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

August 16, 1988

Docket Nos. 50-327/328

POSTED
Amdt. 80 to DPR 77

Mr. S. A. White
Senior Vice President, Nuclear Powe.
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. White:

SUBJECT: ADDITION OF THREE MOTOR OPERATED VALVES AND THE CONTAINMENT SPRAY PUMP DIFFERENTIAL PRESSURE (TAC R00205, R00206, R00246, R00247, R00256 AND R00257) (TS 87-36, 87-42 & 87-43) - SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

The Commission has issued the enclosed Amendment No. 80 to Facility Operating License No. DPR-77 and Amendment No. 71 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. These amendments are in response to your applications dated November 10, 1987 (TS 87-42) and December 28, 1987 (TS 87-43).

The application dated December 28, 1987 (TS 87-43) withdrew your application dated August 14, 1987 for TS 87-36 and resubmitted the proposed TS changes as TS 87-43. You stated that this was done to identify the correct testing requirements for the containment spray pumps.

These amendments revise Table 3.8-2, Motor Operated Valves Thermal Overload Protection, and Surveillance Requirement (SR) 4.6.2.1.b, Containment Spray System, of the Sequoyah Units 1 and 2 Technical Specifications (TS). The revisions are to (1) add three motor operated valves to Table 3.8-2 and (2) revise the SR on the containment spray pumps to require a differential pressure of greater than or equal to 143 psi differential (psid) pressure at a pump flow rate of greater than or equal to 4750 gpm.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

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

Enclosures:
1. Amendment No. 80 to License No. DPR-77
2. Amendment No. 71 to License No. DPR-79
3. Safety Evaluation

cc w/enclosures:
See next page

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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. 80
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 November 10, and December 28, 1987, comply 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. 80 , 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

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 16, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 80

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	INSERT
3/4 6-16a	3/4 6-16a
3/4 6-16b	3/4 6-16b*
3/4 8-17#	-
3/4 8-34	3/4 8-17
3/4 8-35	3/4 8-18
3/4 8-36	3/4 8-19
3/4 8-37	3/4 8-20

This page stated that Pages 3/4 8-17 through 3/4 8-33 were deleted in Amendment No. 42.

SURVEILLANCE REQUIREMENTS (Continued)

b. By verifying, that on recirculation flow, each pump develops a differential pressure of greater than or equal to 143 psid at greater than or equal to 4750 gpm when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure High-High test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

4.6.2.1.2 Each RHR spray train shall be demonstrated OPERABLE:

a. Per surveillance requirements 4.5.2.b.2 and 4.5.2.f.3;

b. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

LOWER CONTAINMENT VENT COOLERS

LIMITING CONDITION FOR OPERATION

3.6.2.2 Two independent trains of lower containment vent coolers shall be OPERABLE with two coolers to each train.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one of the above required lower containment vent coolers inoperable, restore to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With two lower containment vent coolers of the same train inoperable, restore to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 Each lower containment vent cooler shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each fan operates for at least 15 minutes.

b. At least once per 18 months by:

1. Verifying from the control room that each fan starts.

2. Verifying a cooling water flow rate of greater than or equal to 200 gpm to each cooler.

ELECTRICAL POWER SYSTEMS

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITIDN FOR OPERATION

3.8.3.2 The thermal overload protection devices, integral with the motor starter, of each valve listed in Table 3.8-2 shall be OPERABLE.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION:

With one or more of the thermal overload protection devices inoperable, declare the affected valve(s) inoperable and apply the ACTION Statement to the affected valve(s).

SURVEILLANCE REQUIREMENTS

4.8.3.2 The above required thermal overload protection devices shall be demonstrated OPERABLE:

a. At least once per 18 months by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overload devices which are not bypassed, such that each non-bypassed device is calibrated at least once per 6 years.

