



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 74  
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Tennessee Valley Authority (the licensee) dated April 17, 1987 and March 1 and June 13, 1988, as supplemented by letters dated June 22 and 24, 1988, 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.

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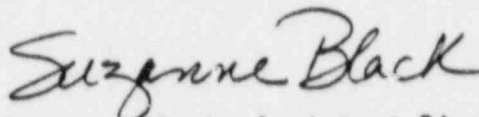
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 74, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Special Projects

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 74

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf pages are provided to maintain document completeness.

REMOVE

XVII

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SECTION 6.0  
ADMINISTRATIVE CONTROLS

## 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 Manager of Radiological Control shall be responsible for implementing the radiological environmental program and dose calculations and projections as described in the Offsite Dose Calculation Manual (ODCM).

6.1.3 The Shift Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Site Director, shall be reissued to all station personnel on an annual basis.

### 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 FSAR and will be updated in accordance with 10 CFR 50.71(e).
- b. The Senior Vice President, Nuclear Power 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. Each on-duty unit shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Reactor Operator shall be in the unit 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.



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- c. A Radiological Control technician<sup>#</sup> shall be onsite when fuel is in the reactor.
- d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- e. A Fire Brigade of at least 5 members shall be maintained onsite at all times. The Fire Brigade shall not include the Shift Supervisor and 2 other members of the minimum shift crew necessary for safe shutdown of the unit or any personnel required for other essential functions during a fire emergency.
- f. The Operations Manager shall hold a Senior Reactor Operator license.

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<sup>#</sup>The Radiological Control technician and fire brigade composition may be less than the minimum requirements 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.

Table 6.2-1  
 MINIMUM SHIFT CREW COMPOSITION WITH  
 UNIT 2 IN MODE 5 OR 6 OR DE-FUELED

Position	Number of individuals required to fill position	
	Modes 1, 2, 3, & 4	Modes 5 & 6
SS	1 <sup>a</sup>	1 <sup>a</sup>
SRO	1	None
RO	2	1
AO	2	2 <sup>b</sup>
STA	1	None

With Unit 2 in Modes 1, 2, 3, or 4

Position	Number of individuals required to fill position	
	Modes 1, 2, 3, & 4	Modes 5 & 6
SS	1 <sup>a</sup>	1 <sup>a</sup>
SRO	1 <sup>a</sup>	None
RO	2 <sup>b</sup>	1
AO	2 <sup>b</sup>	1
STA	1 <sup>a</sup>	None

<sup>a</sup>Individual may fill the same position on Unit 2.

<sup>b</sup>One of the two required individuals may fill the same position on Unit 2.

TABLE 6.2-1 (Continued)

TABLE NOTATION

SS - Shift Supervisor with a Senior Reactor Operators License on Unit 1  
SRO - Individual with a Senior Reactor Operators License on Unit 1  
RO - Individual with a Reactor Operators License on Unit 1  
AO - Auxiliary Operator  
STA - Shift Technical Advisor

Except for the Shift Supervisor, the Shift Crew Composition may be one less than the minimum requirements of Table 6.2-1 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 of Table 6.2-1. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

During any absence of the Shift Supervisor from the Control Room while the unit is in MODE 1, 2, 3 or 4, an individual (other than the Shift Technical Advisor) with a valid SRO license shall be designated to assume the Control Room command function. During any absence of the Shift Supervisor from the Control Room while the Unit is in Mode 5 or 6, an individual with a valid SRO or RO license (other than the Shift Technical Advisor) shall be designated to assume the Control Room command function.

## ADMINISTRATIVE CONTROLS

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### 6.2.3 INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

#### FUNCTION

6.2.3.1 The ISEG shall function to examine plant operating characteristics, NRC issuances, industry advisories, Licensee Event Reports and other sources which may indicate areas for improving plant safety.

#### COMPOSITION

6.2.3.2 The ISEG shall be composed of at least 3 dedicated full-time engineers located onsite. These engineers will be supplemented by 2 full-time engineers shared among all TVA nuclear sites.

#### RESPONSIBILITIES

6.2.3.3 The ISEG shall be responsible for maintaining surveillance of plant activities to provide independent verification\* that these activities are performed correctly and that human errors are reduced as much as practical.

#### AUTHORITY

6.2.3.4 The ISEG shall make detailed recommendations for revised procedures, equipment modifications, or other means of improving plant safety to the Director of Nuclear Licensing and Regulatory Affairs.

### 6.2.4 Site TECHNICAL ADVISOR (STA)

6.2.4.1 The STA shall serve in an advisory capacity to the shift supervisor on matters pertaining to the engineering aspects of assuring safe operation of the unit.

### 6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions and the supplemental requirements specified in Section A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, except for the Site Radiological Control Superintendent who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

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\*Not responsible for sign-off function.

## ADMINISTRATIVE CONTROLS

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### 6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Operations Superintendent and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55 and the supplemental requirements specified in Section A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, and shall include familiarization with relevant industry operational experience.

### 6.5 REVIEW AND AUDIT

6.5.0 The Senior Vice President, Nuclear Power is responsible for the safe operation of all TVA power plants.

#### 6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

##### FUNCTION

6.5.1.1 The PORC shall function to advise the Plant Manager on all matters related to nuclear safety.

##### COMPOSITION

6.5.1.2 The PORC shall be composed of the:

Chairman:	Plant Manager
Member:	Operations Superintendent
Member:	Operations Manager
Member:	Site Radiological Control Superintendent
Member:	Maintenance Superintendent
Member:	Technical Support Superintendent
Member:	Quality Engineering Manager
Member:	Division of Nuclear Engineering Representative

## ADMINISTRATIVE CONTROLS

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### ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the PORC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PORC activities at any one time.

### MEETING FREQUENCY

6.5.1.4 The PORC shall meet at least once per calendar month and as convened by the PORC Chairman or his designated alternate.

### QUORUM

6.5.1.5 The minimum quorum of the PORC necessary for the performance of the PORC responsibility and authority provisions of these technical specifications shall consist of the Chairman or his designated alternate and four members including alternates.

### RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for:

- a. Providing for an oversight review of selected safety evaluations for: (1) procedures and (2) change to procedures, equipment, systems or facilities to verify that such actions did not constitute an unreviewed safety question.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of proposed procedures and changes to procedures, programs, equipment, system or facilities which involve an unreviewed safety question as defined in 10 CFR 50.59.
- e. Review of reports covering evaluation and recommendations to prevent recurrence of all violations of the Technical Specifications.
- f. Review of all REPORTABLE EVENTS.
- g. Review of unit operations to detect potential nuclear safety hazards.

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- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Plant Manager or the Nuclear Safety Review Board.
- i. Review of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence to the Site Director and to the Nuclear Safety Review Board.

