

June 8, 1998

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

SUBJECT: ISSUANCE OF TECHNICAL SPECIFICATION AMENDMENTS FOR THE
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. MA1320 AND
MA1321)(TS 97-03)

Dear Mr. Scalice:

The Commission has issued the enclosed Amendment No. 232 to Facility Operating License No. DPR-77 and Amendment No. 222 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively. These amendments are in response to your application dated February 13, 1998. The amendments revise the SQN Technical Specifications by adding a new Limiting Condition for Operation 3.7.1.6 that addresses the requirements for the main feedwater isolation valve functions required by the SQN accident analysis. The U.S. Nuclear Regulatory Commission staff has found the proposed changes to be acceptable.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice. Please direct any questions you or your staff should have to me at (301) 415-2010.

Sincerely,
ORIGINAL SIGNED BY:

Ronald W. Hernan, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

- Enclosures: 1. Amendment No. 232 to License No. DPR-77
- 2. Amendment No. 222 to License No. DPR-79
- 3. Safety Evaluation

Distribution (w/enclosure):

- Docket Files W. Beckner
- PUBLIC G. Hill (4)
- SQN r/f T. Harris (TLH3 w/ SE)
- L. Plisco, RII J. Zwolinski (A)
- ACRS OGC

cc w/enclosures: See next page

Document Name: G:\SQN\1320.AMD

To receive a copy of this document, indicate in the box:
"C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure
"N" = No copy

OFFICE	PDII-3/PM	PDII-3/LA	E	SPLB/BC	OGC	PDII-3/D	C
NAME	RHernan	BClayton		TMarsh	R. Bachmann	FHebdon	
DATE	5/14/98	5/4/98		5/18/98	5/12/98	6/18/98	

OFFICIAL RECORD COPY

9806100487 980608
PDR ADDCK 05000327
PDR

455
EXCEL

NRC FILE CENTER COPY

Mr. J. A. Scalice
Tennessee Valley Authority

SEQUOYAH NUCLEAR PLANT

cc:

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

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

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

Mr. J. T. Herron, Plant Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

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

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
61 Forsyth Street, SW.
Suite 23T85
Atlanta, GA 30303-3415

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

Mr. Melvin C. Shannon
Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, TN 37379

Mr. Raul R. Baron, General Manager
Nuclear Assurance
Tennessee Valley Authority
4J Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Michael H. Mobley Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

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

County Executive
Hamilton County Courthouse
Chattanooga, TN 37402-2801



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. 232
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 February 13, 1998, 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.

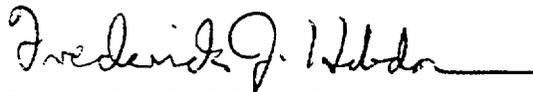
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 232 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 no later than 45 days after issuance.

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: June 8, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 232

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

Index page VIII

-

B 3/4 7-3

-

INSERT

Index page VIII

3/4 7-10a (new page)

B 3/4 7-3

B 3/4 7-3a (new page)

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.6.3	CONTAINMENT ISOLATION VALVES 3/4 6-17
3/4.6.4	COMBUSTIBLE GAS CONTROL
	HYDROGEN ANALYZERS 3/4 6-24
	ELECTRIC HYDROGEN RECOMBINERS - W 3/4 6-25
	HYDROGEN MITIGATION SYSTEM 3/4 6-25a R217
3/4.6.5	ICE CONDENSER
	ICE BED 3/4 6-26
	ICE BED TEMPERATURE MONITORING SYSTEM 3/4 6-28
	ICE CONDENSER DOORS 3/4 6-29
	INLET DOOR POSITION MONITORING SYSTEM 3/4 6-31
	DIVIDER BARRIER PERSONNEL ACCESS DOORS AND EQUIPMENT HATCHES 3/4 6-32
	CONTAINMENT AIR RETURN FANS 3/4 6-33
	FLOOR DRAINS 3/4 6-34
	REFUELING CANAL DRAINS 3/4 6-35
	DIVIDER BARRIER SEAL 3/4 6-36
3/4.6.6	VACUUM RELIEF LINES 3/4 6-38 R201
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1	TURBINE CYCLE
	SAFETY VALVES 3/4 7-1
	AUXILIARY FEEDWATER SYSTEM 3/4 7-5
	CONDENSATE STORAGE TANK 3/4 7-7
	ACTIVITY 3/4 7-8
	MAIN STEAM LINE ISOLATION VALVES 3/4 7-10
	MAIN FEEDWATER ISOLATION, REGULATING, AND BYPASS VALVES 3/4 7-10a
3/4.7.2	STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION 3/4 7-11
3/4.7.3	COMPONENT COOLING WATER SYSTEM 3/4 7-12
3/4.7.4	ESSENTIAL RAW COOLING WATER SYSTEM 3/4 7-13

