



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 16, 2001

Mr. J. A. Scalice  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF  
AMENDMENTS REGARDING SHIFT MANNING REQUIREMENTS IN  
TECHNICAL SPECIFICATIONS (TAC NOS. MA9742 AND MA9743)

Dear Mr. Scalice:

The Commission has issued the enclosed Amendment No. 266 to Facility Operating License No. DPR-77 and Amendment No. 257 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively. These amendments are in response to your application dated August 4, 2000 (TSC 99-20), in which Tennessee Valley Authority requested changes to the SQN Technical Specifications (TS). Specifically, the amendments change the title of "Shift Operations Supervisor" to "Shift Manager" and revise Sections 6.2.2, "Facility Staff," and 6.2.4, "Shift Technical Advisor," to align these sections with the latest revision of the Westinghouse Standard TS, NUREG-1431. The major changes are the elimination of the table specifying the shift crew composition and assigning the role of Shift Technical Advisor to a qualified individual in the operating crew.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Ronald W. Hernan".

Ronald W. Hernan, Senior Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosures: 1. Amendment No. 266 to  
License No. DPR-77  
2. Amendment No. 257 to  
License No. DPR-79  
3. Safety Evaluation

cc w/enclosures: See next page

NRR-058

Mr. J. A. Scalice  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF  
AMENDMENTS REGARDING SHIFT MANNING REQUIREMENTS IN  
TECHNICAL SPECIFICATIONS (TAC NOS. MA9742 AND MA9743)

Dear Mr. Scalice:

The Commission has issued the enclosed Amendment No. 266 to Facility Operating License No. DPR-77 and Amendment No. 257 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively. These amendments are in response to your application dated August 4, 2000 (TSC 99-20), in which Tennessee Valley Authority requested changes to the SQN Technical Specifications (TS). Specifically, the amendments change the title of "Shift Operations Supervisor" to "Shift Manager" and revise Sections 6.2.2, "Facility Staff," and 6.2.4, "Shift Technical Advisor," to align these sections with the latest revision of the Westinghouse Standard TS, NUREG-1431. The major changes are the elimination of the table specifying the shift crew composition and assigning the role of Shift Technical Advisor to a qualified individual in the operating crew.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

/RA/

Ronald W. Hernan, Senior Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

- Enclosures: 1. Amendment No. 266 to License No. DPR-77
- 2. Amendment No. 257 to License No. DPR-79
- 3. Safety Evaluation

cc w/enclosures: See next page

**DISTRIBUTION (w/enclosures):**

PUBLIC	PDII-2\Reading	RidsOgcRp
WBeckner (e-mail)	RidsNrrDlpmLpdii	GHill (4 Hardcopies)
RidsNrrDlpmLpdii2	RidsRgn2MailCenter	RidsNrrPmRHernan
BClayton (Hardcopy)	RidsAcrsAcnwMailCenter	

DOCUMENT NAME: G:\PDII-2\Sequoyah\AMDA9742.wpd \*see previous concurrence copy

OFFICE	PDII-2/PM	PDII-2/LA	SRXB	OGC	PDII-2/SC
NAME	RHernan <i>RWH</i>	BClayton <i>BC</i>	WBeckner*	<i>WBeckner</i>	RCdneia <i>RC</i>
DATE	2/13/01	2/13/01	1/25/01	2/13/01	2/15/01



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 266  
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 4, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Operating License and Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 266 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard P. Correia, Chief, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Operating  
License and Technical  
Specifications

Date of Issuance: February 16, 2001

ATTACHMENT TO LICENSE AMENDMENT NO.266

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace the following pages of the Operating License and Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

INSERT

License Page 10

License Page 10

6-1

6-1

6-2

6-2

6-3

6-3

6-4

6-4

6-5

6-5

6-15

6-15

(23) TMI Action Plan Dated Conditions

Each of the following conditions shall be completed to the satisfaction of the NRC by the times indicated:

A. Shift Technical Advisor (Section 22.3, I.A.1.1)

This condition is deleted.

Items for completion by January 1, 1981:

B. Plant Shielding (Section 22.3, II.B.2)

TVA shall complete modification to assure adequate access to vital areas and protection of safety equipment following an accident resulting in a degraded core.