## AUTHORITY

### 6.5.1.7 The PORC shall:

- a. Recommend in writing to the Plant Manager approval or disapproval of items considered under 6.5.1.6(a), (b) and (c) above.
- b. Require a determination in writing with regard to whether or not each item considered under 6.5.1.6(b), (c), and (e) above constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the Site Director and the Nuclear Safety Review Board of disagreement between the PORC and the Plant Manager; however, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to 6.1.1 above.

## RECORDS

6.5.1.8 The PORC shall maintain written minutes of each PORC meeting that, at a minimum, document the results of all PORC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Site Director and the Nuclear Safety Review Board.

## 6.5.1A TECHNICAL REVIEW AND CONTROL

### ACTIVITIES

#### 6.5.1A.1. Activities which affect nuclear safety shall be conducted as follows:

- a. Procedures required by Specification 6.8.1 and other procedures which affect plant nuclear safety, and changes thereto, shall be prepared, reviewed and approved. Each such procedure or procedure change shall be reviewed by a qualified individual other than the individual who prepared the procedure or procedure change, but who may be from the same organization as the individual who prepared the procedure or procedure change. Procedures shall be approved by the appropriate responsible manager as designated in writing by the Plant Manager. The Plant Manager, Operations Superintendent, Maintenance Superintendent, Technical Support Superintendent, or Site Radio-logical Control Superintendent shall approve designated Administrative Procedures.

## ADMINISTRATIVE CONTROLS (Continued)

- b. Workplans used to implement proposed changes or modifications to structures, systems, and components that affect plant nuclear safety shall be reviewed by a qualified individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modifications. Proposed modifications to structures, systems, and components that affect plant nuclear safety and the implementing workplans shall be approved prior to implementation by the Plant Manager, Operations Superintendent, Maintenance Superintendent, or Technical Support Superintendent.
- c. Individuals responsible for reviews performed in accordance with Specifications 6.5.1A.1a and -b, shall be designated by approved written procedures. Each such review shall be performed by qualified personnel of the appropriate discipline and shall include a determination of whether or not additional, cross-disciplinary review is necessary. Each such review shall also include determination of whether or not an unreviewed safety question is involved pursuant to Section 10 CFR 50.59.

### 6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

#### FUNCTION

6.5.2.1 The NSRB shall function to provide for independent review and audit to assure adequacy of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

#### COMPOSITION

6.5.2.2 The NSRB shall be composed of at least five members, including the Chairman. Members of the NSRB may be from the Office of Nuclear Power, or other TVA organization or external to TVA.



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### QUALIFICATIONS

6.5.2.3 The Chairman, members, and alternate members of the NSRB shall be appointed in writing by the Senior Vice President, Nuclear Power and shall have an academic degree in engineering or a physical science field, or the equivalent; and in addition, shall have a minimum of five years technical experience in one or more areas given in 6.5.2.1. No more than two alternates shall participate as voting members in NSRB activities at any one time.

### CONSULTANTS

6.5.2.4 Consultants shall be utilized as determined by the NSRB Chairman to provide expert advice to the NSRB.

### MEETING FREQUENCY

6.5.2.5 The NSRB shall meet at least once per calendar quarter during the initial year of unit operation following fuel loading and at least once per six months thereafter.

### QUORUM

6.5.2.6 The minimum quorum of the NSRB necessary for the performance of the NSRB review and audit functions of these technical specifications shall consist of more than half the NSRB membership or at least 5 members, whichever is greater. This quorum shall include the Chairman or his appointed alternate and the NSRB members, including appointed alternate members, meeting the requirements of Specification 6.5.2.3. No more than a minority of the quorum shall have line responsibility for operation of the unit.

### REVIEW

6.5.2.7 The NSRB shall be cognizant of review of:

- a. The safety evaluations for 1) changes to procedures, equipment or systems and 2) tests or experiments completed under the provision of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question.
- b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.
- c. Proposed tests or experiments which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.
- d. Proposed changes to Technical Specifications or this Operating License.
- e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

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- f. Significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety.
- g. All REPORTABLE EVENTS.
- h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety.
- i. Reports and meetings minutes of the PORC and the SQN RARC.

## AUDITS

6.5.2.8 Audits of unit activities shall be performed under the cognizance of the NSRB. These audits shall encompass:

- a. The conformance of unit operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.
- b. The performance, training and qualifications of the entire facility staff at least once per 12 months.
- c. The results of actions taken to correct deficiencies occurring in unit equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.
- d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix "B", 10 CFR 50, at least once per 24 months.
- e. The Site Radiological Emergency Plan and implementing procedures at least once per 12 months.
- f. The Plant Physical Security Plan, the Safeguards Contingency Plan, and implementing procedures at least once per 12 months.
- g. Any other area of unit operation considered appropriate by the NSRB or the Senior Vice President, Nuclear Power.
- h. The Facility Fire Protection Program and implementing procedures at least once per 24 months.
- i. An independent fire protection and loss prevention program inspection and audit shall be performed annually utilizing either qualified offsite licensee personnel or an outside fire protection firm.
- j. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.

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- k. The radiological environmental monitoring program and the results thereof at least once per 12 months.
- l. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months.
- m. The PROCESS CONTROL PROGRAM and implementing procedures for SOLIDIFICATION of radioactive wastes at least once per 24 months.
- n. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December 1977 or Regulatory Guide 1.21, Rev. 1, 1974 and Regulatory Guide 4.1, Rev. 1, 1975, at least once per 12 months.

### AUTHORITY

6.5.2.9 The NSRB shall report to and advise the Senior Vice President, Nuclear Power those areas of responsibility specified in Sections 6.5.2.7 and 6.5.2.8.

### RECORDS

6.5.2.10 Records of NSRB activities shall be prepared, approved and distributed as indicated below:

- a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following each meeting.
- b. Reports of reviews encompassed by Section 6.5.2.7 above, shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.2.8 above, shall be forwarded to the Senior Vice President, Nuclear Power and to the management positions responsible for the areas audited within 30 days after completion of the audit.

### 6.5.3 RADIOLOGICAL ASSESSMENT REVIEW COMMITTEE (RARC)

#### Function

6.5.3.1 The SQN RARC shall function to advise the Manager of Radiological Control and the Plant Manager on all matters related to radiological assessments involving dose calculations and projections and environmental monitoring.

#### Composition

6.5.3.2 The SQN RARC shall be composed of the:

- Chairman: Technical Assistance Section Supervisor
- Member: Health Physicist, Gaseous, Radiological Control
- Member: Health Physicist, Liquid, Radiological Control

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- Member: Meteorologist, Air Quality Branch
- Member: Chemical Engineer, Chemistry Section, SQN
- Member: Health Physicist, Environmental Monitoring, Radiological Control

### Alternates

6.5.3.3 All alternate members shall be appointed in writing by the SQN RARC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in SQN RARC activities at any one time.

