558<br>SUPERVISORY PERSONNEL 17 1 2.0 26 0.038 0.017 6.531 7.557<br>SUPERVISORY PERSONNEL 17 1 2.1 30 0.032 3.559 0.000 0.000 0.558<br>SUPERVISORY PERSONNEL 47 21 0.2 36 0.038 0.017 6.531 7.557<br>SUPERVISORY PERSONNEL 549 1 11 561 124.938 0.000 2.251 127.18<br>MAINTENANCE PERSONNEL 549 1 11 561 124.938 0.000 2.251 127.18<br>MALTENANCE PERSONNEL 549 1 11 561 124.938 0.000 2.251 127.18<br>MALTENANCE PERSONNEL 549 1 11 561 124.938 0.000 2.251 127.18<br>MALTENANCE PERSONNEL 549 1 11 561 124.938 0.000 2.251 127.18<br>MALTENANCE PERSONNEL 54 1 0 46 2.514 0.005 0.0000 2.518<br>SUPERVISORY PERSONNEL 54 1 0 46 2.514 0.005 0.0000 2.518<br>SUPERVISORY PERSONNEL 54 1 0 46 2.514 0.005 0.0000 2.518<br>MALTENANCE PERSONNEL 55 0 4 4 69 3.4109 1.422 5.550 1.5531 35.752<br>SUPERVISORY PERSONNEL 54 0 0 17 0.190 0.000 0.022<br>MALTENANCE PERSONNEL 54 0 0 2 411 7.972 0.000 0.000 2.52<br>MALTENANCE PERSONNEL 54 0 0 0 46 1.403 0.0000 0.000 0.22<br>MAINTENANCE PERSONN   | OPERATING PERSONNEL  | n         | 0           | 3             | 11        | 11.798        | 0.000     | 0.040    | 11.844   |
| SUPERVISIONY PERSONALE     29     24     1     54     2.74     1.918     0.1385     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366     4.366  | HEALTH PHYSICS PERSONNEL   | 47        | 0           | 0             | 4/        | 14.9/4        | 0.000     | 0.000    | 14.974   |
| ENGLIFERING PERSONNEL     72     17     60     149     9.005     2.4.35     17.621     22.07       BUTINE MARCE     72     987     68.297     4.357     19.385     22.07       BUTINE MARCE PERSONNEL     559     0     16     575     143.973     0.000     3.807     151.78       DERATING PERSONNEL     56     0     5     7     2.267     0.000     1.727     3.99       HALTH PHYSICS PERSONNEL     26     24     1     5     2.169     0.006     0.000     2.62       ENCIRCE FIRSONNEL     64     9     62     155     8.510     1.040     20.033     189.911       INSERVICE INSECTION     101A     763     33     64     900     166.000     0.000     1.000     3.508       UPRATING PERSONNEL     16     0     0     157     19.495     0.000     0.000     3.508       INSERVICE PERSONNEL     17     0     0     157     19.495     0.000     3.508       INSE  | SUPERVISORY PERSONNEL  | 29        | 24          |               | 54        | 2.194         | 1.918     | 8.130    | 4.848    |
| IOTAL     766     42     79     987     68,297     4,357     79,382     52,433       ROUTINE_MAINEE     559     0     16     575     143,973     0.000     3,807     151,781       MAINTEMANCE     559     0     16     575     143,973     0.000     1,727     51,790       OPERATING PERSONNEL     26     0     5     71     2,267     0.000     1,727     51,790       INTENANCE PERSONNEL     26     2     62     155     8,510     1,004     14,557     23,87       IOTAL     703     33     64     900     168,377     1,440     20,033     189,91       INSERVISORY PERSONNEL     157     0     0     157     19,495     0.000     0.000     19,495       OPERATING PERSONNEL     157     0     0     157     19,495     0.000     0.000     3.58       SUPERVISORY PERSONNEL     16     0     32     0.636     5.544     0.000     3.561       SUPERVI   | ENGINEERING PERSONNEL  | 12        | 17          | 60            | 149       | 9.005         | 2.430     | 17.021   | 29.072   |
| BOUTLER_MAINTENANCE     559     0     16     575     143.973     0.000     3.807     151.781       MAINTENANCE PERSONNEL     56     0     5     71     2.267     0.000     1.727     3.99       MEALTH MYNICS PERSONNEL     26     24     1     51     2.189     0.436     0.000     2.662       INGINERING PERSONNEL     26     24     1     51     2.189     0.436     0.000     2.622       INGINERING PERSONNEL     763     33     84     900     168.377     1.440     20.093     189.291       IN-SERVICE INSPECTION     MAINTENANCE PERSONNEL     16     0     0     16     0.019     0.000     0.000     9.99       MAINTENANCE PERSONNEL     16     0     0     36     3.588     0.000     0.000     0.000     3.58       SUPERVISORY PERSONNEL     4     28     0     32     0.388     5.044     0.000     5.51     7.56       INCHANCE PERSONNEL     4     28     0     32  | TOTAL  | 766       | 42          | 79            | 387       | 68.297        | 4.357     | 19,385   | 92.039   |
| MAINTERNANCE PERSONNEL     559     0     16     575     143.973     0.000     3.807     151.78       DPERATING PERSONNEL     56     0     5     71     2.667     0.000     1.727     3.99       HEALTH PHYSICS PERSONNEL     66     0     48     7.638     0.000     0.000     7.63     3.99       INSTEMATION PERSONNEL     64     9     62     155     8.510     1.004     14.557     7.23.67       INSTEMATION PERSONNEL     64     9     62     155     8.510     1.004     14.557     7.23.67       MAINTERNANCE PERSONNEL     157     0     0     157     19.495     0.000     0.000     0.000     3.58       SUPERVISORY PERSONNEL     157     0     0     3.63     3.588     0.000     0.000     3.508       SUPERVISORY PERSONNEL     72     11     22     66     0.518     0.517     6.531     35.55       SPECIAL MAINTENANCE     7     101AL     240     39     23     0.527 <td>ROUTINE MAINTENANCE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>  | ROUTINE MAINTENANCE  |           |             |               |           |               |           |          |          |