PLANT SYSTEMS

MAIN FEEDWATER ISOLATION, REGULATING, AND BYPASS VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Four main feedwater isolation valves (MFIVs), four main feedwater regulating valves (MFRVs), and four MFRV bypass valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTION:

- a. With one or more MFIVs inoperable, POWER OPERATION may continue provided the inoperable valve is returned to OPERABLE status or closed or isolated within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With one or more MFRVs inoperable, POWER OPERATION may continue provided the inoperable valve is returned to OPERABLE status or closed or isolated within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With one or more MFRV bypass valves inoperable, POWER OPERATION may continue provided the inoperable valve is returned to OPERABLE status or closed or isolated within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. For each MFIV, MFRV, or MFRV bypass valve that has been closed or isolated to satisfy Action a., b., or c. above, verify that it is closed or isolated once per 7 days.
- e. With two valves in the same main feedwater flow path inoperable, isolate the affected flow path within 8 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. Separate entry into the above ACTIONS is allowed for each valve or flow path. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.6 In addition to the requirements of Specification 4.0.5, verify each MFIV, MFRV, and MFRV bypass valve closes on an actual or simulated automatic actuation signal at least once per 18 months.

PLANT SYSTEMS

BASES

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant off-site radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. This dose also includes the effects of a coincident 1.0 GPM primary to secondary tube leak in the steam generator of the affected steam line. These values are consistent with the assumptions used in the accident analyses.

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to 1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and 2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. The OPERABILITY of the main steam isolation valves within the closure times of the surveillance requirements are consistent with the assumptions used in the accident analyses.

3/4.7.1.6 MAIN FEEDWATER ISOLATION, REGULATING, AND BYPASS VALVES

Isolation of the main feedwater (MFW) system is provided when required to mitigate the consequences of a steam line break, feedwater line break, excessive feedwater flow, and loss of normal feedwater (and station blackout) accident. Redundant isolation capability is provided on each feedwater line consisting of the feedwater isolation valve (MFIV) and the main feedwater regulating valve (MFRV) and its associated bypass valve. The safety function of these valves is fulfilled when closed or isolated by a closed manual isolation valve. Therefore, the feedwater isolation function may be considered OPERABLE if its respective valves are OPERABLE, if they are maintained in a closed and deactivated position, or if isolated by a closed manual valve. The 72-hour completion time to either restore, close, or isolate an inoperable valve takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring that would require isolation of the MFW flow paths during this time period. The 8-hour completion time for two inoperable valves in one flow path takes into account the potential for no redundant system to perform the required safety function and a reasonable duration to close or isolate the flow path. Although the steam generator can be isolated with the failure of two valves in parallel, the double failure could be an indication of a common mode failure and should be treated the same as the loss of the isolation function. The 7-day frequency to verify that an inoperable valve is closed or isolated is reasonable based on valve status indications available in the control room, and other administrative controls to ensure the valves are closed or isolated.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 25°F and are sufficient to prevent brittle fracture.

BR

PLANT SYSTEMS

BASES

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the component cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

3/4.7.4 ESSENTIAL RAW COOLING WATER SYSTEM

The OPERABILITY of the essential raw cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

R16



**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. 222
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 February 13, 1998, 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.

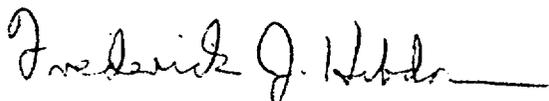
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 222 , 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 no later than 45 days after issuance.

