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

March 12, 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) - TECHNICAL SPECIFICATION (TS) CHANGE 99-18, "CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)" - UNITS 1 AND 2

In accordance with the provisions of 10 CFR 50.4 and 50.90, TVA is submitting a request for an amendment to SQN's Licenses DPR-77 and 79 to change the TSs for Units 1 and 2. TVA proposes the deletion of Surveillance Requirement 4.7.7.a from TS 3/4.7.7, "Control Room Emergency Ventilation Systems (CREVS)." To implement this proposed change TVA will modify the current TS by adding Section 3/4.7.13, "Control Room Air-Conditioning System (CRACS)." This specification addition will provide the necessary requirements, consistent with NUREG-1431, to address the condition when main control room (MCR) chillers and air handling units (AHU) are inoperable. Both the deletion of SR 4.7.7.a and addition of Section 3/4.7.13 will make our TSs more consistent with NRC approved Standard TSs (NUREG-1431) and revisions (i.e., TSTF-51, Revision 2). TVA has determined that there are no significant hazards considerations associated with the proposed change and that the change is exempt from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). The SQN Plant Operations Review Committee and

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the SQN Nuclear Safety Review Board have reviewed this proposed change and determined that operation of SQN Units 1 and 2, in accordance with the proposed change, will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Tennessee State Department of Public Health.

Enclosure 1 to this letter provides the description and evaluation of the proposed change. This includes TVA's determination that the proposed change does not involve a significant hazards consideration, and is exempt from environmental review. Enclosure 2 contains copies of the appropriate TS pages from Units 1 and 2 marked up to show the proposed change. Enclosure 3 forwards the revised TS pages for Units 1 and 2 which incorporate the proposed change.

The proposed TS change provides a long-term resolution for a nonconforming condition with regards to NRC Administrative Letter 98-10. No specific approved milestone is requested. TVA requests that the revised TS be made effective within 45 days of NRC approval. 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 12th day of March

Peggy M. Billingsley
Notary Public

My Commission Expires October 9, 2002

Enclosures
cc: See page 3

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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNITS 1 AND 2
DOCKET NOS. 327 AND 328

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE 99-18
DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE

I. DESCRIPTION OF THE PROPOSED CHANGE

TVA proposes to modify the SQN Units 1 and 2 TSs by adding TS 3/4.7.13, "Control Room Air-Conditioning System (CRACS)," to address concerns about the treatment of CRACS when inoperable. TVA also proposes deleting Surveillance Requirement (SR) 4.7.7.a of TS 3/4.7.7, "Control Room Emergency Ventilation Systems (CREVS)," to differentiate the control building's main control room (MCR) CREVS from CRACS. Additionally, TVA is adding expanded Bases for CRACS with consistency to the recommended Standard TSs and TSTF-51, Revision 2.

II. REASON FOR THE PROPOSED CHANGE

The proposed TS change addresses concerns about the treatment of CRACS which includes the MCR chillers and air handling units (AHUs). Presently, the CREVS specification is considered nonconservative with respect to the temperature SR. Specifically, this SR determines equipment operability for CREVS by surveillance of the air temperature (i.e., the function of CRACS). The proposed TS 3/4.7.13 provides a more conservative means for determining operability and increases SQN TSs consistency with Standard TSs. The proposed surveillance deletion provides inoperability clarification by differentiating the control building's MCR emergency air cleanup system (i.e., CREVS) from the MCR air-conditioning system (i.e., CRACS) coincident with the specification addition. Additionally, deleting the SR provides more consistency with NUREG-1431.

III. SAFETY ANALYSIS

Background:

The control building heating, ventilating, air-conditioning, and air cleanup systems are designed to maintain the temperature and humidity conditions throughout the building for the protection, operation, and maintenance

and testing of plant controls; and for the safe, uninterrupted occupancy of the MCR during an accident and the subsequent recovery period; and consist of the following:

1. MCR air-conditioning system and electrical board rooms air-conditioning system.

2. MCR emergency air cleanup system.

3. MCR emergency pressurizing system.

4. Battery room ventilating system.

5. Miscellaneous ventilating systems.

During normal plant operation the MCR is maintained at approximately 75°F and 50 percent relative humidity for the protection of instruments and for the comfort and safety of the operators, except for evacuation of the MCR in case of a fire. Fresh air flow is induced to replace that which is being mechanically exhausted. The control building outside air intakes are provided with radiation monitors, high temperature, and smoke detectors that annunciate in the MCR.