| OPERATING PERSONNEL     56     0     5     71     2.267     0.000     1.727     3.99       HEALTH PHYSICS PERSONNEL     26     0     48     7.638     0.000     0.000     7.63       SUPERVISORY PERSONNEL     26     24     1     51     2.189     0.436     0.000     2.62       IOIAL     763     33     84     900     168.377     1.440     20.932     189.91       IN-SERVICE INSPECTION     0     0     16     0.19     4.44     20.000     0.000     9.49       OPERATING PERSONNEL     157     0     0     157     19.495     0.000     0.000     9.49       MAINTEAMACE PERSONNEL     36     0     0     36     3.588     0.000     0.000     3.56       SUPERVISORY PERSONNEL     27     11     26     66     0.518     0.517     6.531     7.56       INCIMERTING PERSONNEL     27     11     26     0.400     2.31     7.56       PICIAL MAINTEMACE     71 <td>MAINTENANCE PERSONNEL</td> <td>559</td> <td>0</td> <td>16</td> <td>575</td> <td>143.973</td> <td>0.000</td> <td>3.807</td> <td>151.780</td>  | MAINTENANCE PERSONNEL  | 559       | 0           | 16            | 575       | 143.973       | 0.000     | 3.807    | 151.780  |
| HEALTH PHYSICS PERSONNEL     48     6     0     48     7.638     0.000     7.638       SUPERVISORY PERSONNEL     64     9     62     155     8,510     1,004     14,557     23.89       INSERVISE     101AL     763     33     84     900     168,377     1,440     20.093     189.91       INSERVISE     INSERVISE     16     0     16     0.019     6.000     0.000     19.49       MAINTENANCE     PERSONNEL     16     0     16     0.019     6.000     0.000     3.58       SUPERVISOR     36     3.588     0.000     0.000     3.59       INTEL     24     28     0     32     0.038     5.044     0.000     3.50       SUPERVISONNEL     27     11     26     66     0.516     0.531     7.56       SUPERVISONNEL     27     11     26     66     0.516     0.000     2.51     127.18       SUPERVISONNEL     549     1     11     56   | OPERATING PERSONNEL  | 56        | 0           | 5             | 71        | 2.267         | 0.000     | 1.727    | 3.994    |
| SUPERVISORY PERSONNEL     26     24     1     51     2.189     0.436     0.002     2.62       FINGINEERING PERSONNEL     64     9     62     155     8.510     1.004     14.557     23.87       IN-SERVICE     INSPECTION      0     0.68.377     1.440     20.093     189.91       IN-SERVICE     INSPECTION      0     0     16     0.019     6.000     0.000     0.919       MAINTENANCE PERSONNEL     16     0     0     36     3.588     0.000     0.000     5.561       SUPERVISORY PERSONNEL     24     28     0     32     0.038     5.044     0.000     5.08       SUPERVISORY PERSONNEL     240     39     26     307     23.658     5.561     6.531     35.75       SPECIAL MAINTENANCE       0     46     2.514     0.000     2.361     3.57     22.188     3.57     22.188     3.57     22.188     3.57     3.57     3.57     3.57     3.561  | HEALTH PHYSICS PERSONNEL   | 48        | 6           | 0             | 48        | 7.638         | 0.000     | 0.000    | 7.638    |
| ENGINEERING PERSONNEL     64     9     62     155     8.510     1.004     14.557     23.87       IN-SERVICE     INSECTION     33     84     900     168.377     1.440     20.093     189.91       MAINTENANCE     PERSONNEL     157     0     0     157     19.495     0.000     0.000     9.49       OPERATING PERSONNEL     16     0     0     16     0.019     0.000     0.000     3.58       SUPERVISORY PERSONNEL     26     0     32     0.038     5.044     0.000     5.06       MAINTENANCE     27     11     26     66     0.518     0.517     6.531     35.75       INCINCERING PERSONNEL     27     11     26     307     23.658     5.561     6.531     35.75       PECIAL MAINTENANCE     MAINTENANCE     65     0     4     69     3.161     0.000     0.340     3.50       INELIM PHYSICS PERSONNEL     17     12     1     30     0.323     0.527     0.000 <td>SUPERVISORY PERSONNEL</td> <td>26</td> <td>24</td> <td>1</td> <td>51</td> <td>2.189</td> <td>0.436</td> <td>0.002</td> <td>2.627</td>  | SUPERVISORY PERSONNEL  | 26        | 24          | 1             | 51        | 2.189         | 0.436     | 0.002    | 2.627    |
| TOTAL     763     33     84     900     168.377     1.440     20.093     189.91       IN-SERVICE INSPECTION                33     84     900     168.377     1.440     20.093     189.91       MAINTERNARCE PERSONNEL     16     0     0     136     3.588     0.000     0.000     0.000     3.598       SUPERVISORY PERSONNEL     4     28     0     32     0.038     5.044     0.000     5.088       FINGINEERING PERSONNEL     7     11     26     66     0.518     0.517     6.531     35.75       SPECIAL MAINTENANCE       11     561     124.938     0.000     2.251     127.18       MAINTENANCE     PERSONNEL     157     1     0     46     2.514     0.000     2.351     5.75       SPECIAL MAINTENANCE     PERSONNEL     17     12     1     30     0.323     0.000     2.251  | ENGINEERING PERSONNEL  | 64        | 9           | 62            | 155       | 8.510         | 1.004     | 14.557   | 23.871   |
| IM-SERVICE INSPECTION       MAINTENANCE PERSONNEL     157     0     0     157     19.495     0.000     0.000     19.497       MAINTENANCE PERSONNEL     16     0     0     166     0.119     0.000   | TQTAL  | 763       | 33          | 84            | 900       | 168.377       | 1,440     | 20.093   | 189.910  |
| MAINTERNANCE     PERSONNEL     157     0     0     157     19.495     0.000     0.000     19.49       OPERATING PERSONNEL     16     0     0     36     3.588     0.000     0.000     3.58       SUPERVISORY PERSONNEL     2     0     32     0.38     5.044     0.000     5.08       SUPERVISORY PERSONNEL     2     11     2£     66     0.518     0.517     6.531     7.56       INTERNANCE     2     11     2£     66     0.518     0.000     2.551     7.56       INTERNANCE     2     1     1     561     1.24.938     0.000     2.51     127.18       OPERATING PERSONNEL     65     0     4     69     3.161     0.000     0.340     3.50       HEALTH PHYSICS PERSONNEL     17     12     1     30     0.323     0.527     0.000     2.51       SUPERVISORY PERSONNEL     17     12     1     30     0.323     0.527     0.000     3.58   | IN-SERVICE INSPECTION  |           |             |               |           |               |           |          |          |
