



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

TENNESSEE VALLEY AUTHORITY  
DOCKET NO. 50-327  
SEQUOYAH NUCLEAR PLANT, UNIT 1  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 213  
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 7, 1995, 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.

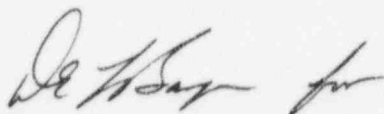
2. Accordingly, License Condition 2.C.(25), "Surveillance Interval Extension," of Facility Operating License No. DPR-77 is hereby deleted.
3. Also, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility 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. 213, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

4. This license amendment is effective as of its date of issuance, to be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:

1. Page 12 of License\*
2. Changes to the Technical Specifications

Date of Issuance: October 4, 1995

\* Page 12 is attached for convenience, for the composite license to reflect this change

- (2) TVA shall maintain interim emergency support facilities (Technical Support Center, Operations Support Center and the Emergency Operations Facility) until the final facilities are complete.

1. Relief and Safety Valve Test Requirements (Section 22.2, ILD.1)

TVA shall conform to the results of the EPR<sup>2</sup> test program. TVA shall provide documentation for qualifying (a) reactor coolant system relief and safety valves, (b) piping and supports, and (c) block valves in accordance with the review schedule given in SECY 81-491 as approved by the Commission.

- (24) Compliance with Regulatory Guide 1.97

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

- (25) Deleted

- D. Exemptions from certain requirements of Appendices G and J to 10 CFR Part 50 are described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplements No. 1. These exemptions are authorized by law and will not endanger life or property or the common defence and security and are otherwise in the public interest. The exemptions are, therefore, hereby granted. The granting of these exemptions are authorized with the issuance of the License for Fuel Loading and Low Power Testing, dated February 29, 1980. The facility will operate, to the extent authorized herein, Act, and the regulations of the Commission. Additional exemptions are listed in Attachment 1.

- E. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revision to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Safeguards Contingency Plan is incorporated into the Physical Security Plan. The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Sequoyah Physical Security Plan," with revisions submitted through November 23, 1987; and "Sequoyah Security Personnel Training and Qualification Plan," with revisions submitted through April 16, 1987. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

ATTACHMENT 2 TO LICENSE AMENDMENT NO. 213

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.

REMOVE

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TABLE 2.2-1 (Continued)  
REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION (Continued)

NOTE 5: Trip Time Delay - Steam Generator Water Level -- Low-Low

$$T_s = \{(-0.00583)(P)^3 + (0.735)(P)^2 - (33.560)(P) + 649.5\} \quad 0.99 \text{ secs.}$$

$$T_m = \{(-0.00532)(P)^3 + (0.678)(P)^2 - (31.340)(P) + 589.5\} \quad 0.99 \text{ secs.}$$

Where:

P = RCS Loop  $\Delta T$  Equivalent to Power (% RTP),  $P \leq 50\%$  RTP

$T_s$  = Time delay for Steam Generator Water level -- Low-Low  
Reactor Trip, one Steam Generator affected. (Secs.)

$T_m$  = Time delay for Steam Generator Water Level -- Low-Low  
Reactor Trip, two or more Steam Generators affected. (Secs.)

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEMS - OPERATING

LIMITING CONDITION FOR OPERATION

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3.1.3.2 The shutdown and control rod position indication system and the demand position indication system shall be OPERABLE and capable of determining the control rod positions within  $\pm 12$  steps.

APPLICABILITY: MODES 1 and 2.

ACTION:

- a. With a maximum of one rod position indicator per bank inoperable either:
  1. Determine the position of the non-indicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and immediately after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or
  2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours.
  
- b. With a maximum of one demand position indicator per bank inoperable either:
  1. Verify that all rod position indicators for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within a maximum of 12 steps of each other at least once per 8 hours, or
  2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours.



### 3/4.2 POWER DISTRIBUTION LIMITS

#### 3/4.2.1 AXIAL FLUX DIFFERENCE (AFD)

##### LIMITING CONDITION FOR OPERATION

---

3.2.1 The indicated AXIAL FLUX DIFFERENCE (AFD) shall be maintained within the limits specified in the COLR.

APPLICABILITY: MODE 1 above 50% RATED THERMAL POWER\*

##### ACTION:

- a. With the indicated AXIAL FLUX DIFFERENCE outside of the limits specified in the COLR;
  1. Either restore the indicated AFD to within the limits within 15 minutes, or
  2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 30 minutes and reduce the Power Range Neutron Flux-High Trip setpoints to less than or equal to 55 percent of RATED THERMAL POWER within the next 4 hours.
- b. THERMAL POWER shall not be increased above 50% of RATED THERMAL POWER unless the indicated AFD is within the limits specified in the COLR.