TABLE 3.8-2 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

Valve No.	Function
1-FCV-1-15	Stm Supply to Aux FWP turbine
1-FCV-1-16	Stm Supply to Aux FWP turbine
1-FCV-1-17	Stm Supply to Aux FWP turbine
1-FCV-1-18	Stm Supply to Aux FWP turbine
1-FCV-1-51	TDAFW Pump Trip and Throttle Valve
1-FCV-62-138	Safe Shutdown Redundancy (CVCS)
1-FCV-63-1	ECCS Operation
1-FCV-63-3	SI Pump Mini-flow
1-FCV-63-4	SI Pump Mini-flow
1-FCV-63-5	ECCS Flow Path
1-FCV-63-6	ECCS Operation
1-FCV-63-7	ECCS Operation
1-FCV-63-8	ECCS Flow Path
1-FCV-63-11	ECCS Flow Path
1-FCV-63-22	ECCS Flow Path
1-FCV-63-47	Train Isolation
1-FCV-63-48	Train Isolation
1-FCV-63-72	ECCS Flow Path from Cont. Sump
1-FCV-63-73	ECCS Flow Path from Cont. Sump
1-FCV-63-93	ECCS Cooldown Flow Path
1-FCV-63-94	ECCS Cooldown Flow Path
1-FCV-63-152	ECCS Recirc
1-FCV-63-153	ECCS Recirc
1-FCV-63-156	ECCS Flow Path
1-FCV-63-157	ECCS Flow Path
1-FCV-63-172	ECCS Flow Path
1-FCV-63-175	SI Pump Mini-flow
1-FCV-67-123	CSS Ht Ex Supply
1-FCV-67-124	CSS Ht Ex Discharge
1-FCV-67-125	CSS Ht Ex Supply
1-FCV-67-126	CSS Ht Ex Discharge
1-FCV-67-146	CCW Ht Ex Throttling
0-FCV-67-205*	Turb Bldg Hdr Isolation
0-FCV-67-208*	Turb Bldg Hdr Isolation
1-FCV-68-332	Pressurizer PORV Block Valve
1-FCV-68-333	Pressurizer PORV Block Valve
0-FCV-70-1*	SFPCS Hx Throttle
0-FCV-70-11*	SFPCS Hx Throttle
1-FCV-70-153	RHR Hx Outlet Isolation
1-FCV-70-156	RHR Hx Outlet Isolation
0-FCV-70-193*	SFPCS Hdr Isolation
0-FCV-70-194*	SFPCS Hdr Isolation
0-FCV-70-197*	SFPCS Hdr Isolation
0-FCV-70-198*	SFPCS Hdr Isolation
0-FCV-70-206*	CDWE Isolation

*Common for Units 1 and 2

TABLE 3.8-2 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

Valve No.	Function
1-FCV-70-207	CDWE Throttle
0-FCV-70-208*	CDWE Isolation
1-FCV-72-20	Cont. Spray Pump Suction
1-FCV-72-21	Cont. Spray Pump Suction
1-FCV-72-22	Cont. Spray Pump Suction
1-FCV-72-23	Cont. Spray Pump Suction
1-FCV-72-40	RHR Cont. Spray Isol.
1-FCV-72-41	RHR Cont. Spray Isol.
1-FCV-74-1	Open for Normal Plant Cooldown
1-FCV-74-2	Open for Normal Plant Cooldown
1-FCV-74-3	ECCS Operation
1-FCV-74-21	ECCS Operation
1-FCV-74-33	ECCS Operation
1-FCV-74-35	ECCS Operation

ELECTRICAL POWER SYSTEMS

ISOLATION DEVICES

LIMITING CONDITION FOR OPERATION

3.8.3.3 All circuit breakers actuated by fault currents that are used as isolation devices protecting IE busses from non qualified loads shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the above required circuit breakers inoperable either:

a. Restore the inoperable circuit breaker(s) to OPERABLE status within 8 hours, or

b. Trip the inoperable circuit breaker(s), rack-out the circuit breaker(s) within 8 hours and verify the circuit breaker(s) to be racked out at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to racked-out circuit breakers, or

c. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.3.3 Each of the above required circuit breakers shall be demonstrated OPERABLE:

a. At least once per 18 months by selecting and functionally testing a representative sample of at least 10% of each type of circuit breaker. Circuit breakers selected for functional testing shall be selected on a rotating basis. The functional test shall consist of injecting a current input at the specified setpoint to each selected circuit breaker or relay and verifying that each circuit breaker functions as designed. For each device found inoperable during these functional tests, an additional representative sample of at least 10% of each over current protection device of the inoperable type shall also be functionally tested until no more failures are found or all devices of that type have been functionally tested.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

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. 71
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 November 10, and December 28, 1987, comply 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. 71, 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

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 16, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 71

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	INSERT
3/4 6-16a	3/4 6-16a
3/4 6-16b	3/4 6-16b*
3/4 8-18#	-
3/4 8-33	3/4 8-18
3/4 8-34	3/4 8-19
3/4 8-35	3/4 8-20
3/4 8-36	3/4 8-21

This page stated that Pages 3/4 8-18 through 3/4 8-32 were deleted in Amendment No. 42.