| OPERATING PERSONNEL     16     0     0     16     0.019     0.000     0.000     0.000     0.000     3.58       SUPERVISORY PERSONNEL     4     28     0     32     0.038     5.044     0.000     5.000       IDITAL     27     11     26     66     0.518     0.517     6.531     7.550       IDITAL     270     39     26     307     23.658     5.561     6.531     35.755       SPECIAL MAINTENANCE     7     1     1561     124.938     0.000     2.361     127.18       OPERATING PERSONNEL     65     0     4     69     3.161     0.000     0.340     3.50       SUPERVISORY PERSONNEL     65     0     4     69     3.161     0.000     0.340     3.50       SUPERVISORY PERSONNEL     7     12     1     30     0.323     0.527     0.000     0.85       FIGINEERING PERSONNEL     69     9     84     162     10.109     1.422     15.957     27.48  | MAINTENANCE PERSONNEL  | 157       | 0           | 0             | 157       | 19.495        | 0.000     | 0.000    | 19.495   |
| HEALTH PHYSICS PERSONNEL   36   0   0   36   3.588   0.000   0.000   3.588     SUPERVISORY PERSONNEL   27   11   26   66   0.518   0.517   6.531   7.566     INGINEERING PERSONNEL   27   11   26   66   0.518   0.517   6.531   7.566     SPECIAL MAINTENANCE   Special   307   23.658   5.561   6.531   35.75     SPECIAL MAINTENANCE   Special   11   561   124.938   0.000   2.251   127.18     OPERATING PERSONNEL   65   0   4   69   3.161   0.000   0.340   3.50     HEALTH PHYSICS PERSONNEL   17   12   1   30   0.323   0.527   0.000   0.85     SUPERVISORY PERSONNEL   69   9   84   162   10.109   1.422   15.957   27.48     MAINTENANCE PERSONNEL   16   0   3   19   5.350   0.000   1.332   6.66     MAINTENANCE PERSONNEL   16   0   3   19   5.350   0.000   1.33  | OPERATING PERSONNEL  | 16        | 0           | 0             | 16        | 0.019         | 6.000     | 0.000    | 0.019    |
| SUPERVISORY PERSONNEL     4     28     0     32     0.038     5.044     0.000     5.08       ENGINEERING PERSONNEL     27     11     26     66     0.517     6.531     7.56       SPECIAL MAINTENANCE     7.56     307     23.658     5.561     6.531     35.75       SPECIAL MAINTENANCE     FRSONNEL     549     1     11     561     124.938     0.000     2.251     127.18       OPERATING PERSONNEL     549     1     11     561     124.938     0.000     2.251     127.18       OPERATING PERSONNEL     65     0     4     69     3.161     0.000     0.343     3.575       SUPERVISORY PERSONNEL     17     12     1     30     0.323     0.527     0.000     0.85       FUGINEERING PERSONNEL     17     12     1     30     0.323     0.527     0.000     2.64       MAINTENANCE PERSONNEL     17     0.2     30     1.422     1.557     27.48       MAINTENANCE PERSONNEL <th< td=""><td>HEALTH PHYSICS PERSONNEL</td><td>36</td><td>0</td><td>0</td><td>36</td><td>3.588</td><td>0.000</td><td>0.000</td><td>3.588</td></th<>  | HEALTH PHYSICS PERSONNEL   | 36        | 0           | 0             | 36        | 3.588         | 0.000     | 0.000    | 3.588    |
| ENGINEERING     PERSONNEL     27     11     26     66     0.518     0.517     6.531     7.56       JOTAL     240     39     26     307     23.658     5.561     6.531     35.75       SPECIAL MAINTENANCE     S     307     23.658     5.561     6.531     35.75       SPECIAL MAINTENANCE     S     307     23.658     5.561     6.531     35.75       SPECIAL MAINTENANCE     549     1     11     561     124.938     0.000     2.251     127.18       OPERATING PERSONNEL     65     0     4     69     3.161     0.000     0.340     3.50       SUPERVISORY PERSONNEL     17     12     1     30     0.323     0.527     0.000     0.81       SUPERVISORY PERSONNEL     69     9     84     162     10.109     1.422     15.957     27.48       MAINTENANCE PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       HEALTH PHYSICS PERSONNEL   | SUPERVISORY PERSONNEL  | 4         | 28          | 0             | 32        | 0.038         | 5.044     | 0.000    | 5.082    |
| TOTAL     240     39     26     307     23.658     5.561     6.531     35.75       SPECIAL MAINTENANCE     MAINTENANCE PERSONNEL     549     1     11     561     124.938     0.000     2.251     127.18       MAINTENANCE PERSONNEL     65     0     4     69     3.161     0.000     0.340     3.50       HEALTH PHYSICS PERSONNEL     45     1     0     46     2.514     0.005     0.000     2.51       SUPERVISORY PERSONNEL     69     9     84     162     10.199     1.422     15.957     27.48       MAINTENANCE PERSONNEL     141     0     0     141     5.827     0.000     0.582       PROINCERING PERSONNEL     141     0     0     141     5.827     0.000     1.332     6.68       MAINTENANCE PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       UPERVISORY PERSONNEL     16     0     3     221     15.213     0.000     0.000   | ENGINEERING PERSONNEL  | 27        | 11          | 28            | 66        | 0.518         | 0.517     | 6.531    | 7,566    |
| SPECIAL MAINTENANCE     Substrate     Subst     Substrate     Subst  | TOTAL  | 240       | 39          | 28            | 307       | 23.658        | 5.561     | 6.531    | 35.750   |
| STECLAL MALTERMANCE     Step     1     11     561     124.938     0.000     2.251     127.18       OPERATING PERSONNEL     65     0     4     69     3.161     0.000     0.340     3.50       HEALTH PHYSICS PERSONNEL     17     12     1     30     0.323     0.527     0.000     0.85       SUPERVISORY PERSONNEL     17     12     1     30     0.323     0.527     0.000     0.85       IOTAL     745     23     100     868     141.045     1.954     18.548     161.54       WASIE PROCESSING   | CDECTAL MATNITENANCE   |           |             |               |           |               |           |          |          |