\*See Special Test Exception 3.10.2

TABLE 3.3-1 (Continued)  
TABLE NOTATION

\*With the reactor trip system breakers in the closed position and the control rod drive system capable of rod withdrawal, and fuel in the reactor vessel.

#The provisions of Specification 3.0.4 are not applicable.

##Source Range outputs may be disabled above the P-6 (Block of Source Range Reactor Trip) setpoint.

ACTION STATEMENTS

ACTION 1 - With the number of OPERABLE channels one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and POWER OPERATION may proceed provided the following conditions are satisfied:

- a. The inoperable channel is placed in the tripped condition within 6 hours.
- b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1.1.
- c. The QUADRANT POWER TILT RATIO is monitored in accordance with Technical Specification 3.2.4.

TABLE 3.3-1 (Continued)

- ACTION 11 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint is adjusted to the same value as Steam Generator Water Level - Low-Low (Adverse).
- ACTION 12 - With the number of OPERABLE channels one less than required by the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.1 provided the other channel is OPERABLE.
- ACTION 13 - Deleted
- ACTION 14 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours.
- ACTION 15 - With one of the diverse trip features (undervoltage or shunt trip attachment) inoperable, restore it to operable status within 48 hours or declare the breaker inoperable and apply ACTION 12. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for up to 4 hours for performing maintenance to restore the breaker to OPERABLE status.
- ACTION 16 - With the number of OPERABLE channels one less than the minimum channels operable requirement, restore the inoperable channel to operable status within 48 hours or open the reactor trip breakers within the next hour.

TABLE 3.3-3 (Continued)

TABLE NOTATION

- #Trip function may be bypassed in this MODE below P-11 (Pressurizer Pressure Block of Safety Injection) setpoint.  
##Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.  
###When Associated Diesel Generator is required to be OPERABLE By LCO 3.8.1.2, "AC Sources-Shutdown." The Provisions of Specification 3.0.4 are not applicable.  
\*The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

- ACTION 15 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1 provided the other channel is OPERABLE.
- ACTION 16 - Deleted.
- ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours.
  - b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.
- ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 19 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge supply and exhaust valves are maintained closed.
- ACTION 20 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM INSTRUMENT OPERABLE</u>
1. Triaxial Time-History Accelerographs		
a. O-XT-52-75A, Containment, Elev. 734	0-1.0g	1
b. O-XT-52-75B, Annulus, Elev. 680	0-1.0g	1*
c. O-XR-52-77, Diesel Building, Elev. 722	0-1.0g	1
2. Triaxial Peak Accelerographs		
a. O-XR-52-84, Containment, SIS Pipe, Elev. 702	0-5.0g	1
b. O-XR-52-83, Containment, UHI Pipe, Elev. 706	0-5.0g	1
c. O-XR-52-82, Control Building, MCR, Panel O-M-25, Elev. 739	0-5.0g	1
3. Biaxial Seismic Switches		
a. O-XS-52-79, Annulus, Elev. 680	0.025-0.25g	1*
b. O-XS-52-80, Annulus, Elev. 680	0.025-0.25g	1*
c. O-XS-52-81, Annulus, Elev. 680	0.025-0.25g	1*
4. Triaxial Response-Spectrum Recorders		
a. O-XR-52-86, Annulus, Elev. 680	2-25.4 Hz, 0.003-32g	1*
b. O-XR-52-87, Reactor Containment Bldg., Elev. 734	2-25.4 Hz, 0.003-32g	1
c. O-XR-52-88, Aux. CR, Elev. 734	2-25.4 Hz, 0.003-32g	1
d. O-XR-52-89, Diesel Generator, Elev. 722	2-25.4 Hz, 0.003-32g	1

\*With reactor control room indication

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. Triaxial Time-History Accelerographs			
a. O-XT-52-75A, Containment, Elev. 734	M*	R***	SA
b. O-XT-52-75B, Annulus, Elev. 680**	M*	R***	SA
c. O-XR-52-77, Diesel Building, Elev. 722	M*	R***	SA
2. Triaxial Peak Accelerographs			
a. O-XR-52-84, Containment, SIS Pipe, Elev. 702	NA	R	NA
b. O-XR-52-83, Containment, UHI Pipe, Elev. 706	NA	R	NA
c. O-XR-52-82, Control Building, MCR, Panel O-M-25, Elev. 739	NA	R	NA
3. Biaxial Seismic Switches			
a. O-XS-52-79, Annulus, Elev. 680**	M	R	SA
b. O-XS-52-80, Annulus, Elev. 680**	M	R	SA
c. O-XS-52-81, Annulus, Elev. 680**	M	R	SA
4. Triaxial Response-Spectrum Recorders			
a. O-XR-52-86**, Annulus Elev. 680	M	R	SA
b. O-XR-52-87, Reactor Containment Bldg, Elev. 734	NA	R	NA
c. O-XR-52-88, Aux. CR, Elev. 734	NA	R	NA
d. O-XR-52-89, Diesel Building, Elev. 722	NA	R	NA