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: June 8, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 222

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

Index page VIII

-

B 3/4 7-3

-

INSERT

Index page VIII

3/4 7-10a (new page)

B 3/4 7-3

B 3/4 7-3a (new page)

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>		<u>PAGE</u>
3/4.6.3	CONTAINMENT ISOLATION VALVES	3/4 6-17
3/4.6.4	COMBUSTIBLE GAS CONTROL	
	HYDROGEN MONITORS	3/4 6-24
	ELECTRIC HYDROGEN RECOMBINERS - W	3/4 6-25
	HYDROGEN MITIGATION SYSTEM	3/4 6-26 R203
3/4.6.5	ICE CONDENSER	
	ICE BED	3/4 6-27
	ICE BED TEMPERATURE MONITORING SYSTEM	3/4 6-29
	ICE CONDENSER DOORS	3/4 6-30
	INLET DOOR POSITION MONITORING SYSTEM	3/4 6-32
	DIVIDER BARRIER PERSONNEL ACCESS DOORS AND EQUIPMENT HATCHES	3/4 6-33
	CONTAINMENT AIR RETURN FANS	3/4 6-34
	FLOOR DRAINS	3/4 6-35
	REFUELING CANAL DRAINS	3/4 6-36
	DIVIDER BARRIER SEAL	3/4 6-37
3/4.6.6	VACUUM RELIEF VALVES	3/4 6-39 R188
<u>3/4.7 PLANT SYSTEMS</u>		
3/4.7.1	TURBINE CYCLE	
	SAFETY VALVES :	3/4 7-1
	AUXILIARY FEEDWATER SYSTEM	3/4 7-5
	CONDENSATE STORAGE TANK	3/4 7-7
	ACTIVITY	3/4 7-8
	MAIN STEAM LINE ISOLATION VALVES	3/4 7-10
	MAIN FEEDWATER ISOLATION, REGULATING, AND BYPASS VALVES .	3/4 7-10a
3/4.7.2	STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION	3/4 7-11
3/4.7.3	COMPONENT COOLING WATER SYSTEM	3/4 7-12

PLANT SYSTEMS

MAIN FEEDWATER ISOLATION, REGULATING, AND BYPASS VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Four main feedwater isolation valves (MFIVs), four main feedwater regulating valves (MFRVs), and four MFRV bypass valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTION:

- a. With one or more MFIVs inoperable, POWER OPERATION may continue provided the inoperable valve is returned to OPERABLE status or closed or isolated within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With one or more MFRVs inoperable, POWER OPERATION may continue provided the inoperable valve is returned to OPERABLE status or closed or isolated within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With one or more MFRV bypass valves inoperable, POWER OPERATION may continue provided the inoperable valve is returned to OPERABLE status or closed or isolated within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. For each MFIV, MFRV, or MFRV bypass valve that has been closed or isolated to satisfy Action a., b., or c. above, verify that it is closed or isolated once per 7 days.
- e. With two valves in the same main feedwater flow path inoperable, isolate the affected flow path within 8 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. Separate entry into the above ACTIONS is allowed for each valve or flow path. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.6 In addition to the requirements of Specification 4.0.5, verify each MFIV, MFRV, and MFRV bypass valve closes on an actual or simulated automatic actuation signal at least once per 18 months.

PLANT SYSTEMS

BASES

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant off-site radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. This dose also includes the effects of a coincident 1.0 GPM primary to secondary tube leak in the steam generator of the affected steam line. These values are consistent with the assumptions used in the accident analyses.

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to 1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and 2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. The OPERABILITY of the main steam isolation valves within the closure times of the surveillance requirements are consistent with the assumptions used in the accident analyses.

3/4.7.1.6 MAIN FEEDWATER ISOLATION, REGULATING, AND BYPASS VALVES

Isolation of the main feedwater (MFW) system is provided when required to mitigate the consequences of a steam line break, feedwater line break, excessive feedwater flow, and loss of normal feedwater (and station blackout) accident. Redundant isolation capability is provided on each feedwater line consisting of the feedwater isolation valve (MFIV) and the main feedwater regulating valve (MFRV) and its associated bypass valve. The safety function of these valves is fulfilled when closed or isolated by a closed manual isolation valve. Therefore, the feedwater isolation function may be considered OPERABLE if its respective valves are OPERABLE, if they are maintained in a closed and deactivated position, or if isolated by a closed manual valve. The 72-hour completion time to either restore, close, or isolate an inoperable valve takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring that would require isolation of the MFW flow paths during this time period. The 8-hour completion time for two inoperable valves in one flow path takes into account the potential for no redundant system to perform the required safety function and a reasonable duration to close or isolate the flow path. Although the steam generator can be isolated with the failure of two valves in parallel, the double failure could be an indication of a common mode failure and should be treated the same as the loss of the isolation function. The 7-day frequency to verify that an inoperable valve is closed or isolated is reasonable based on valve status indications available in the control room, and other administrative controls to ensure the valves are closed or isolated.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 25°F and are sufficient to prevent brittle fracture.