### Meeting Frequency

6.5.3.4 The SQN RARC shall meet at least once per six months or as requested by the SQN RARC Chairman, his designated alternate, or a plant representative.

### Quorum

6.5.3.5 The minimum quorum of the SQN RARC necessary for the performance of the SQN RARC responsibility and authority provisions of these technical specifications shall consist of the Chairman or his designated alternate and 4 members (including alternates) as long as one is a plant representative.

### Responsibilities

6.5.3.6 The SQN RARC shall be responsible for:

- a. Review of changes to the OFFSITE DOSE CALCULATION MANUAL.
- b. Review of procedures required by Specification 6.8.4 and changes thereto.
- c. Review for information purposes of the results of any audits, reviews, or evaluations of the Quality Assurance Program for effluent and environmental monitoring and radiological assessments involving dose evaluations and projections.
- d. Review of proposed changes to the Technical Specifications related to radiological assessments involving dose calculations and projections and environmental radiological monitoring.

### Authority

6.5.3.7 The SQN RARC shall:

- a. Recommend in writing to the Manager of Radiological Control and the Plant Manager, approval or disapproval of items considered under 6.5.3.6 above.
- b. Render determinations in writing with regard to whether or not each item considered under 6.5.3.6 constitutes an unreviewed safety question.

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- c. Provide written notification within 24 hours to the Senior Vice President, Nuclear Power and the Nuclear Safety Review Board of disagreement between the SQN RARC and the Manager of Radiological Control; however, the Manager of Radiological Control shall have responsibility for resolution of such disagreement pursuant to 6.1.2 above.

### Records

6.5.3.8 The SQN RARC shall maintain written minutes of each SQN RARC meeting that at a minimum, document the results of all SQN RARC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Senior Vice President, Nuclear Power; PORC; and the Nuclear Safety Review Board.

### 6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and
- b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Director.

### 6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The unit shall be placed in at least HOT STANDBY within one hour.
- b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Site Director and the NSRB shall be notified within 24 hours.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- d. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB and the Site Director within 14 days of the violation.

### 6.8 PROCEDURES & PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.

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- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. Plant Physical Security Plan implementation.
- e. Site Radiological Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. PROCESS CONTROL PROGRAM implementation.
- h. Quality Assurance Program for effluent monitoring, using the guidance contained in Regulatory Guide 4.15, December 1977, or Regulatory Guide 1.21, Rev. 1, 1974 and Regulatory Guide 4.1, Rev. 1, 1975.

6.8.2 Each procedure of 6.8.1 above, and changes thereto, shall be reviewed and approved prior to implementation as set forth in Specification 6.5.1A above.

6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
- c. The change is approved in accordance with Specification 6.5.1A above within 14 days of implementation.

6.8.4 Written procedures shall be established, implemented and maintained by Radiological Control covering the activities below:

- a. OFFSITE DOSE CALCULATIONAL MANUAL implementation.
- b. Quality Assurance Program for environmental monitoring, using the guidance contained in Regulatory Guide 4.15, December 1977.
- c. Surveillance requirements and environmental monitoring requirements shown in Table 6.1-1.

6.8.5 The following programs shall be established, implemented, maintained, and changes thereto made in accordance with Section 6.5.1A:

- a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The

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systems include the safety injection system, residual heat removal system, chemical and volume control system, containment spray system, and RCS sampling system. The program shall include the following:

- (i) Preventive maintenance and periodic visual inspection requirements, and
- (ii) Integrated leak test requirements for each system at refueling cycle intervals or less.

### b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentrations in vital areas under accident conditions. This program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for monitoring, and
- (iii) Provisions for maintenance of sampling and analysis equipment.

### c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

- (i) Identification of a sampling schedule for the critical variables and control points for these variables,
- (ii) Identification of the procedures used to measure the values of the critical variables,
- (iii) Identification of process sampling points,
- (iv) Procedures for the recording and management of data,
- (v) Procedures defining corrective actions for off-control point chemistry conditions,
- (vi) Procedures identifying (a) the authority responsible for the interpretation of the data; and (b) the sequence and timing of administrative events required to initiate corrective action, and
- (vii) Monitoring of the condensate at the discharge of the condensate pumps for evidence of condenser in-leakage. When condenser in-leakage is confirmed, the leak shall be repaired, plugged, or isolated within 96 hours.

## ADMINISTRATIVE CONTROLS

### d. Backup Method for Determining Subcooling Margin

A program which will ensure the capability to accurately monitor the Reactor Coolant System Subcooling Margin. This program shall include the following:

- (i) Training of personnel, and
- (ii) Procedures for monitoring.

### e. Postaccident Sampling

A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for sampling and analysis,
- (iii) Provisions for maintenance of sampling and analysis equipment.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted in accordance with 10 CFR 50.4.

### STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.



## ADMINISTRATIVE CONTROLS

### ANNUAL REPORTS<sup>1/</sup>

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include a tabulation on an annual basis for the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions, e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

### ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT<sup>3/</sup>

6.9.1.6 The radiological environmental operating reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year.

6.9.1.7 The annual radiological environmental operating reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with preoperational studies, operational controls (as appropriate), and previous environmental surveillance reports and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2 and a listing of the new locations for dose calculations and/or environmental monitoring identified by the land use census. If harmful effects or evidence of irreversible damage are detected by the monitoring, the report shall provide an analysis of the problems and a planned course of action to alleviate the problem.

1/ A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

2/ This tabulation supplements the requirements of § 20.407 of 10 CFR Part 20.

3/ A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

## ADMINISTRATIVE CONTROLS

The annual radiological environmental operating reports shall include summarized and tabulated results in the format of Regulatory Guide 4.8, December 1975 of all radiological environmental samples taken during the report period. In the event that some results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; a map of all sampling locations keyed to a table giving distances and directions from one reactor; and the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3.

### SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT<sup>1/</sup>

6.9.1.8 The semiannual radioactive effluent release report covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The period of the first report shall begin with the date of initial criticality.

6.9.1.9 Semiannual radioactive effluent release reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The annual radioactive effluent release report (Radiological Impact) to be submitted 60 days after January 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing of wind speed, wind direction, atmospheric stability, and precipitation (if measured) on magnetic tape, or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.\* This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. This same report shall also include an assessment of the radiation doses from radioactive liquid and gaseous effluents to members of the public due to their activities inside the site boundary (Figure 5.1-1) during the report period. All assumptions used in making these assessments (i.e., specific activity, exposure time and location) shall be included in these reports. The meteorological conditions concurrent with the time of release of radioactive materials in gaseous effluents (as

<sup>1/</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

\*In lieu of submission with the annual radioactive effluent release report, this summary of required meteorological data may be retained on site in a file that shall be provided to NRC upon request.