C. Auxiliary Feedwater Initiation and Indication (Section 22.3, II.E.1.2)

(a) TVA shall upgrade, as necessary, automatic initiation of the auxiliary feedwater system to safety-grade quality.

(b) TVA shall upgrade, as necessary, the indication of auxiliary feedwater flow to each steam generator to safety grade quality.

D. Additional Accident Monitoring Instrumentation (Section 22.3, II.F.1)

(1) TVA shall install interim noble gas monitors at the first outage of sufficient duration.

## 6.0 ADMINISTRATIVE CONTROLS

---

### 6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Manager (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function.

6.1.3 The Chief Nuclear Officer is responsible for the safe operation of all TVA Nuclear Power Plants.

### 6.2 ORGANIZATION

#### 6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An onsite and an offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the Nuclear Power Organization Topical Report (TVA-NPOD89-A).
- b. The Chief Nuclear Officer shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured.
- c. The Plant Manager shall be responsible for overall unit safe operation and shall have control over those onsite resources necessary for safe operation and maintenance of the plant.
- d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

#### 6.2.2 FACILITY STAFF

- a. A non-licensed operator shall be assigned to each reactor containing fuel and an additional non-licensed operator shall be assigned for each unit for which a reactor is operating in MODES 1, 2, 3, or 4. With both units shutdown or defueled, a total of three non-licensed operators are required for the two units.
- b. Shift crew composition may be less than the minimum requirements of 10 CFR 50.54(m)(2)(i) and Sections 6.2.2.a and 6.2.2.h for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

## ADMINISTRATIVE CONTROLS

---

- c. A Radiological Control technician# shall be onsite when fuel is in the reactor.
- d. DELETED
- e. DELETED
- f. The Operations Superintendent shall hold a Senior Reactor Operator license.
- g. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety-related functions (i.e., senior reactor operators, reactor operators, assistant unit operators, Radiological Control, and key maintenance personnel).

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a normal 8-, 10-, or 12-hour day, nominal 40-hour week while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
2. An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
3. A break of at least 8 hours should be allowed between work periods, including shift turnover time.
4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized in advance by the Plant Manager or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the Plant Manager or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

- h. An individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

---

#The Radiological Control technician may be offsite for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.



THIS PAGE INTENTIONALLY DELETED

THIS PAGE INTENTIONALLY DELETED

## ADMINISTRATIVE CONTROLS

---

6.2.3 INDEPENDENT SAFETY ENGINEERING (ISE) (DELETED)

6.2.4 SHIFT TECHNICAL ADVISOR (STA) (DELETED)

### 6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions in Regulatory Guide 1.8, Revision 2 (April 1987) for all new personnel qualifying on positions identified in Regulatory Position C.1 after January 1, 1990. Personnel qualified on these positions prior to this date will still meet the requirements of Regulatory Guide 1.8, Revision 1-R (May 1977).

6.11 RADIATION PROTECTION PROGRAM (DELETED)

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.1601(a) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit\* (RWP). Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility RADCON/Chemistry Control Manager in the RWP.

6.12.2 The requirements of 6.12.1, above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Manager on duty and/or the RADCON/Chemistry Control Manager.

---

\*Radiological Control personnel or personnel escorted by Radiological Control personnel in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 257  
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 4, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Operating License and Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 257 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard P. Correia, Chief, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Operating  
License and Technical  
Specifications

Date of Issuance: February 16, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 257

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Replace the following pages of the Operating License and Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

License Page 6  
6-1  
6-2  
6-3  
6-4  
6-5  
6-16

INSERT

License Page 6  
6-1  
6-2  
6-3  
6-4  
6-5  
6-16

(13) Fire Protection

TVA shall implement and maintain in effect all provisions of the approved fire protection program referenced in Sequoyah Nuclear Plant's Final Safety Analysis Report and as approved in NRC Safety Evaluation Reports contained in NUREG-0011, Supplements 1, 2, and 5, NUREG-1232, Volume 2, NRC letters dated May 29, and October 6, 1986, and the Safety Evaluation issued on August 12, 1997, for License Amendment No. 218, subject to the following provision:

TVA may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(14) Compliance With Regulatory Guide 1.97

TVA shall implement modifications necessary to comply with Revision 2 of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," dated December 1980 by startup from the Unit 2 Cycle 4 refueling outage.

