Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37384-2000

March 23, 2001

TVA-SQN-TS-99-18 10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

In the Matter of	)	Docket Nos. 50-327
Tennessee Valley Authority	)	50-328

SEQUOYAH NUCLEAR PLANT (SQN) - ERRATA OF REVISED PAGES FOR TECHNICAL SPECIFICATION (TS) CHANGE NO 99-18, "CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)" - UNITS 1 AND 2

Reference: TVA letter to NRC dated March 12, 2001, "Sequoyah Nuclear Plant (SQN) - Technical Specification (TS) Change 99-18, 'Control Room Air-Conditioning System (CRACS)' - Units 1 And 2"

This letter provides corrected pages for the referenced TS. The pages submitted on March 12, 2001 added Section 3/4.7.13, "Control Room Air-Conditioning System (CRACS)." The title of the new limiting condition of operations should have been Section 3/4.7.15 instead of Section 3/4.7.13, for both Units 1 and 2 because of other changes made to the same section in a different TS change. That is, this was a sequencing error. Other minor editorial corrections have also been included. The enclosure to this letter provides the revised TS pages for Units 1 and 2, which fully supersede Enclosure 3 of the referenced TS.

D030

If you have any questions about this change, please telephone me at (423) 843-7170 or J. D. Smith at (423) 843-6672.

Sincerely,

Pedro Salas
Licensing and Industry Affairs Manager

Subscribed and sworn to before me
on this 23rd day of March

Peggy M. Billingsley
Notary Public

My Commission Expires October 9, 2002

Enclosure
cc (Enclosure):
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ENCLOSURE

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNITS 1 AND 2

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE
REVISED PAGES

I. AFFECTED PAGE LIST

Unit 1

Index Page IX
Index Page XIV
3/4 7-17
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B3/4 7-4
B3/4 7-16 *(new page created)*
B3/4 7-17 *(new page created)*
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Unit 2

Index Page IX
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II. REVISED PAGES

See attached.

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent control room emergency ventilation systems (CREVS) shall be OPERABLE.

APPLICABILITY: ALL MODES and during movement of irradiated fuel assemblies

ACTION:

MODES 1, 2, 3 and 4

a. With one CREVS inoperable, restore the inoperable system 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 both CREVS inoperable due to actions taken as a result of a tornado warning, restore at least one train to operable status within 8 hours or be in a least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With both CREVS inoperable for other than Action b., be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours

MODES 5, 6, and during movement of irradiated fuel assemblies

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the operable CREVS in the recirculation mode.
or
suspend movement of irradiated fuel assemblies.

b. With both CREVS inoperable, suspend all operations involving movement of irradiated fuel assemblies.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.7 Each CREVS shall be demonstrated OPERABLE:

a. DELETED

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

PLANT SYSTEMS

3/4.7.15 CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)

LIMITING CONDITION FOR OPERATION

3.7.15 Two independent control room air-conditioning systems (CRACS) shall be OPERABLE.

APPLICABILITY: ALL MODES and during movement of irradiated fuel assemblies

ACTION:

MODES 1, 2, 3, or 4

a. With one CRACS inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours .

b. With both CRACS inoperable, immediately enter LCO 3.0.3.

MODES 5 or 6, or during movement of irradiated fuel assemblies

a. With one CRACS inoperable, restore the inoperable system to OPERABLE status within 30 days or initiate and maintain operation of the OPERABLE CRACS
or
suspend movement of irradiated fuel assemblies.

b. With both CRACS inoperable, suspend movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS

4.7.15 Each CRACS shall be demonstrated OPERABLE:

a. At least once per 18 months by verifying each CRACS train has the capability to remove the assumed heat load.

3/4.7.5 ULTIMATE HEAT SINK (UHS)

The limitations on UHS water level and temperature ensure that sufficient cooling capacity is available to either 1) provide normal cooldown of the facility, or 2) to mitigate the effects of accident conditions within acceptable limits.

The limitations on the maximum temperature are based on providing a 30 day cooling water supply to safety related equipment without exceeding their design basis temperature and is consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants", March 1974.

The limitations on minimum water level are based on providing sufficient flow to the ERCW serviced heat loads after a postulated event assuming a time-dependent drawdown of reservoir level. Flow to the major transient heat loads (CCS and CS heat exchangers) is balanced assuming a reservoir level of elevation 670. The time-independent heat loads (ESF room coolers, etc.) are balanced assuming a reservoir level of elevation 639.

3/4.7.6 FLOOD PROTECTION

This specification is deleted.

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

The OPERABILITY of the control room ventilation system ensures that the control room will remain habitable for operations personnel during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criteria 19 of Appendix "A", 10 CFR 50. ANSI N510-1975 will be used as a procedural guide for surveillance testing.

PLANT SYSTEMS

BASES

3/4.7.15 CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)

BACKGROUND

The CRACS provides temperature control for the control room during normal operation and following isolation of the control room. The Unit 1 and Unit 2 control room is a common room served by a shared CRACS.