## ADMINISTRATIVE CONTROLS

determined by sampling frequency and measurement) shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

The annual radioactive effluent release report to be submitted after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed members of the public from reactor releases and other nearby uranium fuel cycle sources (including doses from primary effluent pathways and direct radiation) for the previous calendar year to show conformance with 40 CFR 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1.

The semiannual radioactive effluent release reports shall include the following information for each type of solid waste identified in Regulatory Guide 1.21, Rev. 1, Table 3, Part A, which is shipped offsite during the report period:

- a. Total volume of containers,
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),
- d. Type of quantity (e.g., LSA, Type A, Type B, etc.)

The semiannual radioactive effluent release reports shall include unplanned releases from the site to unrestricted areas of radioactive materials in gaseous and liquid effluents on a quarterly basis and shall include any changes to the PROCESS CONTROL PROGRAM (PCP) and the Offsite Dose Calculation Manual (ODCM) made during the reporting period. It shall include the type of solidification agent used, if applicable.

### MONTHLY REACTOR OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or Safety Valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

Any changes to the OFFSITE DOSE CALCULATION MANUAL shall be submitted with the Monthly Operating Report within 90 days in which the change(s) was made effective. In addition, a report of any major changes to the radioactive waste treatment systems shall be submitted with the Monthly Operating Report for the period in which the evaluation was reviewed and accepted by the PORC.

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### RADIAL PEAKING FACTOR LIMIT REPORT

6.9.1.14 The W(z) function for normal operation shall be provided at least 60 days prior to cycle initial criticality. In the event that these values would be submitted at some other time during core life, it will be submitted 60 days prior to the date the values would become effective unless otherwise exempted by the Commission.

Any information needed to support W(z) will be by request from the NRC and need not be included in this report.

### SPECIAL REPORTS

6.9.2.1 Special reports shall be submitted within the time period specified for each report, in accordance with 10 CFR 50.4.

#### 6.9.2.2 Diesel Generator Reliability Improvement Program

As a minimum the Reliability Improvement Program report for NRC audit, required by LCO 3.8.1.1, Table 4.8-1, shall include:

- (a) a summary of all tests (valid and invalid) that occurred within the time period over which the last 20/100 valid tests were performed
- (b) analysis of failures and determination of root causes of failures
- (c) evaluation of each of the recommendations of NUREG/CR-0660, "Enhancement of Onsite Emergency Diesel Generator Reliability in Operating Reactors," with respect to their application to the Plant
- (d) identification of all actions taken or to be taken to 1) correct the root causes of failures defined in b) above and 2) achieve a general improvement of diesel generator reliability
- (e) the schedule for implementation of each action from d) above
- (f) an assessment of the existing reliability of electric power to engineered-safety-feature equipment

A supplemental report shall be prepared within 30 days after each subsequent failure during a valid demand for so long as the affected diesel generator unit continues to violate the criteria (3/20 or 6/100) for the reliability improvement program remedial action. The supplemental report need only update the failure/demand history for the affected diesel generator unit since the last report for that diesel generator. The supplemental report shall also present an analysis of the failure(s) with a root cause determination, if possible, and shall delineate any further procedural, hardware or operational changes to be incorporated into the diesel generator improvement program and the schedule for implementation of those changes.

## ADMINISTRATIVE CONTROLS

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### Diesel Generator Reliability Improvement Program (Continued)

In addition to the above, submit a yearly data report on the diesel generator reliability.

#### 6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of unit operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All REPORTABLE EVENTS submitted to the Commission.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to the procedures required by Specification 6.8.1 and 6.8.4.
- f. Records of radioactive shipments.
- g. Records of sealed source and fission detector leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.

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6.10.2 The following records shall be retained for the duration of the Unit Operating License:

- a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of radiation exposure for all individuals entering radiation control areas.
- d. Records of gaseous and liquid radioactive material released to the environs.
- e. Records of transient or operational cycles for those unit components identified in Table 5.7-1.
- f. Records of reactor tests and experiments.
- g. Records of training and qualification for current members of the facility staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required for lifetime retention by the Nuclear Quality Assurance Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the PORC, SQN RARC, and the NSRB.
- l. Records of analyses required by the radiological environmental monitoring program.
- m. Records of secondary water sampling and water quality.
- n. Records of the service life monitoring of all safety-related hydraulic and mechanical snubbers, required by T/S 3.7.9, including the maintenance performed to renew the service life.
- o. Records for Environmental Qualification which are covered under the provisions of Paragraph 2.c.(12)(b) of License No. DPR-77.

### 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

## ADMINISTRATIVE CONTROLS

### 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c) (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 Special (Radiation) Work Permit\*. 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 Site Radiological Control Superintendent in the Special (Radiation) Work Permit.

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 Supervisor on duty and/or the Site Radiological Control Superintendent.

### 6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 Licensee initiated changes to the PCP:

1. Shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
  - a. sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information,

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\*Radiological Control personnel or personnel escorted by Radiological Control personnel in accordance with approved emergency procedures, shall be exempt from the SWP 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.

## ADMINISTRATIVE CONTROLS

- b. a determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
  - c. documentation of the fact that the change has been reviewed and found acceptable in accordance with Section 6.5.1A.
2. Shall become effective upon review and approval in accordance with Section 6.5.1A.

### 6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 The ODCM shall be approved by the Commission prior to implementation.

6.14.2 Licensee initiated changes to the ODCM:

1. Shall be submitted to the Commission in the next Semi-Annual Radioactive Effluent Release Report pursuant to Specification 6.9.1.9. This submittal shall contain:
  - a. sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with an approval and date box, together with appropriate analyses or evaluations justifying the change(s);
  - b. a determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
  - c. documentation of the fact that the change has been reviewed and found acceptable by the SQN RARC.
2. Shall become effective upon review and acceptance by the SQN RARC.

### 6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous and Solid)

6.15.1 Licensee initiated major changes to the radioactive waste systems (liquid, gaseous and solid):\*

1. Shall be reported to the Commission in the Semi-Annual Radioactive Effluent Release Report for the period in which the evaluation was reviewed in accordance with Section 6.5.1A. The discussion of each change shall contain:
  - a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;

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\*Submittal of information required by this section may be made as part of the annual FSAR update.



## ADMINISTRATIVE CONTROLS

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- b. sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
  - c. a detailed description of the equipment, components and processes involved and the interfaces with other plant systems;
  - d. an evaluation for the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
  - e. an evaluation of the change which shows the expected maximum exposures to individual in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;
  - f. a comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
  - g. an estimate of the exposure to plant operating personnel as a result of the change; and
  - h. documentation of the fact that the change was reviewed and found acceptable in accordance with Section 6.5.1A.
2. Shall become effective upon review and acceptance in accordance with Section 6.5.1A.