| MAINTERANCE   DERSONNEL   DESP   1   11   DOI   124-330   0.000   2.121   12.50     MEALTH   PHYSICS   PERSONNEL   45   1   0   46   2.514   0.000   0.340   3.50     SUPERVISORY   PERSONNEL   17   12   1   30   0.323   0.527   0.000   0.84     SUPERVISORY   PERSONNEL   17   12   1   30   0.323   0.527   0.000   0.085     FIGINERING   PERSONNEL   17   12   1   30   0.323   0.527   0.000   0.085     FIGINERING   PERSONNEL   141   0   0   141   5.827   0.000   0.000   5.82     MAINTENANCE   PERSONNEL   16   0   3   19   5.350   0.000   1.332   6.68     MEALTH   PHYSICS   PERSONNEL   46   0   0   9   2.423   0.000   0.000   1.40     SUPERVISORY   PERSONNEL   6   0   0   6   0.210   0.000   0.000   | SPECIAL MAINTENANCE  | E 40      |             | 11            | 561       | 124 038       | 0.000     | 2 251    | 127 189  |
| OPERATING PERSONNEL     65     0     4     05     5.101     0.005     0.000     2.501       SUPERVISORY PERSONNEL     17     12     1     30     0.323     0.527     0.000     0.85       ENGINEERING PERSONNEL     17     12     1     30     0.323     0.527     0.000     0.85       ENGINEERING PERSONNEL     69     9     84     162     10.109     1.422     15.957     27.48       MAINTENANCE PERSONNEL     69     9     84     162     10.09     1.422     15.957     27.48       MAINTENANCE PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       MEALTH PHYSICS PERSONNEL     16     0     3     19     5.350     0.000     1.403     0.000     0.000     2.422     0.000     0.000     2.422     0.000     0.000     2.422     0.000     0.000     2.422     0.000     0.000     2.422     0.000     0.000     2.422     0.000     0.000     2.  | MAINTENANCE PERSONNEL  | 249       | 0           | 1             | 60        | 2 161         | 0.000     | 0.340    | 3 501    |
| HEALTH PHYSICS PERSONNEL   45   1   0   46   2.514   0.003   0.003   2.300     SUPERVISORY PERSONNEL   69   9   84   162   10.109   1.422   15.957   27.48     TOTAL   745   23   100   868   141.045   1.954   18.548   161.54     WASTE PROCESSING   | OPERATING PERSONNEL  | 00        | 0           | 4             | 09        | 2 514         | 0.000     | 0.040    | 2 510    |
| SUPERVISORY PERSONNEL   17   12   1   30   0.323   0.323   0.327   0.000   0.053     ENGINEERING PERSONNEL   69   9   84   162   10.109   1.422   15.957   27.48     WASTE PROCESSING  | HEALTH PHYSICS PERSONNEL   | 45        | 1           | U             | 40        | 2.314         | 0.003     | 0.000    | 0.000    |
| ENGINEERING PERSONNEL     69     9     84     162     10.109     1.422     15.957     27.488       MAINTENANCE PERSONNEL     745     23     100     868     141.045     1.954     18.548     161.54       WASTE PROCESSING         0     0     141     5.827     0.000     0.000     5.82       OPERATING PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       HEALTH PHYSICS PERSONNEL     46     0     0     46     1.403     0.000     0.000     1.40       SUPERVISORY PERSONNEL     9     0     0     9     2.423     0.000     0.000     2.41       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     MAINTENANCE PERSONNEL     109     0     2     111     17.972     0.000     0.000     0.000     0.1332     16.54       SUPERVISORY PERSONNEL     109     0 <td< td=""><td>SUPERVISORY PERSONNEL</td><td>17</td><td>12</td><td></td><td>30</td><td>0.323</td><td>0.527</td><td>0.000</td><td>0.850</td></td<>   | SUPERVISORY PERSONNEL  | 17        | 12          |               | 30        | 0.323         | 0.527     | 0.000    | 0.850    |
| IQTAL     745     23     100     868     141.045     1.954     16.546     161.54       WASTE PROCESSING     MAINTENANCE PERSONNEL     141     0     0     141     5.827     0.000     0.000     5.820       OPERATING PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       HEALTH PHYSICS PERSONNEL     46     0     0     46     1.403     0.000     0.000     1.403       SUPERVISORY PERSONNEL     9     0     0     9     2.423     0.000     0.000     2.423       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     MAINTENANCE PERSONNEL     109     0     2     111     17.972     0.000     0.022     17.990       MEALTH PHYSICS PERSONNEL     109     0     2     111     17.972     0.000     0.000     0.000     0.000       MAINTENANCE PERSONNEL     109     0     2     111     17.972  | ENGINEERING PERSONNEL  | 69        | 9           | 84            | 102       | 10.109        | 1.422     | 10.540   | 27,400   |
| WASTE     PROCESSING       MAINTENANCE     PERJONNEL     141     0     0     141     5.827     0.000     0.000     5.82       OPERATING     PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       HEALTH     PHYSICS     PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       SUPERVISORY     PERSONNEL     9     0     0     46     1.403     0.000     0.000     2.42       ENGINEERING     PERSONNEL     6     0     0     6     0.210     0.000     0.000     0.21       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     MAINTENANCE     PERSONNEL     109     0     2     111     17.972     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000  | TOTAL  | 745       | 23          | 100           | 808       | 141.045       | 1.954     | 18.548   | 101.247  |
| MAINTENANCE PERSONNEL     141     0     0     141     5.827     0.000     0.000     5.82       OPERATING PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       HEALTH PHYSICS PERSONNEL     46     0     0     46     1.403     0.000     0.000     1.40       SUPERVISORY PERSONNEL     9     0     0     9     2.423     0.000     0.000     2.42       ENGINEERING PERSONNEL     6     0     0     6     0.210     0.000     0.000     0.212       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     17     0     0     17     0.190     0.000     0.000     0.19       MAINTENANCE PERSONNEL     109     0     2     111     17.99     0.000     0.000     0.000     0.19       SUPERVISORY PERSONNEL     17     0     0     12     0.785     0.000     0.000     0.86   | WASTE PROCESSING   |           |             |               |           |               |           |          |          |