\*Except seismic trigger

\*\*With reactor control room indications

\*\*\*Includes seismic trigger

TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS REQUIRED</u>	<u>ACTION</u>
12. Reactor Coolant System Subcooling Margin Monitor (Instrument Loops 94-101,-102)	2	2	1
13. Containment Water Level (Wide Range) (Instrument Loops 63-178,-179)	2	2	1
14. Incore Thermocouples	65		
a. Core Quadrant (1)		2(1/Train)	1
b. Core Quadrant (2)		2(1/Train)	1
c. Core Quadrant (3)		2(1/Train)	1
d. Core Quadrant (4)		2(1/Train)	1
15. Reactor Vessel Level Instrumentation	6		
a. Dynamic Range (Instrument Loops 68-367, 370)		2	1
b. Lower Range (Instrument Loops 68-368, 371)		2	1
c. Upper Range (Instrument Loops 68-369, 372)		2	1
16. Containment Area Radiation Monitors			
a. Upper Compartment (Instrument Loops 90-271,-272)	2	1	4
b. Lower Compartment (Instrument Loops 90-273,-274)	2	1	4

## REACTOR COOLANT SYSTEM

### 3/4.4.11 REACTOR COOLANT SYSTEM HEAD VENTS

#### LIMITING CONDITION FOR OPERATION

---

3.4.11 At least one Reactor Coolant System Head Vent (RCSHV) path shall be OPERABLE.\*

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With no RCSHV path OPERABLE\*, restore at least one path to OPERABLE status within 30 days or be in HOT STANDBY within 6 hours and HOT SHUTDOWN within the following 6 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

4.4.11 Each RCSHV path shall be demonstrated OPERABLE at least once per 18 months by:

- a. Verifying that the upstream manual isolation valves are locked in the open position,
- b. Operating each remotely controlled valve through at least one cycle from the control room, and
- c. Verifying flow through each RCSHV path.

\*Inoperable paths must be maintained closed with power removed from the valve actuators. If any RCSHV path is declared inoperable while in an applicable MODE, power shall be removed from the valve actuators within one hour.



## REACTOR COOLANT SYSTEM

### 3/4.4.12 LOW TEMPERATURE OVER PRESSURE PROTECTION SYSTEMS

#### LIMITING CONDITION FOR OPERATION

---

3.4.12 At least one of the following Overpressure Protection Systems shall be OPERABLE:

- a. Two power operated relief valves (PORVs) with a nominal lift setting less than or equal to that shown in Figure 3.4-4, or
- b. The Reactor Coolant System (RCS) depressurized with an RCS vent of greater than or equal to 3 square inches.

APPLICABILITY: MODE 4, MODE 5 and MODE 6 with the reactor vessel head on.

#### ACTION:

- a. With one PORV inoperable, in MODE 4 either:
  1. Restore the inoperable PORV to operable status within 7 days, or
  2. Depressurize and vent the RCS through at least a 3 square inch vent within the next 8 hours, or
  3. Ensure pressurizer level is maintained less than or equal to 30 percent.
- b. With one PORV inoperable in MODES 5 or 6, either (1) restore the PORV to operable status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 3 square inch vent within a total of 32 hours.
- c. With both PORVs inoperable, depressurize and vent the RCS through at least a 3 square inch vent within 8 hours.
- d. With the RCS vented per ACTIONS a,b, or c, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, sealed, or otherwise secured in the open position; otherwise, verify the vent path every 12 hours.
- e. When RCS temperature is less than 350°F, both safety injection pumps and one centrifugal charging pump shall be made incapable of automatic injection into the RCS. Should any of these pumps be found actually capable of automatic injection, return the pump(s) to incapable status within 12 hours or depressurize and vent RCS through at least a 3 square inch vent within the next 8 hours.
- f. In the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.
- g. The provisions of Specification 3.0.4 are not applicable.

## CONTAINMENT SYSTEMS

### HYDROGEN MITIGATION SYSTEM

#### LIMITING CONDITION FOR OPERATION

---

3.6.4.3 The primary containment hydrogen mitigation system shall be operable.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one train of hydrogen mitigation system inoperable, restore the inoperable train to OPERABLE status within 7 days or increase the surveillance interval of S.R. 4.6.4.3 from 92 days to 7 days on the operable train until the inoperable train is returned to OPERABLE status.

#### SURVEILLANCE REQUIREMENTS

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4.6.4.3 The hydrogen mitigation system shall be demonstrated OPERABLE:

- a. At least once per 92 days by energizing the supply breakers and verifying that at least 66 of 68 igniters are energized.
- b. At least once per 18 months by verifying the temperature of each igniter is a minimum of 1700°F.