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 66  
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Tennessee Valley Authority (the licensee) dated March 1 and June 13, 1988, as supplemented by letters dated June 22 and June 24, 1988, 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.

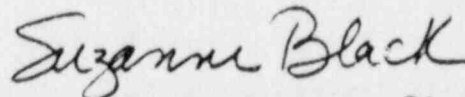
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 66, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Special Projects

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 66

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf pages are provided to maintain document completeness.

REMOVE

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Section 6

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SECTION 6.0  
ADMINISTRATIVE CONTROLS



## 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 Manager of Radiological Control shall be responsible for implementing the radiological environmental program and dose calculations and projections as described in the Offsite Dose Calculation Manual (ODCM).

6.1.3 The Shift Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Site Director shall be reissued to all station personnel on an annual basis.

### 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 FSAR and will be updated in accordance with 10 CFR 50.71(e).
- b. The Senior Vice President, Nuclear Power 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. Each on duty unit shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Reactor Operator shall be in the unit 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.

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- c. A Radiological Control technician<sup>#</sup> shall be onsite when fuel is in the reactor.
- d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- e. A Fire Brigade of at least 5 members shall be maintained onsite at all times<sup>#</sup>. The Fire Brigade shall not include the Shift Supervisor and the 2 other members of the minimum shift crew necessary for safe shutdown of the unit or any personnel required for other essential functions during a fire emergency.
- f. The Operations Manager shall hold a Senior Reactor Operator license.

<sup>#</sup> The Radiological Control technician and fire brigade composition may be less than the minimum requirements 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.

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION

WITH UNIT 1 IN MODE 5 OR 6 OR DE-FUELED

POSITION	NUMBER OF INDIVIDUALS REQUIRED TO FILL POSITION	
	MODES 1, 2, 3 & 4	MODES 5 & 6
SS	1 <sup>a</sup>	1 <sup>a</sup>
SRO	1	None
RO	2	1
AO	2	2 <sup>b</sup>
STA	1	None

WITH UNIT 1 IN MODES 1, 2, 3 OR 4

POSITION	NUMBER OF INDIVIDUALS REQUIRED TO FILL POSITION	
	MODES 1, 2, 3 & 4	MODES 5 & 6
SS	1 <sup>a</sup>	1 <sup>a</sup>
SRO	1 <sup>a</sup>	None
RO	2 <sup>b</sup>	1
AO	2 <sup>b</sup>	1
STA	1 <sup>a</sup>	None

a/ Individual may fill the same position on Unit 1.

b/ One of the two required individuals may fill the same position on Unit 1.

TABLE 6.2-1 (Continued)

TABLE NOTATION

SS - Shift Supervisor with a Senior Reactor Operators License on Unit 2  
SRO - Individual with a Senior Reactor Operators License on Unit 2  
RO - Individual with a Reactor Operators License on Unit 2  
AO - Auxiliary Operator  
STA - Shift Technical Advisor

Except for the Shift Supervisor, the Shift Crew Composition may be one less than the minimum requirements of Table 6.2-1 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 of Table 6.2-1. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

During any absence of the Shift Supervisor from the Control Room while the unit is in MODES 1, 2, 3 or 4, an individual (other than the Shift Technical Advisor) with a valid SRO license shall be designated to assume the Control Room command function. During an absence of the Shift Supervisor from the Control Room while the unit is in MODE 5 or 6, an individual with a valid SRO or RO license (other than the Shift Technical Advisor) shall be designated to assume the Control Room command function.

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### 6.2.3 INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

#### FUNCTION

6.2.3.1 The ISEG shall function to examine plant operating characteristics, NRC issuances, industry advisories, Licensee Event Reports and other sources which may indicate areas for improving plant safety.

#### COMPOSITION

6.2.3.2 The ISEG shall be composed of at least 3 dedicated full-time engineers located onsite. These engineers will be supplemented by 2 full-time engineers shared among all TVA nuclear sites.

#### RESPONSIBILITIES

6.2.3.3 The ISEG shall be responsible for maintaining surveillance of plant activities to provide independent verification\* that these activities are performed correctly and that human errors are reduced as much as practical.

#### AUTHORITY

6.2.3.4 The ISEG shall make detailed recommendations for revised procedures, equipment modifications, or other means of improving plant safety to the Director of Nuclear Licensing and Regulatory Affairs.

### 6.2.4 SHIFT TECHNICAL ADVISOR (STA)

6.2.4.1 The STA shall serve in an advisory capacity to the shift supervisor on matters pertaining to the engineering aspects of assuring safe operation of the unit.

### 6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions and the supplemental requirements specified in Section A and C of Enclosure 1 of March 28, 1980 NRC letter to all licensees, except for the Site Radiological Control Superintendent who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

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\*Not responsible for sign-off function.

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### 6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Operations Superintendent and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55 and the supplemental requirements specified in Section A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, and shall include familiarization with relevant industry operational experience.

### 6.5 REVIEW AND AUDIT

6.5.0 Senior Vice President, Nuclear Power is responsible for the safe operation of all TVA power plants.

#### 6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

##### FUNCTION

6.5.1.1 The PORC shall function to advise the Plant Manager on all matters related to nuclear safety.

##### COMPOSITION

6.5.1.2 The PORC shall be composed of the:

Chairman:	Plant Manager
Member:	Operations Superintendent
Member:	Operations Manager
Member:	Site Radiological Control Superintendent
Member:	Maintenance Superintendent
Member:	Technical Support Superintendent
Member:	Quality Engineering Manager
Member:	Division of Nuclear Engineering Representative

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### ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the PORC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PORC activities at any one time.

### MEETING FREQUENCY

6.5.1.4 The PORC shall meet at least once per calendar month and as convened by the PORC Chairman or his designated alternate.

### QUORUM

6.5.1.5 The minimum quorum of the PORC necessary for the performance of the PORC responsibility and authority provisions of these Technical Specifications shall consist of the Chairman or his designated alternate and four members including alternates.

### RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for:

- a. Providing for an oversight review of selected safety evaluations for: (1) procedures and (2) change to procedures, equipment, systems or facilities to verify that such actions did not constitute an unreviewed safety question.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of proposed procedures and changes to procedures, programs, equipment, system or facilities which involve an unreviewed safety question as defined in 10 CFR 50.59.
- e. Review of reports covering evaluation and recommendations to prevent recurrence of all violations of the Technical Specifications.
- f. Review of all REPORTABLE EVENTS.
- g. Review of unit operations to detect potential nuclear safety hazards.
- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Plant Manager or the Nuclear Safety Review Board.

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- i. Review of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence to the Site Director and to the Nuclear Safety Review Board.