(15) Corrosion of Carbon Steel Piping

TVA shall carry out a surveillance program on corrosion of carbon steel piping in accordance with TVA document SQRD-50-328/81-10 dated August 25, 1981, and procedures for implementation are to be submitted for NRC concurrence by October 15, 1981.

(16) NUREG-0737 Conditions (Section 22.2)

Each of the following conditions shall also be performed to the satisfaction of the NRC:

a. Shift Technical Advisor (Section 22.2, I.A.1.1)

This condition is deleted.

b. Independent Safety Engineering Group (Section 22.2, I.B.1.2)

This condition is deleted.



## 6.0 ADMINISTRATIVE CONTROLS

---

### 6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Manager (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function.

6.1.3 The Chief Nuclear Officer is responsible for the safe operation of all TVA Nuclear Power Plants.

### 6.2 ORGANIZATION

#### 6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An onsite and an offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the Nuclear Power Organization Topical Report (TVA-NPOD89-A).
- b. The Chief Nuclear Officer shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured.
- c. The Plant Manager shall be responsible for overall unit safe operation, and shall have control over those onsite resources necessary for safe operation and maintenance of the plant.
- d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

#### 6.2.2 FACILITY STAFF

- a. A non-licensed operator shall be assigned to each reactor containing fuel and an additional non-licensed operator shall be assigned for each unit for which a reactor is operating in MODES 1, 2, 3, or 4. With both units shutdown or defueled, a total of three non-licensed operators are required for the two units.
- b. Shift crew composition may be less than the minimum requirements of 10 CFR 50.54(m)(2)(i) and Sections 6.2.2.a and 6.2.2.h for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

## ADMINISTRATIVE CONTROLS

---

- c. A Radiological Control technician# shall be onsite when fuel is in the reactor.
- d. DELETED
- e. DELETED
- f. The Operations Superintendent shall hold a Senior Reactor Operator license.
- g. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety-related functions (i.e., senior reactor operators, reactor operators, assistant unit operators, Radiological Control, and key maintenance personnel).

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a normal 8-, 10-, or 12-hour day, nominal 40-hour week while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
2. An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
3. A break of at least 8 hours should be allowed between work periods, including shift turnover time.
4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized in advance by the Plant Manager or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the Plant Manager or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

- h. An individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

---

# The Radiological Control technician may be offsite for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.

THIS PAGE INTENTIONALLY DELETED

|

THIS PAGE INTENTIONALLY DELETED

## ADMINISTRATIVE CONTROLS

---

6.2.3 INDEPENDENT SAFETY ENGINEERING (ISE) (DELETED)

6.2.4 SHIFT TECHNICAL ADVISOR (STA) (DELETED)

### 6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions in Regulatory Guide 1.8, Revision 2 (April 1987) for all new personnel qualifying on positions identified in Regulatory Position C.1 after January 1, 1990. Personnel qualified on these positions prior to this date will still meet the requirements of Regulatory Guide 1.8, Revision 1-R (May 1977).

### 6.4 TRAINING

6.4.1 DELETED

### 6.5 REVIEW AND AUDIT

6.5.0 DELETED

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC) (DELETED)

6.5.1A TECHNICAL REVIEW AND CONTROL (DELETED)

6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB) (DELETED)

6.5.3 RADIOLOGICAL ASSESSMENT REVIEW COMMITTEE (RARC) (DELETED)

## ADMINISTRATIVE CONTROLS

---

### 6.11 RADIATION PROTECTION PROGRAM (DELETED)

### 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.1601(a) (2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit\* (RWP). Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility RADCON/Chemistry Control Manager RWP.

6.12.2 The requirements of 6.12.1, above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/ hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Manager on duty and/or the RADCON/Chemistry Control Manager.