SURVEILLANCE REQUIREMENTS (Continued)

b. By verifying that on recirculation flow, each pump develops a differential pressure of greater than or equal to 143 psid at greater than or equal to 4750 gpm when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure High-High test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

4.6.2.1.2 Each RHR Spray train shall be demonstrated OPERABLE:

a. Per surveillance requirements 4.5.2.b.2 and 4.5.2.f.3;

b. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

LOWER CONTAINMENT VENT COOLERS

LIMITING CONDITION FOR OPERATION

3.6.2.2 Two independent trains of lower containment vent coolers shall be OPERABLE with two coolers to each train.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one of the above required lower containment vent coolers inoperable, restore to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With two lower containment vent coolers of the same train inoperable, restore to OPERABLE status with 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 Each lower containment vent cooler shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each fan operates for at least 15 minutes.

b. At least once per 18 months by:

1. Verifying from the control room that each fan starts.

2. Verifying a cooling water flow rate of greater than or equal to 200 gpm to each cooler.

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITION FOR OPERATION

3.8.3.2 The thermal overload protection devices, integral with the motor starter, of each valve listed in Table 3.8-2 shall be OPERABLE.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION:

With one or more of the thermal overload protection devices inoperable, declare the affected valve(s) inoperable and apply the ACTION Statement to the affected valve(s).

SURVEILLANCE REQUIREMENTS

4.8.3.2 The above required thermal overload protection devices shall be demonstrated OPERABLE:

a. At least once per 18 months by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overload devices which are not bypassed, such that each non-bypassed device is calibrated at least once per 6 years.

TABLE 3.8-2 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

Valve No.	Function
2-FCV-1-15	Stm Supply to Aux FWP turbine
2-FCV-1-16	Stm Supply to Aux FWP turbine
2-FCV-1-17	Stm Supply to Aux FWP turbine
2-FCV-1-18	Stm Supply to Aux FWP turbine
2-FCV-1-51	TDAFW Pump Trip and Throttle Valve
2-FCV-62-138	Safe Shutdown Redundancy (CVCS)
2-FCV-63-1	ECCS Operation
2-FCV-63-3	SI Pump Mini-flow
2-FCV-63-4	SI Pump Mini-flow
2-FCV-63-5	ECCS Flow Path
2-FCV-63-6	ECCS Operation
2-FCV-63-7	ECCS Operation
2-FCV-63-8	ECCS Flow Path
2-FCV-63-11	ECCS Flow Path
2-FCV-63-22	ECCS Flow Path
2-FCV-63-47	Train Isolation
2-FCV-63-48	Train Isolation
2-FCV-63-72	ECCS Flow Path from Cont. Sump
2-FCV-63-73	ECCS Flow Path from Cont. Sump
2-FCV-63-93	ECCS Cooldown Flow Path
2-FCV-63-94	ECCS Cooldown Flow Path
2-FCV-63-152	ECCS Recirc
2-FCV-63-153	ECCS Recirc
2-FCV-63-156	ECCS Flow Path
2-FCV-63-157	ECCS Flow Path
2-FCV-63-172	ECCS Flow Path
2-FCV-63-175	SI Pump Mini-flow
2-FCV-67-123	CSS Ht Ex Supply
2-FCV-67-124	CSS Ht Ex Discharge
2-FCV-67-125	CSS Ht Ex Supply
2-FCV-67-126	CSS Ht Ex Discharge
2-FCV-67-146	CCW Ht Ex Throttling
0-FCV-67-205*	Turb Bldg Hdr Isolation
0-FCV-67-208*	Turb Bldg Hdr Isolation
2-FCV-68-332	Pressurizer PORV Block Valve
2-FCV-68-333	Pressurizer PORV Block Valve
0-FCV-70-1*	SFPCS Hx Throttle
0-FCV-70-11*	SFPCS Hx Throttle
2-FCV-70-153	RHR Hx Outlet Isolation
2-FCV-70-156	RHR Hx Outlet Isolation
0-FCV-70-193*	SFPCS Hdr Isolation
0-FCV-70-194*	SFPCS Hdr Isolation
0-FCV-70-197*	SFPCS Hdr Isolation
0-FCV-70-198*	SFPCS Hdr Isolation
0-FCV-70-206*	CDWE Isolation
2-FCV-70-207	CDWE Throttle