### AUTHORITY

#### 6.5.1.7 The PORC shall:

- a. Recommend in writing to the Plant Manager approval or disapproval of items considered under 6.5.1.6(a), (b) and (c) above.
- b. Require a determination in writing with regard to whether or not each item considered under 6.5.1.6(b), (c), and (e) above constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the Site Director and the Nuclear Safety Review Board of disagreement between the PORC and the Plant Manager; however, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to 6.1.1 above.

### RECORDS

6.5.1.8 The PORC shall maintain written minutes of each PORC meeting that, at a minimum, document the results of all PORC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Site Director and the Nuclear Safety Review Board.

#### 6.5.1A TECHNICAL REVIEW AND CONTROL

### ACTIVITIES

#### 6.5.1A.1. Activities which affect nuclear safety shall be conducted as follows:

- a. Procedures required by Specification 6.8.1 and other procedures which affect plant nuclear safety, and changes thereto, shall be prepared, reviewed and approved. Each such procedure or procedure change shall be reviewed by a qualified individual other than the individual who prepared the procedure or procedure change, but who may be from the same organization as the individual who prepared the procedure or procedure change. Procedures shall be approved by the appropriate responsible manager as designated in writing by the Plant Manager. The Plant Manager, Operations Superintendent, Maintenance Superintendent, Technical Support Superintendent, or Site Radiological Control Superintendent shall approve designated Administrative Procedures.
- b. Workplans used to implement proposed changes or modifications to structures, systems, and components that affect plant nuclear safety shall be reviewed by a qualified individual/group other than the individual/group which designed the modification, but who may be from the same organization



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as the individual/group which designed the modifications. Proposed modifications to structures, systems, and components that affect plant nuclear safety and the implementing workplans shall be approved prior to implementation by the Plant Manager, Operations Superintendent, Maintenance Superintendent, or Technical Support Superintendent.

- c. Individuals responsible for reviews performed in accordance with Specifications 6.5.1A.1a and -b, shall be designated by approved written procedures. Each such review shall be performed by qualified personnel of the appropriate discipline and shall include a determination of whether or not additional, cross-disciplinary review is necessary. Each such review shall also include determination of whether or not an unreviewed safety question is involved pursuant to Section 10 CFR 50.59.

### 6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

#### FUNCTION

6.5.2.1 The NSRB shall function to provide for independent review and audit to assure adequacy of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

#### COMPOSITION

6.5.2.2 The NSRB shall be composed of at least five members, including the Chairman. Members of the NSRB may be from the Office of Nuclear Power, or other TVA organization or external to TVA.

#### QUALIFICATIONS

6.5.2.3 The Chairman, members, and alternate members of the NSRB shall be appointed in writing by the Senior Vice President, Nuclear Power and shall have an academic degree in engineering or a physical science field, or the equivalent; and in addition, shall have a minimum of five years technical experience in one or more areas given in 6.5.2.1. No more than two alternates shall participate as voting members in NSRB activities at any one time.

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### CONSULTANTS

6.5.2.4 Consultants shall be utilized as determined by the NSRB Chairman to provide expert advice to the NSRB.

### MEETING FREQUENCY

6.5.2.5 The NSRB shall meet at least once per calendar quarter during the initial year of unit operation following fuel loading and at least once per six months thereafter.

### QUORUM

6.5.2.6 The minimum quorum of the NSRB necessary for the performance of the NSRB review and audit functions of these technical specifications shall consist of more than half the NSRB membership or at least 5 members, whichever is greater. This quorum shall include the Chairman or his appointed alternate and the NSRB members, including appointed alternate members, meeting the requirements of Specification 6.5.2.3. No more than a minority of the quorum shall have line responsibility for operation of the unit.

### REVIEW

6.5.2.7 The NSRB shall be cognizant of review of:

- a. The safety evaluations for 1) changes to procedures, equipment or systems and 2) tests or experiments completed under the provision of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question.
- b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.
- c. Proposed tests or experiments which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.
- d. Proposed changes to Technical Specifications or this Operating License.
- e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.
- f. Significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety.
- g. ALL REPORTABLE EVENTS.
- h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety.
- i. Reports meetings minutes of the PORC and the SQN RARC.

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### AUDITS

6.5.2.8 Audits of unit activities shall be performed under the cognizance of the NSRB. These audits shall encompass:

- a. The conformance of unit operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.
- b. The performance, training and qualifications of the entire facility staff at least once per 12 months.
- c. The results of actions taken to correct deficiencies occurring in unit equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.
- d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix "B", 10 CFR 50, at least once per 24 months.
- e. The Site Radiological Emergency Plan and implementing procedures at least once per 12 months.
- f. The Plant Physical Security Plan, the Safeguards Contingency Plan, and implementing procedures at least once per 12 months.
- g. Any other area of unit operation considered appropriate by the NSRB or the Senior Vice President, Nuclear Power.
- h. The Facility Fire Protection Program and implementing procedures at least once per 24 months.
- i. An independent fire protection and loss prevention program inspection and audit shall be performed annually utilizing either qualified offsite licensee personnel or an outside fire protection firm.
- j. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.
- k. The radiological environmental monitoring program and the results thereof at least once per 12 months.
- l. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months.
- m. The PROCESS CONTROL PROGRAM and implementing procedures for SOLIDIFICATION of radioactive wastes at least once per 24 months.
- n. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December 1977 or Regulatory Guide 1.21, Rev. 1, 1974 and Regulatory Guide 4.1, Rev. 1, 1975, at least once per 12 months.

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### AUTHORITY

6.5.2.9 The NSRB shall report to and advise the Senior Vice President, Nuclear Power on those areas of responsibility specified in Sections 6.5.2.7 and 6.5.2.8.

### RECORDS

6.5.2.10 Records of NSRB activities shall be prepared, approved and distributed as indicated below:

- a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following each meeting.
- b. Reports of reviews encompassed by Section 6.5.2.7 above, shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.2.8 above, shall be forwarded to the Senior Vice President, Nuclear Power and to the management positions responsible for the areas audited within 30 days after completion of the audit.

### 6.5.3 RADIOLOGICAL ASSESSMENT REVIEW COMMITTEE (RARC)

#### Function

6.5.3.1 The SQN RARC shall function to advise the Manager of Radiological Control and the Plant Manager on all matters related to radiological assessments involving dose calculations and projections and environmental monitoring.

#### Composition

6.5.3.2 The SQN RARC shall be composed of the:

- Chairman: Technical Assistance Section Supervisor
- Member: Health Physicist, Gaseous, Radiological Control
- Member: Health Physicist, Liquid, Radiological Control
- Member: Meteorologist, Air Quality Branch
- Member: Chemical Engineer, Chemistry Section, SQN
- Member: Health Physicist, Environmental Monitoring, Radiological Control

#### Alternates

6.5.3.3 All alternate members shall be appointed in writing by the SQN RARC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in SQN RARC activities at any one time.