\*Inoperable igniters must not be on corresponding redundant circuits which provide coverage for the same region.

## PLANT SYSTEMS

### 3/4.7.9 SNUBBERS

#### LIMITING CONDITION FOR OPERATION

---

3.7.9. All safety-related snubbers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems or partial systems required OPERABLE in those MODES.)

#### ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation on the attached component or declare the attached system inoperable and follow the appropriate ACTION statement for that system.

#### SURVEILLANCE REQUIREMENTS

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4.7.9. Each safety-related snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

##### a. Inspection Groups

The snubbers may be categorized into two major groups based on whether the snubbers are accessible or inaccessible during reactor operation. These major groups may be further subdivided into subgroups based on design, environment, or other features which may be expected to affect the OPERABILITY of the snubbers within the subgroup. Each subgroup may be tested independently in accordance with 4.7.9.d through 4.7.9.h.

##### b. Visual Inspection Schedule and Lot Size

All of the safety-related snubbers shall be included in one population or they shall be categorized as accessible or inaccessible for visual inspection. If used, the accessible or inaccessible categories shall be considered separately for visual inspections.

When recombining categories into one population, the shorter interval of the categories shall be used.

The visual inspection interval for the population or each category shall be determined based upon the criteria provided in Table 4.7.9-1. and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before the amendment which incorporated this change was issued by the NRC.

Table 4.7.9-1 (continued)

SNUBBER VISUAL INSPECTION INTERVAL

- Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.
- Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Column B and C.
- Note 6: The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

- f. At least once per 10 years by:
1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and
  2. Performing a pressure test of those portions of the diesel fuel oil system design to Section III, subsection ND of the ASME Code at a test pressure equal to 110 percent of the system design pressure.

4.8.1.1.3 The 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger for each diesel generator shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying:
1. That the parameters in Table 4.8-1a meet the Category A limits.
  2. That the total battery terminal voltage is greater than or equal to 124-volts on float charge.
- b. At least once per 92 days by:
1. Verifying that the parameters in Table 4.8-1a meet the Category B limits,
  2. Verifying there is no visible corrosion at either terminals or connectors, or the cell to terminal connection resistance of these items is less than  $150 \times 10^{-6}$  ohms, and
  3. Verifying that the average electrolyte temperature of 6 connected cells is above 60°F.
- c. At least once per 18 months by verifying that:
1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
  2. The battery to battery and terminal connections are clean, tight and coated with anti-corrosion material.
  3. The resistance of each cell to terminal connection is less than or equal to  $150 \times 10^{-6}$  ohms.

4.8.1.1.4 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission pursuant to Specification 6.9.2.2.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

---

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the bus of greater than or equal to 125 volts.

4.8.2.3.2\* Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
  1. Verifying that the parameters in Table 4.8-2 meet the Category A limits, and
  2. Verifying total battery terminal voltage is greater than or equal to 129-volts on float charge.
- b. At least once per 92 days and within 7 days after a battery discharge (battery terminal voltage below 110-volts), or battery overcharge (battery terminal voltage above 150-volts), by:
  1. Verifying that the parameters in Table 4.8-2 meet the Category B limits,
  2. Verifying there is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than  $150 \times 10^{-6}$  ohms, and
  3. Verifying that the average electrolyte temperature of 6 connected cells is above 60°F.
- c. At least once per 18 months by verifying that:
  1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
  2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material,
  3. The resistance of each cell-to-terminal connection is less than or equal to  $150 \times 10^{-6}$  ohms, and
  4. The battery charger will supply at least 150 amperes at 125 volts for at least 4 hours.

\*This surveillance includes Battery Bank V, but not charger V.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

---

- d. At least once per 18 months by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for 2 hours when the battery is subjected to a battery service test.
- e. At least once per 60 months by verifying that the battery capacity is at least 82% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test.
- f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

## REFUELING OPERATIONS

### LOW WATER LEVEL

#### LIMITING CONDITION FOR OPERATION

---

3.9.8.2 Two independent Residual Heat Removal (RHR) loops shall be OPERABLE.\*

APPLICABILITY: MODE 6 when the water level above the top of the reactor pressure vessel flange is less than 23 feet.

#### ACTION:

- a. With less than the required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible.
- b. The provisions of Specification 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.9.8.2 The required Residual Heat Removal loops shall be determined OPERABLE per Specification 4.0.5.

---

\*The normal or emergency power source may be inoperable for each RHR loop.





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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 203  
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 7, 1995, 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.

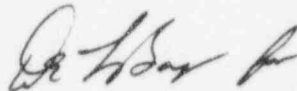
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 203, 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, to be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 4, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 203

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.