| OPERATING PERSONNEL     16     0     3     19     5.350     0.000     1.332     6.68       HEALTH PHYSICS PERSONNEL     46     0     0     46     1.403     0.000     0.000     1.40       SUPERVISORY PERSONNEL     9     0     0     9     2.423     0.000     0.000     2.42       ENGINEERING PERSONNEL     6     0     0     6     0.210     0.000     0.000     0.21       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING       0     17     0.190     0.000     0.000     0.19       OPERATING PERSONNEL     177     0     0     17     0.190     0.000     0.000     0.19       OPERATING PERSONNEL     177     0     0     17     0.190     0.000     0.000     0.78       SUPERVISORY PERSONNEL     20     0     22     0.785     0.000     0.86       ENGINERTING PERSONNEL     4   | MAINTENANCE PERSONNEL  | 141       | 0           | 0             | 141       | 5.827         | 0.000     | 0.000    | 5.827    |
| HEALTH PHYSICS PERSONNEL   46   0   0   46   1.403   0.000   0.000   1.40     SUPERVISORY PERSONNEL   9   0   0   9   2.423   0.000   0.000   2.422     ENGINEERING PERSONNEL   6   0   0   6   0.210   0.000   0.000   0.212     TOTAL   218   0   3   221   15.213   0.000   1.332   16.54     REFUELING   MAINTENANCE PERSONNEL   109   0   2   111   17.972   0.000   0.000   0.000   0.1332   16.54     REFUELING   MAINTENANCE PERSONNEL   109   0   2   111   17.972   0.000   0.000   0.000   0.1332   16.54     NEALTH PHYSICS PERSONNEL   17   0   0   17   0.190   0.000   0.000   0.000   0.000   0.000   0.19     HEALTH PHYSICS PERSONNEL   17   0   0   17   0.190   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000  | OPERATING PERSONNEL  | 16        | 0           | 3             | 19        | 5.350         | 0.000     | 1.332    | 6.682    |
| SUPERVISORY PERSONNEL     9     0     0     9     2.423     0.000     0.000     2.42       ENGINEERING PERSONNEL     6     0     0     6     0.210     0.000     0.000     0.21       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     MAINTENANCE PERSONNEL     109     0     2     111     17.972     0.000     0.300     0.19       OPERATING PERSONNEL     17     0     0     17     0.190     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     22     0     0     22     0.785     0.000     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     2     0     0     22     0.785     0.000     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     2     0     0     22     0.785     0.000     0.000     0.300       SUPERVISORY PERSONNEL     4     7     0     11     0.718     0.   | HEALTH PHYSICS PERSONNEL   | 46        | 0           | 0             | 46        | 1.403         | 0.000     | 0.000    | 1.403    |
| ENGINEERING PERSONNEL     6     0     6     0.210     0.000     0.211       TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     MAINTENANCE PERSONNEL     109     0     2     111     17.972     0.000     0.300     0.19       OPERATING PERSONNEL     17     0     0     17     0.190     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     22     0     0     22     0.785     0.000     0.000     0.86       SUPERVISORY PERSONNEL     4     7     0     11     0.718     0.150     0.000     0.86       ENGINEERING PERSONNEL     9     2     2     13     0.567     0.175     0.500     1.24       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       2893     146     298     3337     436.822     13.637     66.411     516.87       IOTAL BY JOB FUNCTION     16 </td <td>SUPERVISORY PERSONNEL</td> <td>9</td> <td>0</td> <td>0</td> <td>9</td> <td>2.423</td> <td>0.000</td> <td>0.000</td> <td>2.423</td>   | SUPERVISORY PERSONNEL  | 9         | 0           | 0             | 9         | 2.423         | 0.000     | 0.000    | 2.423    |
| TOTAL     218     0     3     221     15.213     0.000     1.332     16.54       REFUELING     MAINTENANCE PERSONNEL     109     0     2     111     17.972     0.000     0.022     17.99       OPERATING PERSONNEL     17     0     0     17     0.190     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     22     0     0     22     0.785     0.000     0.000     0.300     0.78       SUPERVISORY PERSONNEL     2     0     11     0.718     0.150     0.000     0.86       ENGINEERING PERSONNEL     9     2     2     13     0.567     0.175     0.500     1.24       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       Z893     146     298     3337     436.822     13.637     66.411     516.87       IOTAL     161     9     4     174     20.232     0.363     7.662     353.58       OPERAT  | ENGINEERING PERSONNEL  | 6         | 0           | 0             | 6         | 0.210         | 0.000     | 0.000    | 0.210    |
| REFUELING       MAINTENANCE PERSONNEL     109     0     2     111     17.972     0.000     9.022     17.99       OPERATING PERSONNEL     17     0     0     17     0.190     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     22     0     0     22     0.785     0.000     0.000     0.78       SUPERVISORY PERSONNEL     4     7     0     11     0.718     0.150     0.000     0.86       ENGINEERING PERSONNEL     9     2     2     13     0.567     0.175     0.500     1.24       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       2893     146     298     3337     436.822     13.637     66.411     516.87       IOTAL     9     4     174     20.232     0.325     0.522     21.07       2893     146     298     3337     436.822     13.637     66.411     516.87       MAINTEMANCE PERSONNEL  | TOTAL  | 218       | 0           | 3             | 221       | 15.213        | 0.000     | 1.332    | 16.545   |