#### Meeting Frequency

6.5.3.4 The SQN RARC shall meet at least once per six months or as requested by the SQN RARC Chairman, his designated alternate, or a plant representative.

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### Quorum

6.5.3.5 The minimum quorum of the SQN RARC necessary for the performance of the SQN RARC responsibility and authority provisions of these technical specifications shall consist of the Chairman or his designated alternate and 4 members (including alternates) as long as one is a plant representative.

### Responsibilities

6.5.3.6 The SQN RARC shall be responsible for:

- a. Review of changes to the OFFSITE DOSE CALCULATION MANUAL.
- b. Review of procedures required by Specification 6.8.4 and changes thereto.
- c. Review for information purposes of the results of any audits, reviews, or evaluations of the Quality Assurance Program for effluent and environmental monitoring and radiological assessments involving dose evaluations and projections.
- d. Review of proposed changes to the Technical Specifications related to radiological assessments involving dose calculations and projections and environmental radiological monitoring.

### Authority

6.5.3.7 The SQN RARC shall:

- a. Recommend in writing to the Manager of Radiological Control and the Plant Manager, approval or disapproval of items considered under 6.5.3.6 above.
- b. Render determinations in writing with regard to whether or not each item considered under 6.5.3.6 constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the Senior Vice President, Nuclear Power and the Nuclear Safety Review Board of disagreement between the SQN RARC and the Manager of Radiological Control; however, the Manager of Radiological Control shall have responsibility for resolution of such disagreement pursuant to 6.1.2 above.

### Records

6.5.3.8 The SQN RARC shall maintain written minutes of each SQN RARC meeting that at a minimum, document the results of all SQN RARC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Senior Vice President, Nuclear Power; PORC; and the Nuclear Safety Review Board.

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### 6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- a. The Commission shall be notified and/or a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and
- b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Director.

### 6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The unit shall be placed in at least HOT STANDBY within one hour.
- b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Site Director and the NSRB shall be notified within 24 hours.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- d. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB and the Site Director within 14 days of the violation.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
- b. Refueling operations.
- c. Surveillance and test activities of safety related equipment.
- d. Plant Physical Security Plan implementation.
- e. Site Radiological Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. PROCESS CONTROL PROGRAM implementation.

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- h. Quality Assurance Program for effluent monitoring, using the guidance contained in Regulatory Guide 4.15, December 1977 or Regulatory Guide 1.21, Rev. 1, 1974 and Regulatory Guide 4.1, Rev. 1, 1975.

6.8.2 Each procedure of 6.8.1 above, and changes thereto, shall be reviewed and approved prior to implementation as set forth in Specification 6.5.1A above.

6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
- c. The change is approved in accordance with Specification 6.5.1A above within 14 days of implementation.

6.8.4 Written procedures shall be established, implemented and maintained by Radiological Control covering the activities below:

- a. OFFSITE DOSE CALCULATIONAL MANUAL implementation.
- b. Quality Assurance Program and environmental monitoring, using the guidance contained in Regulatory Guide 4.15, December 1977.
- c. Surveillance requirements and environmental monitoring requirements shown in Table 6.1-1.

6.8.5 The following programs shall be established, implemented, maintained, and changes thereto made in accordance with Section 6.5.1A:

- a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the safety injection system, residual heat removal system, chemical and volume control system, containment spray system, and RCS sampling system. The program shall include the following:

- (i) Preventive maintenance and periodic visual inspection requirements, and
- (ii) Integrated leak test requirements for each system at refueling cycle intervals or less.

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### b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentrations in vital areas under accident conditions. This program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for monitoring, and
- (iii) Provisions for maintenance of sampling and analysis equipment.

### c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

- (i) Identification of a sampling schedule for the critical variables and control points for these variables,
- (ii) Identification of the procedures used to measure the values of the critical variables,
- (iii) Identification of process sampling points,
- (iv) Procedures for the recording and management of data,
- (v) Procedures defining corrective actions for off-control point chemistry conditions,
- (vi) Procedures identifying (a) the authority responsible for the interpretation of the data; and (b) the sequence and timing of administrative events required to initiate corrective action, and
- (vii) Monitoring of the condensate at the discharge of the condensate pumps for evidence of condenser in-leakage. When condenser in-leakage is confirmed, the leak shall be repaired, plugged, or isolated.

### d. Backup Method for Determining Subcooling Margin

A program which will ensure the capability to accurately monitor the Reactor Coolant System Subcooling Margin. This program shall include the following:

- (i) Training of personnel, and
- (ii) Procedures for monitoring.



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### e. Postaccident Sampling

A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for sampling and analysis,
- (iii) Provisions for maintenance of sampling and analysis equipment.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted in accordance with 10 CFR 50.4.

### STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

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### ANNUAL REPORTS<sup>1/</sup>

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include a tabulation on an annual basis for the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mre#l/yr and their associated man rem exposure according to work and job functions,<sup>2/</sup> e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

### ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT<sup>3/</sup>

6.9.1.6 The radiological environmental operating report covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year.

6.9.1.7 The annual radiological environmental operating reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with preoperational studies, operational controls (as appropriate), and previous environmental surveillance reports and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2, and a listing of the new locations for dose calculations and/or environmental monitoring identified by the land use census. If harmful effects or evidence of irreversible damage are detected by the monitoring, the report shall provide an analysis of the problems and a planned course of action to alleviate the problem.

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<sup>1/</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

<sup>2/</sup> This tabulation supplements the requirements of § 20.407 of 10 CFR Part 20.

<sup>3/</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

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The annual radiological environmental operating reports shall include summarized and tabulated results in the format of Regulatory Guide 4.8, December 1975 of all radiological environmental samples taken during the report period. In the event that some results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; a map of all sampling locations keyed to a table giving distances and directions from one reactor; and the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3.

### SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT<sup>1/</sup>

6.9.1.8 The semiannual radioactive effluent release report covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The period of the first report shall begin with the date of initial criticality.

6.9.1.9 Semiannual radioactive effluent release reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The annual radioactive effluent release report (Radiological Impact) to be submitted 60 days after January 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing of wind speed, wind direction, atmospheric stability, and precipitation (if measured) on magnetic tape, or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.\* This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. This same report shall also include an assessment of the radiation doses from radioactive liquid and gaseous effluents to members of the public due to their activities inside the site boundary (Figure 5.1-1) during the report period. All assumptions used in making these assessments (i.e., specific activity,

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<sup>1/</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

\* In lieu of submission with the annual radioactive effluent release report this summary of required meteorological data may be retained on site in a file that shall be provided the NRC upon request.

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exposure time and location) shall be included in these reports. The meteorological conditions concurrent with the time of release of radioactive materials in gaseous effluents (as determined by sampling frequency and measurement) shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

The annual radioactive effluent release report to be submitted after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed members of the public from reactor releases and other nearby uranium fuel cycle sources (including doses from primary effluent pathways and direct radiation) for the previous calendar year to show conformance with 40 CFR 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1.