Isolation of the MCR occurs automatically upon the actuation of a safety injection signal from either unit or upon indication of high radiation or high temperature in the outside air supply stream to the building or manually by the operator from the MCR. During MCR isolation, CREVS initiates to recirculate a portion of the CRACS return air through the cleanup trains and to supply an alternate stream of outside air to the control room air-conditioning system for related pressurization requirements.

The proposed TS change addresses the condition when CRACS is inoperable. The new CRACS specification addresses this issue by providing actions for inoperability and a surveillance to determine operability consistent with Standard TSs. Concurrent with the proposed specification addition, it is possible to delete SR 4.7.7.a, which provides more consistency with Standard TSs. By deleting this surveillance, the designed function of CREVS is separated from CRACS, which provides the temperature control in the MCR. In addition, this proposed TS change provides a long-term resolution to a nonconforming condition and is considered conservative. This revision to the TSs does not involve a design change to the control building heating, ventilating, air-conditioning, and air cleanup systems. Furthermore, TVA's proposed changes to

the SQN TSs provide consistency with NUREG-1431 and TSTF-51, Revision 2 requirements.

Modifications and revisions of the new specification differing from NUREG-1431 includes: (a) section numbering to establish location in Sequoyah TS (i.e., 3/4.7.13), and (b) modify the title by replacing "Emergency Air Temperature Control" with "Air-Conditioning." These revisions are considered editorial and do not alter the intent of or change the technical content of the specification.

Relevant revisions to proposed TS 3/4.7.13 are applied consistent with the NRC approved TSTF-51, Revision 2. These revisions include the deletion of the applicability statement "During CORE ALTERATIONS" and under the appropriate actions section, "or during CORE ALTERATIONS" and "Suspend CORE ALTERATIONS" are deleted.

TVA is revising Bases Section 3/4.7.7 to reflect the deletion of the operability of CREVS to ensure, "the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system." Expanded Bases for TS 3/4.7.13 is added to complete this effort to improve consistency with NUREG-1431 and NRC approved revisions (i.e., TSTF-51, Revision 2).

IV. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TVA has concluded that operation of SQN Units 1 and 2, in accordance with the proposed change to the technical specifications (TSs) (or operating license[s]), does not involve a significant hazards consideration. TVA's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of the three standards set forth in 10 CFR 50.92(c).

A. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

TVA has identified Surveillance Requirement (SR) 4.7.7.a, which determines operability of the main control room emergency ventilation system (CREVS) relative to temperature, to be inadequate and nonconservative. TVA proposes to deleted this SR coincident with the addition of a new TS 3/4.7.13. The proposed TS addition for the main control room air-conditioning system (CRACS) provides a more adequate SR for determination of operability with associated actions to take for inoperability;

associated actions to take for inoperability; resolves an inadequate TS in accordance with the guidance in NRC Administrative Letter 98-10; establishes clarity between CRACS and CREVS; and provides greater consistency with NUREG-1431 and TSTF-51, Revision 2. These proposed revisions are conservative and are not the result of a change to plant equipment, system design, testing methods, or operating practices. Since the proposed revisions will increase conservatism and the systems will continue to meet their required safety function without plant modification or operating practices, the change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

B. **The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.**

The proposed revisions to the SQN TSs will not alter plant equipment or operating practices. The change will not result in the installation of any new equipment or systems. The intent of deleting the SR and adding a specification is to address a nonconservative TS, provide clarification of plant systems, and improve consistency with NUREG-1431. Since the systems' functions are associated with accident mitigation and will continue to perform without change and were not previously considered to contribute to accident generation, the proposed changes will not create the possibility of a new or different kind of accident.

C. **The proposed amendment does not involve a significant reduction in a margin of safety.**

Both the main control room (MCR) emergency ventilation and air-conditioning systems provide for the safe, uninterrupted occupancy of the MCR during an accident and the subsequent recovery period. The proposed TS revisions will not change the methods of operating the plant or setpoints associated with safety-related equipment in the implementation of this request. Therefore, the proposed revisions do not involve a reduction in the margin of safety.

V. ENVIRONMENTAL IMPACT CONSIDERATION

The proposed change does not involve a significant hazards consideration, a significant change in the

types of or significant increase in the amounts of any effluents that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.

ENCLOSURE 2

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

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE
MARKED PAGES

I. AFFECTED PAGE LIST

Unit 1

Index Page IX
Index Page XIV
3/4 7-17
3/4 7-41
3/4 7-42
B3/4 7-4
B3/4 7-9 *(new page created)*
B3/4 7-10 *(new page created)*
B3/4 7-11 *(new page created)*

Unit 2

Index Page IX
Index Page XIV
3/4 7-17
3/4 7-53 *(new page created)*
B3/4 7-4
B3/4 7-9 *(new page created)*
B3/4 7-10 *(new page created)*
B3/4 7-11 *(new page created)*

II. MARKED PAGES

See attached.