| Initial Stress     Initia Stress     Initial Stress     Initial  | REFUELTING   |           |             |               |           |               |           |          |          |
| OPERATING PERSONNEL     17     0     0     17     0.190     0.000     0.300     0.19       OPERATING PERSONNEL     17     0     0     17     0.190     0.000     0.300     0.19       HEALTH PHYSICS PERSONNEL     22     0     0     22     0.785     0.000     0.000     0.78       SUPERVISORY PERSONNEL     4     7     0     11     0.718     0.150     0.000     0.86       ENGINEERING PERSONNEL     9     2     2     13     0.567     0.175     0.500     1.24       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       2893     146     298     3337     436.822     13.637     66.411     516.87       IOTAL     90B FUNCTION     900     120     345.921     0.003     7.662     353.58       OPERATING PERSONNEL     2062     2     44     2108     345.921     0.003     7.662     353.58       OPERATING PERSONNEL  | MAINTENANCE PERSONNEL  | 109       | 0           | 2             | 111       | 17.972        | 0.000     | 0.022    | 17,994   |
| Instruction     Image: Construction     Image: Construl construction     Image: Construction   | OPERATING PERSONNEL  | 17        | 0           | 0             | 17        | 0.190         | 0.000     | 0.000    | 0.190    |
| INFLET INFLET INFLET INFLET INFLET INFLET INFLET   SUPERVISORY PERSONNEL 4 7 0 11 0.718 0.150 0.000 0.86   ENGINEERING PERSONNEL 9 2 2 13 0.567 0.175 0.500 1.24   TOTAL 161 9 4 174 20.232 0.325 0.522 21.07   Z893 146 298 3337 436.822 13.637 66.411 516.87   IOTAL BY JOB FUNCTION   MAINTENANCE PERSONNEL 2062 2 44 2108 345.921 0.003 7.662 353.58   OPERATING PERSONNEL 2062 2 44 2108 345.921 0.003 7.662 353.58   OPERATING PERSONNEL 2062 2 44 2108 345.921 0.003 7.662 353.58   OPERATING PERSONNEL 2051 0 15 266 22.785 0.000 3.445 26.26   UNU UNICES PERSONNEL 244 1 0 245 30.902 0.005 0.900 30.901   | HEATTH PHYSICS PERSONNEL   | 22        | 0           | 0             | 22        | 0.785         | 0.000     | 0.000    | 0.785    |
| Single Function     9     2     2     13     0.567     0.175     0.500     1.24       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       TOTAL     161     9     4     174     20.232     0.325     0.522     21.07       TOTAL     2893     146     298     3337     436.822     13.637     66.411     516.87       TOTAL     BY JOB FUNCTION     908     2002     10.003     7.662     353.58       OPERATING PERSONNEL     2062     2     44     2108     345.921     0.003     7.662     353.58       OPERATING PERSONNEL     251     0     15     266     22.785     0.000     3.445     26.62       UN UNITER PERSONNEL     244     1  | CHIDEDVISADY DEDSANNEL   | 4         | 7           | 0             | 11        | 0.718         | 0.150     | 0.000    | 0.868    |
| Intervise     Intervise <t< td=""><td>ENCINEEDING DEDSONNEL</td><td>9</td><td>2</td><td>2</td><td>13</td><td>0.567</td><td>0 175</td><td>0 500</td><td>1.242</td></t<>   | ENCINEEDING DEDSONNEL  | 9         | 2           | 2             | 13        | 0.567         | 0 175     | 0 500    | 1.242    |
| IOTAL     IOTAL <th< td=""><td>ENGINEERING FERSONNEL</td><td>161</td><td>0</td><td>A</td><td>174</td><td>20 232</td><td>0.325</td><td>0.522</td><td>21 079</td></th<>  | ENGINEERING FERSONNEL  | 161       | 0           | A             | 174       | 20 232        | 0.325     | 0.522    | 21 079   |
| Intervence     Interve  | TUTAL  | 2893      | 146         | 298           | 3337      | 436.822       | 13.637    | 66.411   | 516.870  |
| TOTAL BY JOB FUNCTION       MAINTENANCE PERSONNEL     2062     2     44     2108     345.921     0.003     7.662     353.58       OPERATING PERSONNEL     251     0     15     266     22.785     0.000     3.445     26.23       MALULAR PERSONNEL     244     1     0     245     30.902     0.005     0.000     30.90   |  | 6972      |             |               | 2221      | LAX IVES      | 191991    | XXIIII   | 21212/2  |
| MAINTENANCE PERSONNEL     2062     2     44     2108     345.921     0.003     7.662     353.58       OPERATING PERSONNEL     251     0     15     266     22.785     0.000     3.445     26.23       UNULL PERSONNEL     244     1     0     245     30.902     0.005     0.000     30.90   | TOTAL BY JOB FUNCTION  |           |             |               | 0100      | 245 000       | 0.000     | 3 (10)   | 252 505  |
| OPERATING PERSONNEL     251     0     15     266     22.785     0.000     3.445     26.23       UN DEVELOS DEDSONNEL     244     1     0     245     30.902     0.005     0.000     30.90  | MAINTENANCE PERSONNEL  | 2062      | 2           | 44            | 2108      | 345.921       | 0.003     | 1.662    | 353.586  |
| UN 1 TH DEVELOC DEDCOMMENT 244 1 0 245 30.002 0.005 0.000 30.90  | OPERATING PERSONNEL  | 251       | 0           | 15            | 266       | 22.785        | 0.000     | 3.445    | 26.230   |
| HEALTH PHISICS PERSONNEL 244 1 0 245 50.902 0.005 0.000 50.90  | HEALTH PHYSICS PERSONNEL   | 244       | 1           | 0             | 245       | 30.902        | 0.005     | 0.000    | 30.907   |
| SUPERVISORY PERSONNEL 89 95 3 187 8.485 8.075 0.146 16.69  | SUPERVISORY PERSONNEL  | 89        | 95          | 3             | 187       | 8.485         | 8.075     | 0.146    | 16.698   |
| ENGINEERING PERSONNEL 247 48 236 531 28.129 5.554 55.166 89.44   | ENGINEERING PERSONNEL  | 247       | 48          | 236           | 531       | 28.129        | 5.554     | 55.166   | 89.449   |
| TOTAL 2893 146 298 3337 436.822 13.637 66.411 516.87   | TOTAL  | 2893      | 146         | 298           | 3337      | 436.822       | 13.637    | 66.411   | 516.870  |