*Common for Units 1 and 2

TABLE 3.8-2 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

Valve No.	Function
0-FCV-70-208*	CDWE Isolation
2-FCV-72-20	Cont. Spray Pump Suction
2-FCV-72-21	Cont. Spray Pump Suction
2-FCV-72-22	Cont. Spray Pump Suction
2-FCV-72-23	Cont. Spray Pump Suction
2-FCV-72-40	RHR Cont. Spray Isol.
2-FCV-72-41	RHR Cont. Spray Isol.
2-FCV-74-1	Open for Normal Plant Cooldown
2-FCV-74-2	Open for Normal Plant Cooldown
2-FCV-74-3	ECCS Operation
2-FCV-74-21	ECCS Operation
2-FCV-74-33	ECCS Operation
2-FCV-74-35	ECCS Operation

ISOLATION DEVICES

LIMITING CONDITION FOR OPERATION

3.8.3.3 All circuit breakers actuated by fault currents that are used as isolation devices protecting IE busses from non qualified loads shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the above required circuit breakers inoperable either:

a. Restore the inoperable circuit breaker(s) to OPERABLE status within 8 hours, or

b. Trip the inoperable circuit breaker(s), rack-out the circuit breaker(s) within 8 hours and verify the circuit breaker(s) to be racked out at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to racked-out circuit breakers, or

c. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.3.3 Each of the above required circuit breakers shall be demonstrated OPERABLE:

a. At least once per 18 months by selecting and functionally testing a representative sample of at least 10% of each type of circuit breaker. Circuit breakers selected for functional testing shall be selected on a rotating basis. The functional test shall consist of injecting a current input at the specified setpoint to each selected circuit breaker or relay and verifying that each circuit breaker functions as designed. For each device found inoperable during these functional tests, an additional representative sample of at least 10% of each over current protection device of the inoperable type shall also be functionally tested until no more failures are found or all devices of that type have been functionally tested.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 80 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 71 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

By letters dated November 10 and December 28, 1987, the Tennessee Valley Authority (TVA) applied for changes to the Sequoyah Units 1 and 2 Technical Specifications (TS). The proposed changes are to revise Table 3.8-2, Motor Operated Valves Thermal Overload Protection, and Surveillance Requirement (SR) 4.6.2.1.b, Containment Spray System. The revisions are to (1) add three motor operated valves (MOVs) to Table 3.8-2 and (2) revise the SR on the containment spray pumps to require a differential pressure of greater or equal to 143 psi differential (psid) pressure at a pump flow rate greater than or equal to 4750 gpm when tested pursuant to Specification 4.0.5. The current SR 4.6.2.1.b was a discharge pressure of greater than or equal to 140 psig when tested pursuant to Specification 4.0.5.

The application dated December 28, 1987 (TS 87-43) withdrew TVA's application dated August 14, 1987 for TS 87-36. TVA resubmitted the proposed TS changes as TS 87-43. TVA stated that this was done so that the correct testing requirements for the containment spray pumps were identified.

2.0 EVALUATION

2.1 Application Dated November 10, 1987 (TS 87-42)

By a letter dated November 10, 1987, TVA proposed changes to the TS which added three MOVs for each unit to the list of MOVs in Table 3.8-2. Table 3.8-2 contains a list of MOVs which require testing for thermal overload (TOL) protection. This testing is performed to ensure reliable operation of MOVs. TVA stated that its review of Table 3.8-2, and an Engineering Change Notice identified that these three active MOVs had been omitted from the TS table. These valves are 1-FCV-68-332, -333, and 1-FCV-1-51 for Unit 1 and 2-FCV-68-332, -333, and 2-FCV-1-51 for Unit 2.