REMOVE

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2-12  
3/4 1-19  
3/4 2-1  
3/4 3-5  
3/4 3-8  
3/4 3-16  
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3/4 4-33  
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TABLE 2.2-1

## REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. Manual Reactor Trip	Not Applicable	Not Applicable
2. Power Range, Neutron Flux	Low Setpoint - $\leq 25\%$ of RATED THERMAL POWER High Setpoint - $\leq 109\%$ of RATED THERMAL POWER	Low Setpoint - $\leq 27.4\%$ of RATED THERMAL POWER High Setpoint - $\leq 111.4\%$ of RATED THERMAL POWER
3. Power Range, Neutron Flux, High Positive Rate	$\leq 5\%$ of RATED THERMAL POWER with a time constant $\geq 2$ seconds	$\leq 6.3\%$ of RATED THERMAL POWER with a time constant $\geq 2$ seconds
4. Power Range, Neutron Flux, High Negative Rate	$\leq 5\%$ of RATED THERMAL POWER with a time constant $\geq 2$ seconds	$\leq 6.3\%$ of RATED THERMAL POWER with a time constant $\geq 2$ seconds
5. Intermediate Range, Neutron Flux	$\leq 25\%$ of RATED THERMAL POWER	$\leq 45.20\%$ of RATED THERMAL POWER
6. Source Range, Neutron Flux	$\leq 10^5$ counts per second	$\leq 1.45 \times 10^5$ counts per second
7. Overtemperature $\Delta T$	See Note 1	See Note 3
8. Overpower $\Delta T$	See Note 2	See Note 4
9. Pressurizer Pressure--Low	$\geq 1970$ psig	$\geq 1964.8$ psig
10. Pressurizer Pressure--High	$\leq 2385$ psig	$\leq 2390.2$ psig
11. Pressurizer Water Level--High	$\leq 92\%$ of instrument span	$\leq 92.7\%$ of instrument span
12. Loss of Flow	$\geq 90\%$ of design flow per loop*	$\geq 89.4\%$ of design flow per loop*

\*Design flow is 91,400 gpm per loop.

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION (Continued)

NOTE 3: The channel's maximum trip setpoint shall not exceed its computed trip point by more than 1.9 percent  $\Delta T$  span.

NOTE 4: The channel's maximum trip setpoint shall not exceed its computed trip setpoint by more than 1.7 percent  $\Delta T$  span.

NOTE 5: Trip Time Delay - Steam Generator Water Level--Low-Low

$$T_s = \{(-0.00583)(P)^3 + (0.735)(P)^2 - (33.560)(P) + 649.5\}(0.99) \text{ secs.}$$

$$T_m = \{(-0.00532)(P)^3 + (0.678)(P)^2 - (31.340)(P) + 589.5\}(0.99) \text{ secs.}$$

Where:

P = RCS Loop  $\Delta T$  Equivalent to Power (% RTP),  $P \leq 50\%$  RTP

$T_s$  = Time delay for Steam Generator Water Level--Low-Low Reactor Trip, one Steam Generator affected. (secs.)

$T_m$  = Time delay for Steam Generator Water Level--Low-Low Reactor Trip, two or more Steam Generators affected. (secs.)

## REACTIVITY CONTROL SYSTEMS

### ROD DROP TIME

#### LIMITING CONDITION FOR OPERATION

---

3.1.3.4 The individual full length (shutdown and control) rod drop time from the fully withdrawn position# shall be less than or equal to 2.7 seconds from beginning of decay of stationary gripper coil voltage to dashpot entry with:

- a.  $T_{avg}$  greater than or equal to 541°F, and
- b. All reactor coolant pumps operating.

APPLICABILITY: Modes 1 and 2.

#### ACTION:

- a. With the drop time of any full length rod determined to exceed the above limit, restore the rod drop time to within the above limit prior to proceeding to MODE 1 or 2.
- b. With the rod drop times within limits but determined with 3 reactor coolant pumps operating, operation may proceed provided THERMAL POWER is restricted to less than or equal to 71% of RATED THERMAL POWER.

#### SURVEILLANCE REQUIREMENTS

---

4.1.3.4 The rod drop time of full length rods shall be demonstrated through measurement prior to reactor criticality:

- a. For all rods following each removal of the reactor vessel head,
- b. For specifically affected individual rods following any maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods, and
- c. At least once per 18 months.

#Fully withdrawn shall be the condition where shutdown and control banks are at a position within the interval of  $\geq 222$  and  $\leq 231$  steps withdrawn, inclusive.



### 3/4.2 POWER DISTRIBUTION LIMITS

#### 3/4.2.1 AXIAL FLUX DIFFERENCE (AFD)

##### LIMITING CONDITION FOR OPERATION

---

3.2.1 The indicated AXIAL FLUX DIFFERENCE (AFD) shall be maintained within the limits specified in the COLR.

APPLICABILITY: MODE 1 above 50% of RATED THERMAL POWER\*.