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

BASES

PLANT SYSTEMS

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 fuel assemblies

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the 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. ~~At least once per 12 hours by verifying that the control room air temperature is less than or equal to 104°F.~~

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:

THIS PAGE IS CONTAINS THE MOVED AMENDMENT NUMBER.

PLANT SYSTEMS

3/4.7.12 FIRE BARRIER PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.7.12 This Specification is deleted.

THIS PAGE IS REPLACED BY THE NEW TS REQUIRMENTS FOR CRACS.

Moved the Amendment Number to the associated deleted Limiting Condition of Operation.

March 25, 1982
Amendment

THIS PAGE REPRESENTS THE NEW TS REQUIRMENTS FOR CRACS.

PLANT SYSTEMS

3/4.7.13 CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)

LIMITING CONDITION FOR OPERATION

3.7.13 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 and 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 and 6 and 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

4.7.13 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.

3/4.7.13 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)

BASES (continued)

ACTIONS

MODES 1, 2, 3 and 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 and 4 - Action b.

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

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

In MODE 5 and 6 and 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 4.7.13.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 18 month frequency is 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."

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

BASES

PLANT SYSTEMS

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 at 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 and 6 MODES 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 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. ~~At least once per 12 hours by verifying that the control room air temperature is less than or equal to 104°F.~~

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:

THIS PAGE REPRESENTS THE NEW TS REQUIRMENTS FOR CRACS.

PLANT SYSTEMS

3/4.7.13 CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)

LIMITING CONDITION FOR OPERATION

3.7.13 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 and 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 and 6 and 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

4.7.13 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

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.

The limitation on maximum temperature is 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 l974.

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 el. 670. The time independent heat loads (ESF room coolers, etc.) are balanced assuming a reservoir level of el. 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 ~~1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2)~~ 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 l9 of Appendix "A", 10 CFR 50. ANSI N510-1975 will be used as a procedural guide for surveillance testing.

3/4.7.13 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 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)

BASES (continued)

ACTIONS

MODES 1, 2, 3 and 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 and 4 - Action b.

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

MODES 5 and 6 and 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 and 6 and During Movement of Irradiated Fuel Assemblies - Action b.

In MODE 5 and 6 and 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)

BASES (continued)

SURVEILLANCE REQUIREMENTS

Surveillance 4.7.13.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 18 month frequency is 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."

ENCLOSURE 3

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
3/4 7-41
3/4 7-42
B3/4 7-4
B3/4 7-9 *(new page created)*
B3/4 7-10 *(new page created)*
B3/4 7-11 *(new page created)*

Unit 2

Index Page IX
Index Page XIV
3/4 7-17
3/4 7-53 *(new page created)*
B3/4 7-4
B3/4 7-9 *(new page created)*
B3/4 7-10 *(new page created)*
B3/4 7-11 *(new page created)*

II. REVISED PAGES

See attached.

CLEAN PAGES PROVIDED TO NRC AND EDMS ONLY)

PLANT SYSTEMS

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 fuel assemblies

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the 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:

3/4.7.12 FIRE BARRIER PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.7.12 This Specification is deleted.

PLANT SYSTEMS

3/4.7.13 CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)

LIMITING CONDITION FOR OPERATION

3.7.13 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 and 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 and 6 and 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

4.7.7 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

3/4.7.13 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 for equipment of 104°F 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 and 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 and 4 - 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 and 6 and 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 and 6 and during movement of irradiated fuel assemblies - Action b.

In MODE 5 and 6 and 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 4.7.13.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."

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 at 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 and 6 MODES 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 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

3/4.7.13 CONTROL ROOM AIR-CONDITIONING SYSTEM (CRACS)

LIMITING CONDITION FOR OPERATION

3.7.13 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 and 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 and 6 and 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

4.7.7 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

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.

The limitation on maximum temperature is 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 l974.

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 el. 670. The time independent heat loads (ESF room coolers, etc.) are balanced assuming a reservoir level of el. 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 l9 of Appendix "A", 10 CFR 50. ANSI N510-1975 will be used as a procedural guide for surveillance testing.

PLANT SYSTEMS

BASES

3/4.7.13 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.

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APPLICABLE SAFETY ANALYSES

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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 for equipment of 104°F 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, 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 and 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 and 4 - 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 and 6 and 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 and 6 and During Movement of Irradiated Fuel Assemblies - Action b.

In MODE 5 and 6 and 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 4.7.13.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.

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