---

\* Radiological Control personnel or personnel escorted by Radiological Control personnel in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 266 TO FACILITY OPERATING LICENSE NO. DPR-77  
AND AMENDMENT NO. 257 TO FACILITY OPERATING LICENSE NO. DPR-79  
TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION

In a letter dated August 4, 2000, the Tennessee Valley Authority (TVA) requested changes to the Sequoyah Nuclear Plant (SQN), Units 1 and 2, Technical Specifications (TS). Specifically, the amendments would change the title of "Shift Operations Supervisor" to "Shift Manager" and revise Sections 6.2.2, "Facility Staff," and 6.2.4, "Shift Technical Advisor," to align these sections with the latest revision of the Westinghouse Standard TS, NUREG-1431. The major changes are the elimination of the table specifying the shift crew composition and assigning the role of Shift Technical Advisor (STA) to a qualified individual in the operating crew.

2.0 BACKGROUND

TVA proposes to revise the SQN Units 1 and 2 TS to replace the title of "Shift Operations Supervisor" (SOS) with "Shift Manager" (SM) in Section 6.0. Additionally, TVA proposes to eliminate duplication between *Title 10 of the Code of Federal Regulation, Section 50.54* (10 CFR 50.54) and the TS and to implement the optional guidance of Generic Letter (GL) 86-04 concerning engineering expertise on shift.

The specific TS changes proposed by TVA are as follows:

1. Unit 1 License Condition 2.C.(23)A, "Shift Technical Advisor (Section 22.3, I.A.1.1)" and Unit 2 License Condition 2.C.(16)a, "Shift Technical Advisor (Section 22.2, I.A.1.1)" would be deleted.
2. "Shift Operations Supervisor" would be replaced with "Shift Manager" in TS 6.1.2 and 6.12.2.
3. TS 6.2.2, "Facility Staff," paragraph a. would be revised to read: "A non-licensed operator shall be assigned to each reactor containing fuel and an additional non-licensed operator shall be assigned to each unit for which a reactor is operating in MODES 1, 2, 3, or 4. With both units in shutdown or defueled, a total of three non-licensed operators are required for the two units." In addition, the detailed staffing requirements of Table 6.2-1 would be deleted.

4. TS 6.2.2.b which currently states: "At least one licensed Reactor Operator shall be in the Control Room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3, or 4, at least one licensed Senior Reactor Operator shall be in the Control Room." would be deleted. A new TS 6.2.2.b is inserted as follows: "Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and TS 6.2.2.a and 6.2.2.h for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements."
5. TS 6.2.4.1 which currently states: "The STA shall serve in an advisory capacity to the Shift Operations Supervisor on matters pertaining to the engineering aspects of assuring safe operation of the unit." would be deleted. TS 6.2.4.1 would be replaced with a new TS 6.2.2.h which states: "An individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift."

The TVA submittal stated that the proposed change to replace the title of "Shift Operations Supervisor" with "Shift Manager" is an administrative change that is needed to provide consistency with titles contained in TVA's Organizational Topical Report. The deletion of the License Condition and the revision to Section 6.2.2, Facility Staff, is being pursued to allow additional flexibility in control room staffing.

### 3.0 EVALUATION

#### 3.1 Licensee's evaluation

The change of title from "Shift Operations Supervisor" to "Shift Manager" is an administrative change. This position remains unchanged with regard to qualifications, training, and required experience.

The proposed deletion of the STA License Condition for both units and the revision to TS Section 6.2.2 is for the purpose of eliminating duplication between the TS and the staffing requirements of 10 CFR 50.54. These changes are consistent with Option 1 of the Commission Policy Statement on Engineering Expertise on Shift (GL 86-04).