BR

PLANT SYSTEMS

BASES

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the component cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

3/4.7.4 ESSENTIAL RAW COOLING WATER SYSTEM

The OPERABILITY of the essential raw cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 232 TO FACILITY OPERATING LICENSE NO.
DPR-77 AND AMENDMENT NO. 222 TO FACILITY OPERATING LICENSE NO. DPR-79

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION

The Tennessee Valley Authority (TVA, the licensee) requested amendments to Operating Licenses DPR-77 and DPR-79 for Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively, in a letter dated February 13, 1998. The amendments would revise the SQN Units 1 and 2 Technical Specifications (TS) by adding a new Limiting Condition for Operation (LCO) 3.7.1.6 that addresses the requirements for the main feedwater isolation valve functions required by the SQN accident analysis. These functions include the main feedwater isolation valves (MFIVs), main feedwater regulating valves (MFRVs), and MFRV bypass valves. The LCO would require the operability of these valves in Modes 1, 2, and 3 and would require returning an inoperable valve to operable status within 72 hours. This time limit will not apply if actions to close or isolate the feedwater path have been completed. With two valves in the same main feedwater flow path inoperable, the flow path is required to be isolated within 8 hours. The proposed changes would require placing the plant in hot shutdown conditions if the actions or completion times are not satisfied.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to state TS to be included as part of the license. The Commission's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.

The U. S. Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 96-01, "Testing of Safety-Related Logic Circuits," on January 10, 1996. TVA identified the need to add the feedwater isolation valve function to the TS during the review for GL 96-01. The current SQN TS do not have LCO requirements for the valves that support the feedwater isolation function. The TVA amendment request states that the proposed LCO addition will satisfy the current requirements for 10 CFR 50.36.

9806100489 980608
PDR ADDCK 05000327
PDR

3.0 EVALUATION

The main feedwater system valves isolate flow to the steam generators when required to mitigate the consequences of a steam line break, feedwater line break, excessive feedwater flow, and loss of normal feedwater (and station blackout) accident. Each feedwater line, consisting of an MFIV and an MFRV and associated bypass valve, has redundant isolation capability. When these valves are closed by a closed manual isolation valve, the safety function is fulfilled. A high-high steam generator level or safety injection actuation condition will initiate this isolation function. The LCO would require the operability of these valves in Modes 1, 2, and 3 and would require returning inoperable valves to operable status within 72 hours. This time limit will not apply if actions to close or isolate the feedwater path have been completed. With two valves in the same flow path inoperable, the affected flow path is required to be isolated within 8 hours. The proposed actions would also require placing the plant in hot shutdown conditions if the specified action or completion time is not satisfied. An action is provided, for inoperable valves that satisfy the LCO actions by being closed or isolated, that verifies they are in this condition once every seven days. Each valve can enter these actions individually. Mode change is allowed with inoperable valves as an exception to TS 3.0.4. Further, TVA proposed a surveillance requirement that will ensure that the valves will actuate on an actual or simulated automatic actuation signal.

TVA proposes this change to ensure the availability of safety systems for accident mitigation. TVA adds a more conservative requirement in this request that will ensure the availability of accident mitigation functions. TVA test procedures verify the operability of these valves consistent with the proposed TS change and the design basis functions. TVA also complies with the expectations of 10 CFR 50.36 by adding this requirement to the SQN TSs. This change meets the intent of the Improved Standard TS (STS) for Westinghouse plants, NUREG-1431, Revision 1, "Standard Technical Specifications - Westinghouse Plants."

The proposed 72 hour completion time is acceptable because it takes into account the redundancy afforded by the remaining operable valves and the low probability of an event requiring feedwater isolation during this time period. With two valves in one flow path inoperable, the main feedwater automatic isolation function is lost. The 8 hour completion time for this condition is acceptable, based upon operating experience to complete the actions to isolate the flow path plus the low probability of an event requiring feedwater isolation during this time period. These completion times are also consistent with NUREG-1431.

Therefore, the addition of a limiting condition for operation to the SQN TS for the MFIVs and MFRVs and associated bypass valves will support the safety functions assumed in the accident analysis to minimize the consequences of an accident. The NRC staff, therefore, finds this change to be acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (63 FR 19979, dated April 22, 1998). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

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

Principal Contributor: Ronald W. Hernan

Dated: June 8, 1998