##### ACTION:

- a. With the indicated AXIAL FLUX DIFFERENCE outside of the limits specified in the COLR;
  1. Either restore the indicated AFD to within the limits within 15 minutes, or
  2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 30 minutes and reduce the Power Range Neutron Flux-High Trip setpoints to less than or equal to 55 percent of RATED THERMAL POWER within the next 4 hours.
- b. THERMAL POWER shall not be increased above 50% of RATED THERMAL POWER unless the indicated AFD is within the limits specified in the COLR.

\*See Special Text Exception 3.10.2.

TABLE 3.3-1 (Continued)

TABLE NOTATION

\*With the reactor trip system breakers in the closed position, the control rod drive system capable of rod withdrawal, and fuel in the reactor vessel.

#The provisions of Specification 3.0.4 are not applicable.

##Source Range outputs may be disabled above the P-6 (Block of Source Range Reactor Trip) setpoint.

ACTION STATEMENTS

ACTION 1 - With the number of OPERABLE channels one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

- a. The inoperable channel is placed in the tripped condition within 6 hours.
- b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1.1.
- c. The QUADRANT POWER TILT RATIO is monitored in accordance with Technical Specification 3.2.4.

TABLE 3.3-1 (Continued)

- ACTION 10 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Trip Time Delays ( $T_s$  and  $T_w$ ) threshold power level for zero seconds time delay is adjusted to 0% RTP.
- ACTION 11 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint is adjusted to the same value as Steam Generator Water Level - Low-Low (Adverse).
- ACTION 12 - With the number of OPERABLE channels one less than required by the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.1 provided the other channel is OPERABLE.
- ACTION 13 - Deleted
- ACTION 14 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours.
- ACTION 15 - With one of the diverse trip features (undervoltage or shunt trip attachment) inoperable, restore it to operable status within 48 hours or declare the breaker inoperable and apply ACTION 12. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for up to 4 hours for performing maintenance to restore the breaker to OPERABLE status.
- ACTION 16 - With the number of OPERABLE channels one less than the minimum channels operable requirement, restore the inoperable channel to operable status within 48 hours or open the reactor trip breakers within the next hour.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
f. Steam Line Pressure-Low	3/steam line	2/steam line in any steam line	2/steam line	1, 2, 3 <sup>#</sup>	17*
2. CONTAINMENT SPRAY					
a. Manual	2	1**	2	1, 2, 3, 4	20
b. Automatic Actuation Logic	2	1	2	1, 2, 3, 4	15
c. Containment Pressure--High-High	4	2	3	1, 2, 3	18
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual	2	1	2	1, 2, 3, 4	20
2) From Safety Injection Automatic Actuation Logic	2	1	2	1, 2, 3, 4	15

\*\*Two switches must be operated simultaneously for actuation.

TABLE 3.3-3 (Continued)

TABLE NOTATION

#Trip function may be bypassed in this MODE below P-11 (Pressurizer Pressure Block of Safety Injection) setpoint.

##Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.

####When Associated Diesel Generator is required to be OPERABLE By LCO 3.8.1.2, "AC Sources-Shutdown." The Provisions of Specification 3.0.4 are not applicable.

\*The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

- ACTION 15 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1 provided the other channel is OPERABLE.
- ACTION 16 - Deleted.
- ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours.
  - b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.
- ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 19 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge supply and exhaust valves are maintained closed.
- ACTION 20 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM INSTRUMENT OPEKABLE</u>
1. Triaxial Time-History Accelerographs		
a. O-XT-52-75A, Containment, Elev. 734	0-1.0g	1
b. O-XT-52-75B, Annulus, Elev. 680	0-1.0g	1*
c. O-XR-52-77, Diesel Building, Elev. 722	0-1.0g	1
2. Triaxial Peak Accelerographs		
a. O-XR-52-84, Containment, SIS Pipe, Elev. 702	0-5.0g	1
b. O-XR-52-83, Containment, UHI Pipe, Elev. 706	0-5.0g	1
c. O-XR-52-82, Control Building, MCR, Panel O-M-25, Elev. 739	0-5.0g	1
3. Biaxial Seismic Switches		
a. O-XS-52-79, Annulus, Elev. 680	0.025-0.25g	1*
b. O-XS-52-80, Annulus, Elev. 680	0.025-0.25g	1*
c. O-XS-52-81, Annulus, Elev. 680	0.025-0.25g	1*
4. Triaxial Response-Spectrum Recorders		
a. O-XR-52-86, Annulus, Elev. 680	2-25.4 Hz, 0.003-32g	1*
b. O-XR-52-87, Reactor Containment Bldg., Elev. 734	2-25.4 Hz, 0.003-32g	1
c. O-XR-52-88, Aux. CR, Elev. 734	2-25.4 Hz, 0.003-32g	1
d. O-XR-52-89, Diesel Generator, Elev. 722	2-25.4 Hz, 0.003-32g	1