The requirements of 10 CFR 50.54(m)(2)(iii) and 50.54(k) adequately provide for shift manning of licensed operators. U.S. Nuclear Regulatory Commission (NRC) regulations (10 CFR 50.54(m)(2)(iii)) state that "When a nuclear plant is in an operational mode other than cold shutdown or refueling, as defined by the unit's technical specifications, each licensee shall have a person holding a senior operator license for the nuclear power unit in the control room at all times. In addition to this senior operator, for each fueled nuclear power unit, a licensed operator or senior operator shall be present at the controls at all times." Further, 50.54(k) states, "An operator or senior operator licensed pursuant to part 55 of this chapter shall be present at the controls at all times during operation of the facility." Given the above requirements, it is reasonable that current TS 6.2.2.a and 6.2.2.b may be replaced with the proposed language of TS 6.2.2.a, which covers the requirements for non-licensed operators. The proposed TS 6.2.2.a is consistent with NUREG-1431, Revision 1, Section 5.2.2.a, with the



exception that TVA's proposed language utilizes the term "unit" rather than "each control room." The basis for this exception is to provide clarification and eliminate any potential for misinterpretation relative to assigned areas.

NRC regulations (10 CFR 50.54(m)(2)(i)), in Footnote 1 to the table, further state that "Temporary deviations from the numbers required by this table shall be in accordance with criteria established in the unit's technical specifications." This note is currently met by SQN's Table Notation for Table 6.2-1. TVA proposes to address this item in the new TS 6.2.2.b.

The proposed change also deletes the exception that the SOS (SM) may not be absent during the less than 2-hour minimum crew requirement and deletes the portion of the requirement that does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent. These constraints are considered overly conservative. For normal or emergency plant operation, the level of training for the SOS (SM) is the same as for the Senior Reactor Operator (SRO). Also, unexpected absences carry the same risk over the full shift. Thus, specifying the particular time this allowance can be used is unnecessary. The proposed change is consistent with Revision 1 of NUREG-1431.

Unit 1 License Condition 2.C.(23)A, "Shift Technical Advisor (Section 22.3, I.A.1.1)" and Unit 2 License Condition 2.C.(16)a, "Shift Technical Advisor (Section 22.2, I.A.1.1)," and Section 6.2.4.1 are being deleted and the new requirements for on-shift technical expertise are contained in proposed new Section 6.2.2.h. The proposed TS 6.2.2.h implements Option 1 of the Commission Policy Statement on Engineering Expertise on Shift, which is satisfied by assigning an individual with the specified educational qualifications to each operating crew. Under TVA's proposed change, the duty SRO required by 10 CFR 50.54(m)(2)(i) will serve as the individual that will provide the technical expertise on shift. TVA is electing to implement Option 1 such that the technical expertise may be provided by an individual meeting the NRC policy statement. If that individual is not available, a dedicated individual will be assigned as the STA who meets the requirements specified in NUREG-0737, Item I.A.1.1. The proposed change is consistent with the applicable portions of NRC-approved Technical Specification Task Force (TSTF) Change Number TSTF-258, Revision 4.

### 3.2 Staff Evaluation

TSTF-258, Revision 4, is an approved TSTF (Ref: Letter from William D. Beckner to James Davis dated June 29, 1999). The changes in TSTF-258, Revision 4, are to Section 5.0 of the Improved Standard TS (iSTS), entitled "Administrative Controls," in seven areas:

- (1) To delete specific TS staffing requirement provisions for Reactor Operators (ROs),
- (2) To eliminate TS details for working hour limits,
- (3) To clarify requirements for the STA position,
- (4) To add regulatory definitions for SROs and ROs,
- (5) To revise the Radioactive Effluent Controls Program to be consistent with the intent of 10 CFR Part 20,
- (6) To delete periodic reporting requirements for mainsteam relief valve openings, and
- (7) To revise radiological area control requirements for radiation areas to be consistent with those specified in 10 CFR 20.1601(c).

The SQN application requested changes that are consistent with Items (1) and (3) above.

### 3.2.1 Staffing Requirements for Reactor Operators.

Description of TSTF Change and Justification: This portion of TSTF-258, Revision 4, deletes details of staffing requirements for ROs and SROs in iSTS 5.2.2.b. The justification given in the NRC-approved TSTF is that the requirements of 10 CFR 50.54(m)(2)(iii) and 50.54(k) adequately provide for shift manning. These regulations, 50.54(m)(2)(iii), require that "When a nuclear power unit is in an operational mode other than a cold shutdown or refueling, as defined by the unit's TS, each licensee will have a person holding a senior operator license for the nuclear power unit in the control room at all times. In addition to this senior operator, for each fueled nuclear power unit, a licensed operator or senior operator shall be present at the controls at all times." Further, 50.54(k) requires "An operator or senior operator licensed pursuant to part 55 of this chapter shall be present at the controls at all times during the operation of the facility."