The semiannual radioactive effluent release reports shall include the following information for each type of solid waste identified in Regulatory Guide 1.21, Rev. 1, Table 3, Part A, which is shipped offsite during the report period:

- a. Total volume of containers,
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),
- d. Type of quantity (e.g., LSA, Type A, Type B, etc.)

The semiannual radioactive effluent release reports shall include unplanned releases from the site to unrestricted areas of radioactive materials in gaseous and liquid effluents on a quarterly basis, and shall include any changes to the PROCESS CONTROL PROGRAM (PCP) and the Offsite Dose Calculation Manual (ODCM) made during the reporting period. It shall include the type of solidification agent used, if applicable.

### MONTHLY REACTOR OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or Safety Valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

Any changes to the OFFSITE DOSE CALCULATION MANUAL shall be submitted with the Monthly Operating Report within 90 days in which the change(s) was made effective. In addition, a report of any major changes to the radioactive waste treatment systems shall be submitted with the Monthly Operating Report for the period in which the evaluation was reviewed and accepted by the PORC.

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### RADIAL PEAKING FACTOR LIMIT REPORT

6.9.1.14 The  $W(z)$  function for normal operation shall be provided at least 60 days prior to cycle initial criticality. In the event that these values would be submitted at some other time during core life, it will be submitted 60 days prior to the date the values would become effective unless otherwise exempted by the Commission.

Any information needed to support  $W(z)$  will be by request from the NRC and need not be included in this report.

### SPECIAL REPORTS

6.9.2.1 Special reports shall be submitted within the time period specified for each report, in accordance with 10 CFR 50.4.

#### 6.9.2.2 Diesel Generator Reliability Improvement Program

As a minimum the Reliability Improvement Program report for NRC audit, required by LCO 3.8.1.1, Table 4.8-1, shall include:

- (a) a summary of all tests (valid and invalid) that occurred within the time period over which the last 20/100 valid tests were performed
- (b) analysis of failures and determination of root causes of failures
- (c) evaluation of each of the recommendations of NUREG/CR-0660, "Enhancement of Onsite Emergency Diesel Generator Reliability in Operating Reactors," with respect to their application to the Plant
- (d) identification of all actions taken or to be taken to 1) correct the root causes of failures defined in b) above and 2) achieve a general improvement of diesel generator reliability
- (e) the schedule for implementation of each action from d) above
- (f) an assessment of the existing reliability of electric power to engineered-safety-feature equipment

A supplemental report shall be prepared within 30 days after each subsequent failure during a valid demand for so long as the affected diesel generator unit continues to violate the criteria (3/20 or 6/100) for the reliability improvement program remedial action. The supplemental report need only update the failure/demand history for the affected diesel generator unit since the last report for that diesel generator. The supplemental report shall also present an analysis of the failure(s) with a root cause determination, if possible, and shall delineate any further procedural, hardware or operational changes to be incorporated into the diesel generator improvement program and the schedule for implementation of those changes.

## ADMINISTRATIVE CONTROLS

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### Diesel Generator Reliability Improvement Program (Continued)

In addition to the above, submit a yearly data report on the diesel generator reliability.

#### 6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of unit operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All REPORTABLE EVENTS submitted to the Commission.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to the procedures required by Specification 6.8.1 and 6.8.4.
- f. Records of radioactive shipments.
- g. Records of sealed source and fission detector leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.

## ADMINISTRATIVE CONTROLS

6.10.2 The following records shall be retained for the duration of the Unit Operating License:

- a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of radiation exposure for all individuals entering radiation control areas.
- d. Records of gaseous and liquid radioactive material released to the environs.
- e. Records of transient or operational cycles for those unit components identified in Table 5.7-1.
- f. Records of reactor tests and experiments.
- g. Records of training and qualification for current members of the facility staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required for lifetime retention by the Nuclear Quality Assurance Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the PORC, SQN RARC, and the NSRB.
- l. Records of analyses required by the radiological environmental monitoring program.
- m. Records of secondary water sampling and water quality.
- n. Records of the service life monitoring of all safety-related hydraulic and mechanical snubbers, required by T/S 3.7.9, including the maintenance performed to renew the service life.
- o. Records for environmental qualification which are covered under the provisions of paragraph 2.C.(10)(b) of license No. DPR-79.

## ADMINISTRATIVE CONTROLS

### 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

### 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c) (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 Special (Radiation) Work Permit\*. 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 Site Radiological Control Superintendent in the Special (Radiation) Work Permit.

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 Supervisor on duty and/or the Site Radiological Control Superintendent.

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\*Radiological Control personnel or personnel escorted by Radiological Control personnel in accordance with approved emergency procedures, shall be exempt from the SWP 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.



## ADMINISTRATIVE CONTROLS

### 6.13 PROCESS CONTROL PROGRAM (PCP)

#### 6.13.1 Licensee initiated changes to the PCP:

1. Shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
  - a. sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information;
  - b. a determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
  - c. documentation of the fact that the change has been reviewed and found acceptable in accordance with Section 6.5.1A.
2. Shall become effective upon review and approval in accordance with Section 6.5.1A.

### 6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

#### 6.14.1 The ODCM shall be approved by the Commission prior to implementation.

#### 6.14.2 Licensee initiated changes to the ODCM:

1. Shall be submitted to the Commission in the next Semi-Annual Radioactive Effluent Release Report pursuant to Specification 6.9.1.9. This submittal shall contain:
  - a. sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with an approval and date box, together with appropriate analyses or evaluations justifying the change(s);
  - b. a determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
  - c. documentation of the fact that the change has been reviewed and found acceptable by the SQN RARC.
2. Shall become effective upon review and acceptance by the SQN RARC.

## ADMINISTRATIVE CONTROLS

### 6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous and Solid)

6.15.1 Licensee initiated major changes to the radioactive waste systems (liquid, gaseous and solid):\*

1. Shall be reported to the Commission in the Semi-Annual Radioactive Effluent Report for the period in which the evaluation was reviewed in accordance with Section 6.5.1A. The discussion of a change shall contain:
  - a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;
  - b. sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
  - c. a detailed description of the equipment, components and processes involved and the interfaces with other plant systems;
  - d. an evaluation for the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
  - e. an evaluation of the change which shows the expected maximum exposures to individual in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;
  - f. a comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
  - g. an estimate of the exposure to plant operating personnel as a result of the change; and
  - h. documentation of the fact that the change was reviewed and found acceptable in accordance with Section 6.5.1A.
2. Shall become effective upon review and acceptance in accordance with Section 6.5.1A.

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\*Submittal of information required by this section may be made as part of the annual FSAR update.