The CRACS consists of two independent and redundant trains that provide cooling of recirculated control room air. Each train consists of a chiller package, cooling coils, air handling unit, instrumentation, and controls to provide for control room temperature control.

The CRACS is a normal and emergency system. A single train will provide the required temperature control. The CRACS operation in maintaining the control room temperature is discussed in the FSAR, Section 6.4 and 9.4.1 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the CRACS is to maintain the control room temperature during normal and Design Basis Accident conditions.

The CRACS components are arranged in redundant, safety related trains. During normal and emergency operation, the CRACS maintains the temperature at or below the continuous duty rating of 104°F for equipment and instrumentation. A single active failure of a component of the CRACS, with a loss of offsite power, does not impair the ability of the system to perform its design function. Redundant detectors and controls are provided for control room temperature control. The CRACS is designed in accordance with Seismic Category I requirements. The CRACS is capable of removing sensible and latent heat loads from the control room, which include consideration of equipment heat loads and personnel occupancy requirements, to ensure equipment OPERABILITY.

The CRACS satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two independent and redundant trains of the CRACS are required to be OPERABLE to ensure that at least one is available, assuming a single failure disabling the other train. Total system failure could result in the equipment operating temperature exceeding limits in the event of an accident.

The CRACS is considered to be OPERABLE when the individual components necessary to maintain the control room temperature are OPERABLE in both trains. These components include the chiller package, cooling coils, air handling unit, instrumentation, and controls. In addition, the CRACS must be operable to the extent that air circulation can be maintained.

APPLICABILITY

In MODES 1, 2, 3, 4, 5, and 6, and during movement of irradiated fuel assemblies, the CRACS must be OPERABLE to ensure that the control room temperature will not exceed equipment operational requirements.

(continued)

PLANT SYSTEMS

BASES (continued)

ACTIONS

MODES 1, 2, 3, or 4 - Action a.

With one CRACS train inoperable, action must be taken to restore OPERABLE status within 30 days. In this Condition, the remaining OPERABLE CRACS train is adequate to maintain the control room temperature within limits. However, the overall reliability is reduced because a single failure in the OPERABLE CRACS train could result in loss of CRACS function. The 30 day completion time is based on the low probability of an event requiring control room isolation, the consideration that the remaining train can provide the required protection, and that alternate safety or nonsafety related cooling means are available. Additionally, if the inoperable CRACS train cannot be restored to OPERABLE status within 30 days, the unit must be placed in a MODE that minimizes the risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within the following 30 hours. The allowed completion times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

MODES 1, 2, 3, or - Action b.

If both train of CRACS are inoperable, the control room CRACS may not be capable of performed its intended function. Therefore, LCO 3.0.3 must be entered immediately.

MODES 5 or 6, or during movement of irradiated fuel assemblies - Action a.

In MODE 5 or 6, or during movement of irradiated fuel, if the inoperable CRACS train cannot be restored to OPERABLE status within the required completion time, the OPERABLE CRACS train must be placed in operation immediately. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that active failures will be readily detected.

An alternative is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes accident risk. This does not preclude the movement of fuel to a safe position.

MODES 5 or 6, or during movement of irradiated fuel assemblies - Action b.

In MODE 5 or 6, or during movement of irradiated fuel assemblies with two CRACS trains inoperable, action must be taken immediately to suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk. This does not preclude the movement of fuel to a safe position.

(continued)

PLANT SYSTEMS

BASES (continued)

SURVEILLANCE REQUIREMENTS

Surveillance 4.7.15.a

This SR verifies that the heat removal capability of this air conditioning system is adequate to remove the heat load assumed in the control room during Design Basis Accidents. This SR consists of verifying the heat removal capability of the condenser heat exchanger (either through performance testing or inspection), ensuring the proper operation of major components in the refrigeration cycle, and verification of unit air flow capacity. Analysis denotes that the normal heat load on the CRACS is higher than the Design Basis Accident heat load (Ref. 2). This is because during Design Basis Accidents CRACS is required to maintain the control room temperature at or below 104°F, while during normal operation temperature is maintained at or below 80°F (Ref. 3). Therefore, the testing and the 18 month Frequency are appropriate since significant degradation of the CRACS is slow, not expected over this time period, and would be self revealing during normal operation.

REFERENCES

1. FSAR, Section 6.4 and 9.4.1
2. Calculation SQN-31-D053-EPM-GAC-030287, "HVAC Cooling Load Calculation Control Bldg Floor El. 732'."
3. SQN-DC-V-21.0, "Environmental Design."

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the operable CREVS in the recirculation mode
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LIMITING CONDITION FOR OPERATION

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APPLICABILITY: ALL MODES and during movement of irradiated fuel assemblies

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The limitations on the ultimate heat sink water level and temperature ensure that sufficient cooling capacity is available to either 1) provide normal cooldown of the facility, or 2) to mitigate the effects of accident conditions within acceptable limits.

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APPLICABILITY

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(continued)

PLANT SYSTEMS

BASES (continued)

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(continued)

PLANT SYSTEMS

BASES (continued)

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