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|                            | NUMBER    | OF PERSONN  | ENCLOSURE 2 - | TABLE 3 | ND JOB FUNCTI | ON        |          |          |
|----------------------------|-----------|-------------|---------------|---------|---------------|-----------|----------|----------|
| PLANT: SEQUOYAH 1, 2 (     | PWR)      | of reasonin | 1987          |         | D SOD FORCE   |           |          |          |
|                            | Number of | Personne!   | (>100 M-REM)  |         |               |           |          |          |
|                            | Station   | Utility     | Contract      | Total   | Station       | Utility   | Contract | lotal    |
| WORK & JOB FUNCTION        | Employees | Employees   | & Others      | Persona | Employees     | Employees | & Others | Man-Rems |
| REACTOR OPERATIONS & SURV. |           |             |               |         |               |           |          | 10.000   |
| MAINTENANCE PERSONNEL      | 583       | 5           | 4             | 592     | 19.386        | 0.063     | 0.045    | 19.494   |
| OPERATING PERSONNEL        | 55        | 9           | 0             | 64      | 5.644         | 0.243     | 0.000    | 5.887    |
| HEALTH PHYSICS PERSONNEL   | 57        | 15          | 0             | 12      | 13.023        | 2.933     | 0.000    | 15.950   |
| SUPERVISORY PERSONNEL      | 12        | 0           | 0             | 12      | 1.102         | 0.000     | 0.000    | 1.102    |
| ENGINEERING PERSONNEL      | 87        | 16          | 110           | 213     | 3.128         | 0.642     | 5.800    | 9.570    |
| TOTAL                      | 794       | 45          | 114           | 953     | 42.283        | 3.881     | 5.845    | 52,009   |
| ROUTINE MAINTENANCE        |           |             |               |         |               |           |          |          |
| MAINTENANCE PERSONNEL      | 637       | 7           | 3             | 647     | 69.521        | 0.321     | 0.230    | 70.072   |
| OPERATING PERSONNEL        | 33        | 1           | 0             | 34      | 0.386         | 0.002     | 0.000    | 0.388    |
| HEALTH PHYSICS PERSONNEL   | 61        | 15          | 0             | 76      | 4.294         | 0.555     | 0.000    | 4.849    |
| SUPERVISORY PERSONNEL      | 11        | 0           | 1             | 12      | 0.189         | 0.000     | 0.000    | 0.189    |
| ENGINEERING PERSONNEL      | 17        | 21          | 85            | 183     | 2.222         | 0.199     | 1.687    | 4,108    |
| TOTAL                      | 819       | 44          | 89            | 952     | 76.612        | 1.077     | 1,917    | 79.606   |
|                            |           |             |               |         |               |           |          |          |
| IN-SERVICE INSPECTION      | 04        | 0           |               | 05      | 23 833        | 0.000     | 0 072    | 23 005   |
| MAINTENANCE PERSUNNEL      | 34        | 0           | 0             | 35      | 0.072         | 0.000     | 0.000    | 0.072    |
| UPERALING PERSONNEL        | 20        | 0           | 0             | 16      | 10.601        | 0.061     | 0.000    | 10.752   |
| HEALTH PHYSICS PERSONNEL   | 38        | 0           | 0             | 40      | 19.091        | 0.001     | 0.000    | 19.752   |
| SUPERVISURY PERSONNEL      | 0         | 11          | 57            | 9       | 1.003         | 9 661     | 19 604   | 59 970   |
| ENGINEERING PERSUNNEL      | 19        |             | 2/            | 220     | 1.014         | 0.001     | 40.004   | 20.0/9   |
| TOTAL                      | 159       | 20          | 00            | 639     | 40.213        | 0.946     | 49.641   | 104.390  |
| SPECIAL MAINTENANCE        |           |             |               |         |               |           |          |          |
| MAINTENANCE PERSONNEL      | 596       | 8           | 5             | 609     | 101.780       | 0.435     | 0.769    | 102.984  |
| OPERATING PERSONNEL        | 23        | 1           | 0             | 24      | 0.136         | 0.006     | 0.000    | 0.142    |
| HEALTH PHYSICS PERSONNEL   | 49        | 8           | 0             | 57      | 2.606         | 0.109     | 0.000    | 2.715    |
| SUPERVISORY PERSONNEL      | 4         | 0           | 0             | 4       | 0.031         | 0.000     | 0.000    | 0.031    |
| ENGINEERING PERSONNEL      | 75        | 27          | 162           | 264     | 9.507         | 2.057     | 35.711   | 47.275   |
| TOTAL                      | 747       | 44          | 167           | 958     | 114.060       | 2.607     | 36.480   | 153.147  |
| REFUELING<br>NONE          |           |             |               |         |               |           |          |          |
| WASTE PROCESSING           |           |             |               |         |               |           |          |          |
| MAINTENANCE PERSONNEL      | 112       | 0           | 0             | 112     | 2.225         | 0.000     | 0.000    | 2.225    |
| OPERATING PERSONNEL        | 5         | 0           | 6             | 11      | 5.048         | 0.000     | 2.861    | 7.909    |
| HEALTH PHYSICS PERSONNEL   | 30        | 1           | 0             | 31      | 1.116         | 0.004     | 0.000    | 1.120    |
| SUPERVISORY PERSONNEL      | 4         | 0           | 0             | 4       | 0.211         | 0.000     | 0.000    | 0.211    |
| ENGINEERING PERSONNEL      | 3         | 0           | 1             | 4       | 0.000         | 0.000     | 0.000    | 0.000    |
| TOTAL                      | 154       | 1           | 7             | 162     | 8.600         | 0.004     | 2.861    | 11,465   |
| TOTAL BY JOB FUNCTION      |           |             |               |         |               |           |          |          |
| MAINTENANCE PERSONNEL      | 2022      | 20          | 13            | 2055    | 216.745       | 0.819     | 1,116    | 218,680  |
| OPERATING PERSONNEL        | 118       | 11          | 6             | 134     | 11.286        | 6 251     | 2.861    | 14 398   |
| HEALTH PHYSICS DEDSONNEL   | 235       | 47          | 0             | 282     | 40 730        | 3.662     | 0.000    | 44 392   |
| CHDEDVISODY DEDSONNEL      | 37        | 1           | 3             | 41      | 2 536         | 0 220     | 0.565    | 3 321    |
| ENCINEEDING DEDSONNEL      | 261       | 75          | 415           | 751     | 16 471        | 11 550    | 91 802   | 110 832  |
| ENGINEERING PERSONNEL      | 2673      | 154         | 413           | 3264    | 287 769       | 16.511    | 96 344   | 400 622  |
| IVIAL                      | 2013      | 124         | 437           | 2604    | 601.100       | 10.211    | 20.244   | 400.062  |