Valves 1-FCV-68-332, -333 and 2-FCV-68-332, -333 are the block valves for the pressurizer power-operated relief valves (PORVs). These active valves are used to isolate the PORV if it is stuck open. The addition of these valves to the table requires that their associated TOL devices are tested pursuant to surveillance requirement (SR) 4.8.3.2 to ensure that they will not spuriously close and prevent the PORVs from performing their pressure relief function.

Valves 1-FCV-1-51 and 2-FCV-1-51 are the trip and throttle valves for the turbine-driven auxiliary feedwater (TDAFW) pumps. These valves also close and reopen during the automatic transfer from the normal to the alternate steam supply to the TDAFW pump. Since the proper operation of these valves is required for the TDAFW system to meet its safety function, the TOL devices are tested in accordance with SR 4.8.3.2 to ensure that they will not spuriously trip during operations and stop the valves from functioning.

The purpose of the proposed TS change is to correct omissions in Table 3.8.2. Therefore, the staff finds the proposed change in TS 87-42 is acceptable.

2.2 Application Dated December 28, 1987 (TS 87-43)

By a letter dated December 28, 1987, TVA proposed changes to the TS whereby the testing requirements for the containment spray pumps were modified. The proposed change revises SR 4.6.2.1.b to require a differential pressure of greater than or equal to 143 psid from the pumps at a flow rate of greater than equal to 4,750 gal/min. This SR is to demonstrate pump operability.

The containment spray system (CSS) is an engineered safety features system that functions to reduce the containment pressure and airborne fission products in the containment atmosphere following a design basis steam line break or loss of coolant accident (LOCA). This is accomplished by spraying borated water into the containment atmosphere from the Refueling Water Storage Tank (RWST) or the containment sump. The CSS flow is provided by two centrifugal-type pumps driven by electric motors. The design basis accidents necessitate a containment spray flow rate of at least 4,750 gal/min to maintain the containment atmosphere within the design limits. For the worst case scenario, the total pressure losses calculated in the CSS at a flow rate of 4,750 gal/min are 328.9 feet of water. This corresponds to a differential pressure of 143 psid. The proposed change will require the pumps to develop a differential pressure of greater than or equal to 143 psid at greater than or equal to 4,750 gal/min to demonstrate operability.

The frictional piping losses for the calculation are based on the assumption that only one of the containment spray pumps is operating. This assumption is consistent with the worst case scenario. This is because the combined flow from both pumps will be significantly greater than the 4,750 gal/min required by the Sequoyah Final Safety Analysis Report (FSAR) analysis.

TVA stated that on July 23, 1987, with Units 1 and 2 in Mode 5, it determined during a test that the CSS pumps could not deliver the 4,750 gpm flow specified in the FSAR due to the undersized flow restrictors installed previously. TVA stated further that it could not find any documentation to justify these installed orifices. It stated that it believes that the original calculations were based on using the recirculation mode from the containment sump which would indicate a lower pump head requirement for the 4,750 gal/min. To correct this deficiency, the flow restrictors have been bored out by TVA so that no flow restricting orifices remain in the pump discharge piping. TVA has calculated that the required flow rates and pressures will now be developed.

Additionally, the revised acceptance criteria in the SR 4.6.2.1.b has been specified in differential pressure rather than discharge pressure to eliminate confusion on how to account for variations in the RWST level. The current acceptance criteria of a differential pressure of greater than or equal to 143 psid has been changed from the current required pump discharge pressure of 140 psig.

The purpose of the proposed TS change is to identify the correct testing requirements for the CSS pumps. A minimum differential pressure of 143 psid is required at a flow rate of greater than or equal to 4,750 gal/min for the CSS to meet its functional capability. The proposed TS change requires the CSS pumps to demonstrate this capability. The testing in accordance with Specification 4.0.5 is not being changed. The staff has reviewed the submittal and concludes that the proposed change in TS 87-43 is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 changes to the surveillance requirements. The staff has determined that the amendments involve 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. 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 nor environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: B. K. Singh

Dated: August 16, 1988