Applicability to Sequoyah Units 1 and 2: In its amendment application, TVA stated the same justification as that given for the NRC-approved TSTF. Staffing requirements will be met through compliance with the regulations and are not required to be reiterated in the TS. TVA proposed the same changes to the TS that are given in the TSTF, and the staff concludes that the SQN changes are acceptable.

### 3.2.2 Requirements for the Shift Technical Advisor Position

Description of Change and Justification: In this portion of TSTF-258, Revision 4, iSTS 5.2.2.g is revised to eliminate the title of "Shift Technical Advisor (STA)." The justification given in the NRC-approved TSTF is that TS 5.2.2.g is revised so that it does not imply that the STA and the Shift Supervisor must be different individuals. Option 1 of the Commission Policy Statement on Engineering Expertise on Shift is satisfied by assigning an individual with specified educational qualifications to each operating crew as one of the SROs required by 10 CFR 50.54(m)(2)(i) to provide the technical expertise on shift. The existing TS 5.2.2.g wording of, "the STA shall provide ... support to the Shift Supervisor...", can be easily misinterpreted to require separate individuals. Therefore, the wording is revised so that the STA function may be provided by either a separate individual or the individual who also fulfills another role in the shift command structure.

Applicability to Sequoyah Units 1 and 2: In its amendment application TVA stated the same justification as that given for the NRC-approved TSTF. Since the applicable regulatory requirements on staffing will continue to be met, TVA proposed the same changes to the TS that are given in the TSTF, and the staff concludes that the SQN changes are acceptable.

### 3.3 Staff Conclusion

As indicated in the individual discussions in 3.2 above, the staff has found that the proposed changes with respect to shift manning requirements in the SQN TS are acceptable. The staff finds that changing the title of Shift Operations Supervisor to Shift Manager is editorial and requires no safety review and is, therefore, acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes recordkeeping, reporting, or administrative procedures or requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration (65 FR 54088), and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Ronald W. Hernan, NRR

Dated: February 16, 2001

Mr. J. A Scalice  
Tennessee Valley Authority

## SEQUOYAH NUCLEAR PLANT

cc:

Mr. Karl W. Singer, Senior Vice President  
Nuclear Operations  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

Mr. Pedros Salas, Manager  
Licensing and Industry Affairs  
Sequoyah Nuclear Plant  
Tennessee Valley Authority  
P.O. Box 2000  
Soddy Daisy, TN 37379

Mr. Jack A. Bailey  
Vice President  
Engineering & Technical Services  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

Mr. D. L. Koehl, Plant Manager  
Sequoyah Nuclear Plant  
Tennessee Valley Authority  
P.O. Box 2000  
Soddy Daisy, TN 37379

Mr. Richard T. Purcell  
Site Vice President  
Sequoyah Nuclear Plant  
Tennessee Valley Authority  
P.O. Box 2000  
Soddy Daisy, TN 37379

Mr. Russell A. Gibbs  
Senior Resident Inspector  
Sequoyah Nuclear Plant  
U.S. Nuclear Regulatory Commission  
2600 Igou Ferry Road  
Soddy Daisy, TN 37379

General Counsel  
Tennessee Valley Authority  
ET 10H  
400 West Summit Hill Drive  
Knoxville, TN 37902

Mr. Lawrence E. Nanney, Director  
Division of Radiological Health  
Dept. of Environment & Conservation  
Third Floor, L and C Annex  
401 Church Street  
Nashville, TN 37243-1532

Mr. Robert J. Adney, General Manager  
Nuclear Assurance  
Tennessee Valley Authority  
5M Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

County Executive  
Hamilton County Courthouse  
Chattanooga, TN 37402-2801

Mr. Mark J. Burzynski, Manager  
Nuclear Licensing  
Tennessee Valley Authority  
4X Blue Ridge  
1101 Market Street  
Chattanooga, TN 37402-2801

Ms. Ann Harris  
305 Pickel Road  
Ten Mile, TN 37880