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PROPOSED OPERATING LICENSE AMENDMENT SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2 DOCKET NOS. 50-327 AND 50-3.8

(TVA-SQN-TS-88-23)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS

#### Significant Hazards Evaluation

TVA has evaluated the proposed operating license amendment change and has determined that it does not represent a significant hazards consideration based on criteria established in 10 CFR 50.92(c). Operation of SQN in accordance with the proposed amendment will not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated. SQN unit 1 and unit 2 were designed and constructed on the basis of 40 years of plant operation. SQN's reactor vessel was fabricated and designed for a 40-year life. A comprehensive vessel materials surveillance program is maintained in accordance with 10 CFR 50, Appendix H. An analysis was performed to demonstrate compliance with the NRC pressurized thermal shock (PTS) screening criteria in accordance with 10 CFR 50.61(b)(2). The assessment of the projected PTS reference temperature demonstrated that the SQN units 1 and 2 pressure vessels would meet the toughness requirements of 10 CFR 50.61 for 32 effective full-power years of operation which is equivalent to a 40-year design life with an 80-percent capacity factor. Aging analyses have been performed for all safety-related electrical equipment in accordance within the scope of 10 CFR 50.49 (harsh environment). The qualified life of the equipment or component is incorporated within SQN's maintenance and replacement practices to ensure that this safety-related electrical equipment remains gualified and available to perform its safety function regardless of the overall age of the plant. Programs are in place to detect abnormal deterioration and aging of critical plant components. These programs include:
  - A. ASME Boiler and Pressure Vessel Code, Section XI, and 10 CFR 50 Section 50.55(g).
    - In-Service Inspection (ISI) Program This program ensures that plant pressure retaining vessels, piping, and support systems are inspected in accordance with the ASME Section XI code.
    - In-Service Test (IST) Program This program ensures that safety-related pumps and valves are tested in accordance with the ASME Section XI code.
  - B. Technical Specifications.

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In addition to the ISI and IST programs, the following SQN technical specifications also provide a means of monitoring the cumulative effects of power operation during the lifetime of the plant.

1. Specification 3.4.5 - Steam Generators

An augmented steam generator inservice inspection program demonstrates operability of SQN's steam generators over the life of the plant.

### Specification 3.4.9.1 - Reactor Coolant System Pressure/Temperature Limits

The pressure and temperature of the reactor coolant system are limited to protect against non-ductile failure of the reactor coolant system. These limits are updated periodically over the life of the plant to ensure that the fracture toughness requirements for the ferritic material within the reactor coolant pressure boundary are maintained.

### Specification 3.4.10 - Reactor Coolant System Structural Integrity

The ISI and IST programs, in conjuction with the additional inspections required for the Reactor Coolant Pump flywheel and reactor vessel nozzels, ensure the structural integrity and operational readiness of these components will be maintained throughout the life of the plant.

### Specification 5.7.1 - Component Cyclic or Transient Limit

Monitoring, recording, and evaluation of certain cyclic and transient limits provides a high level of confidence that certain components within the reactor coolant and secondary systems will not experience fatigue failure over their 40 year design life.

- (2) Create the possibility of a new or different kind of accident from any previously analyzed. The proposed amendment is administrative in nature and does not affect the safety analysis, plant equipment, or the physical facility. Because the accident analysis of SQN's FSAR remains bounding, no new or different kind of accident scenarios are created by this change.
- (3) Involve a significant reduction in a margin of safety. The proposed amendment involves only a change to the expiration dates of the operating licenses. Because SQN is based on a 40-year service life, this change will not affect the safety margins.

Based on the above considerations, we conclude that the extension of the SQN operating licenses in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of accidents previously of a new or different kind of accident and will not involve a significant reduction in a safety margin. Therefore, we conclude that there is no significant hazards consideration associated with the proposed revision to the SQN operating licenses. Illegal width.

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