\*With reactor control room indication

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. Triaxial Time-History Accelerographs			
a. O-XT-52-75A, Containment, Elev. 734	M*	R***	SA
b. O-XT-52-75B, Annulus, Elev. 680**	M*	R***	SA
c. O-XR-52-77, Diesel Building, Elev. 722	M*	R***	SA
2. Triaxial Peak Accelerographs			
a. O-XR-52-84, Containment, SIS Pipe, Elev. 702	NA	R	NA
b. O-XR-52-83, Containment, UHI Pipe, Elev. 706	NA	R	NA
c. O-XR-52-82, Control Building, MCR, Panel O-M-25, Elev. 739	NA	R	NA
3. Biaxial Seismic Switches			
a. O-XS-52-79, Annulus, Elev. 680**	M	R	SA
b. O-XS-52-80, Annulus, Elev. 680**	M	R	SA
c. O-XS-52-81, Annulus, Elev. 680**	M	R	SA
4. Triaxial Response-Spectrum Recorders			
a. O-XR-52-86**, Annulus Elev. 680	M	R	SA
b. O-XR-52-87, Reactor Containment Bldg, Elev. 734	NA	R	NA
c. O-XR-52-88, Aux. CR, Elev. 734	NA	R	NA
d. O-XR-52-89, Diesel Building, Elev. 722	NA	R	NA

\*Except seismic trigger

\*\*With reactor control room indications

\*\*\*Includes seismic trigger

TABLE 3.3-10 (Continued)  
ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS REQUIRED</u>	<u>ACTION</u>
12. Reactor Coolant System Subcooling Margin Monitor (Instrument Loops 94-101,-102)	2	2	1
13. Containment Water Level (Wide Range) (Instrument Loops 63-178,-179)	2	2	1
14. Incore Thermocouples	65		
a. Core Quadrant (1)		2(1/Train)	1
b. Core Quadrant (2)		2(1/Train)	1
c. Core Quadrant (3)		2(1/Train)	1
d. Core Quadrant (4)		2(1/Train)	1
15. Reactor Vessel Level Instrumentation	6		
a. Dynamic Range (Instrument Loops 68-367, 370)		2	1
b. Lower Range (Instrument Loops 68-368, 371)		2	1
c. Upper Range (Instrument Loops 68-369, 372)		2	1
16. Containment Area Radiation Monitors			
a. Upper Compartment (Instrument Loops 90-271,-272)	2	1	4
b. Lower Compartment (Instrument Loops 90-273,-274)	2	1	4



## REACTOR COOLANT SYSTEM

### 3/4.4.11 REACTOR COOLANT SYSTEM HEAD VENTS

#### LIMITING CONDITION FOR OPERATION

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3.4.11 At least one Reactor Coolant System Head Vent (RCSHV) path shall be OPERABLE.\*

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With no RCSHV path OPERABLE\*, restore at least one path to OPERABLE status within 30 days or be in HOT STANDBY within 6 hours and HOT SHUTDOWN within the following 6 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.4.11 Each RCSHV path shall be demonstrated OPERABLE at least once per 18 months by:

- a. Verifying that the upstream manual isolation valves are locked in the open position,
- b. Operating each remotely controlled valve through at least one cycle from the control room, and
- c. Verifying flow through each RCSHV path.

\*Inoperable paths must be maintained closed with power removed from the valve actuators. If any RCSHV path is declared inoperable while in an applicable MODE, power shall be removed from the valve actuators within one hour.

## REACTOR COOLANT SYSTEM

### 3/4.4.12 LOW TEMPERATURE OVERPRESSURE PROTECTION SYSTEMS

#### LIMITING CONDITION FOR OPERATION

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3.4.12 At least one of the following Overpressure Protection Systems shall be OPERABLE:

- a. Two power operated relief valves (PORVs) with a nominal lift setting less than or equal to that shown in Figure 3.4-4, or
- b. The Reactor Coolant System (RCS) depressurized with an RCS vent of greater than or equal to 3 square inches.

APPLICABILITY: MODE 4, MODE 5 and MODE 6 with the reactor vessel head on.

#### ACTION:

- a. With one PORV inoperable, in MODE 4 either:
  1. Restore the inoperable PORV to operable status within 7 days, or
  2. Depressurize and vent the RCS through at least a 3 square inch vent within the next 8 hours, or
  3. Ensure pressurizer level is maintained less than or equal to 30 percent.
- b. With one PORV inoperable in MODES 5 or 6, either (1) restore the PORV to operable status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 3 square inch vent within a total of 32 hours.
- c. With both PORVs inoperable, depressurize and vent the RCS through at least a 3 square inch vent within 8 hours.
- d. With the RCS vented per ACTIONS a, b, or c, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, sealed, or otherwise secured in the open position; otherwise, verify the vent path every 12 hours.
- e. When RCS temperature is less than 350°F, both safety injection pumps and one centrifugal charging pump shall be made incapable of automatic injection into the RCS. Should any of these pumps be found actually capable of automatic injection, return the pump(s) to incapable status within 12 hours or depressurize and vent RCS through at least a 3 square inch vent within the next 8 hours.
- f. In the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.
- g. The provisions of Specification 3.0.4 are not applicable.

## EMERGENCY CORE COOLING SYSTEMS

### 3/4.5.2 ECCS SUBSYSTEMS - $T_{avg}$ Greater Than or Equal to 350°F

#### LIMITING CONDITION FOR OPERATION

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3.5.2 Two independent emergency core cooling system (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE centrifugal charging pump,
- b. One OPERABLE safety injection pump,
- c. One OPERABLE residual heat removal heat exchanger,
- d. One OPERABLE residual heat removal pump, and
- e. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and automatically transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a REPORTABLE EVENT shall be prepared and submitted to the Commission pursuant to Specification 6.6.1. This report shall include a description of the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

#### SURVEILLANCE REQUIREMENTS

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4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

## CONTAINMENT SYSTEMS

### HYDROGEN MITIGATION SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.6.4.3 The primary containment hydrogen mitigation system shall be operable.

APPLICABILITY: MODES 1 and 2.

#### ACTION:

With one train of hydrogen mitigation system inoperable, restore the inoperable train to OPERABLE status within 7 days or increase the surveillance interval of S.R. 4.6.4.3 from 92 days to 7 days on the operable train until the inoperable train is returned to OPERABLE status.

#### SURVEILLANCE REQUIREMENTS

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4.6.4.3 The hydrogen mitigation system shall be demonstrated OPERABLE:

- a. At least once per 92 days by energizing the supply breakers and verifying that at least 66 of 68 igniters are energized.
- b. At least once per 18 months by verifying the temperature of each igniter is a minimum of 1700° F.

\*Inoperable igniters must not be on corresponding redundant circuits which provide coverage for the same region.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- f. At least once per 10 years by:
1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and
  2. Performing a pressure test of those portions of the diesel fuel oil system design to Section III, subsection ND of the ASME Code at a test pressure equal to 110 percent of the system design pressure.

4.8.1.1.3 The 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger for each diesel generator shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying:
1. That the parameters in Table 4.8-1a meet the Category A limits.
  2. That the total battery terminal voltage is greater than or equal to 124-volts on float charge.
- b. At least once per 92 days by:
1. Verifying that the parameters in Table 4.8-1a meet the Category B limits,
  2. Verifying there is no visible corrosion at either terminals or connectors, or the cell to terminal connection resistance of these items is less than  $150 \times 10^{-6}$  ohms, and
  3. Verifying that the average electrolyte temperature of 6 connected cells is above 60°F.
- c. At least once per 18 months by verifying that:
1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
  2. The battery to battery and terminal connections are clean, tight and coated with anti-corrosion material.
  3. The resistance of each cell to terminal connection is less than or equal to  $150 \times 10^{-6}$  ohms.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

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2. Verifying total battery terminal voltage is greater than or equal to 129-volts on float charge.
- b. At least once per 92 days and within 7 days after a battery discharge (battery terminal voltage below 110-volts), or battery overcharge (battery terminal voltage above 150-volts), by:
1. Verifying that the parameters in Table 4.8-2 meet the Category B limits,
  2. Verifying there is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than  $150 \times 10^{-6}$  ohms, and
  3. Verifying that the average electrolyte temperature of 6 connected cells is above 60°F.
- c. At least once per 18 months by verifying that:
1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
  2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material,
  3. The resistance of each cell-to-terminal connection is less than or equal to  $150 \times 10^{-6}$  ohms, and
  4. The battery charger will supply at least 150 amperes at 125 volts for at least 4 hours.
- d. At least once per 18 months by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for 2 hours when the battery is subjected to a battery service test.
- e. At least once per 60 months by verifying that the battery capacity is at least 82% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test.
- f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

## REFUELING OPERATIONS

### LOW WATER LEVEL

#### LIMITING CONDITION FOR OPERATION

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3.9.8.2 Two independent Residual Heat Removal (RHR) loops shall be OPERABLE.\*

APPLICABILITY: MODE 6 when the water level above the top of the reactor pressure vessel flange is less than 23 feet.

#### ACTION:

- a. With less than the required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible.
- b. The provisions of Specification 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.9.8.2 The required Residual Heat Removal loops shall be determined OPERABLE per Specification 4.0.5.

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\*The normal or emergency power source may be inoperable for each RHR loop.