Licensee Presentation Materials for Public Teleconference Call

Pre-Application Meeting to Discuss McGuire TSTF-447 License Amendment Request

NRC DISCUSSION

SUMMARY OF THE MCGUIRE CONTROL ROOM COOLING ISSUE AND REQUEST TO ADOPT A GE TSTF

McGuire Control Room Cooling NOED History

McGuire has experienced the inoperability of both trains of Control Room (CR) cooling (TS 3.7.10, CRACWS) on two occasions in 2005 and 2010. With CR cooling being a shared system, both these events led to the initiation of a two unit shutdown. On both occasions, one CR cooling train was functional but not operable. NOEDs were submitted and granted on both occasions.

As part of the 2010 NRC approved NOED, McGuire committed to submit an LAR to address operability requirements of CR cooling following NRC approval of TSTF-426, "Revise or Add Actions to preclude entry into LCO 3.0.3" and WCAP-16125, Rev. 0, "Justification for Risk Informed Modifications to Selected Tech Specs for Conditions Leading to Exigent Plant Shutdown." The TSTF and WCAP applied to CE plants but at time, it was believed the methodology and TS changes could be applied to a Westinghouse plant.

Planned LAR based on TSTF-426

TSTF-426 was approved by the NRC in May 2013. Recent discussions with the Duke Energy's PRA group, the McGuire NRC Project Manager at the time, and Brian Mann of Excel Services, revealed that an LAR based on TSTF-426 would not be in our best interest due to methodology differences (between CE and Westinghouse) and the NRC's concerns with LARs based on TSTF-426. Note the corresponding draft GE TSTF has been withdrawn and there is currently no plans to submit a Westinghouse version of TSTF-426 to the NRC. As a result, McGuire has investigated other approved TSTFs that could provide some flexibility for the CR cooling TS.

Potential use of TSTF-505

Technical Specification Initiative 4B, TSTF-505 , "Risk Informed Completion Times (RICT)" was approved for industry adoption by the NRC in 2012. NEI 06-09, "Risk Managed Tech Specs Guidelines," provides the technical justification requirements for adopting the TSTF. This TSTF could modify approximately 35 McGuire Tech Specs, including the CR cooling TS, by allowing the plant to extend an existing Completion Time for a one train inoperability by applying a pre-determined risk based justification.

NEI 06-09 also allows the application of a RICT to emergent conditions which represent a loss of a safety function or inoperability of all required trains of a TS system required to be operable provided one or more of the trains are considered "PRA functional" as defined NEI 06-09. As such, this allowance could provide short term relief when two trains of the CR cooling Tech Spec are technically inoperable.

Adopting this TSTF and corresponding NEI 06-09 requirements will take a significant amount of effort and resources and is a long term goal for the Duke Energy plants. But it cannot be adopted near term at Duke Energy due to PRA resources, costs, and competing priorities.

Potential use of GE TSTF-477

TSTF-477 Rev. 3, "Add Action for Two Inoperable Control Room AC Subsystems," was NRC approved for adoption in 2007. This BWROG (GE) specific TSTF allows for two trains of CR cooling to be inoperable for up to 72 hours as long as the CR area temperature can be maintained (and monitored) within a pre-determined limit, commonly 90 F.

The 72 hour Completion Time was deemed reasonable considering that CR temperature is being maintained within limits and the low probability of an event occurring that would require CR area isolation. Alternate methods of maintaining control room temperature, such as non-safety grade air conditioning systems or fans, can also be used to maintain control room temperature.

The TSTF appears to be deterministically justified and relies on safety related cabinet equipment qualification (EQ) temperature limits and CR heat-up assumptions. For the GE plants, a GE Topical Report supports the EQ justification. McGuire would re-confirm our CR safety related instrumentation and devices equipment qualification remains valid up to 90 F. Note the McGuire TS 3.7.10 currently contains a Surveillance Requirement (SR) that confirms the Control Room is 90 F or less every 12 hours.

As precedent, the TSTF references other GE Tech Specs that currently provide an Action with a finite time to restore one train to operable status when both trains are inoperable. McGuire also has two such Tech Specs; TS 3.3.3, "Post Accident Monitoring" (7 days) and TS 3.7.11, "Auxiliary Building Filtered Ventilation Exhaust System" (24 hours).

McGuire Engineering has a modification planned to add taps, valves and piping to the CR cooling water system to allow a new chiller to cool the CR only when needed for this new TS Action. This would be a safety to non-safety system interface manually aligned by Operations. This approach also conforms to the TSTF Technical Analysis section (4.0). Also, the McGuire CR cooling system is completely independent from CR pressurization and habitability function (TS 3.7.9).

McGuire Licensing has also thoroughly reviewed the 2011/2012 PSEG Hope Creek Generating Station LAR, RAIs, and NRC SE that adopted TSTF-477 Revision 3. Based on that review, McGuire did not identify an issue that could not be addressed at our plant and did not identify any GE/BWR specific requirements or conditions.

Summary

In summary, McGuire is proposing to submit a TS 3.7.10 LAR based on TSTF-477 to meet our 2010 NRC Commitment to avoid the need for future CR cooling NOEDs. Due to very similar designs and CR cooling issues, this LAR will likely be a two site LAR that will include the Catawba Nuclear Station corresponding TS.

3.7 PLANT SYSTEMS

3.7.10 Control Room Area Chilled Water System (CRACWS)

LCO 3.7.10 Two CRACWS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRACWS train inoperable.	A.1 Restore CRACWS train to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours
C. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS.	C.1 Place OPERABLE CRACWS train in operation. OR C.2.1 Suspend CORE ALTERATIONS. AND C.2.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two CRACWS trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS.	D.1 Suspend CORE ALTERATIONS. AND D.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately
E. Two CRACWS trains inoperable in MODE 1, 2, 3, or 4.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Verify the control room temperature is ≤ 90°F.	In accordance with the Surveillance Frequency Control Program

B 3.7 PLANT SYSTEMS

B 3.7.10 Control Room Area Chilled Water System (CRACWS)

BASES

BACKGROUND

The CRACWS provides temperature control for the control room following isolation of the control room.

The CRACWS consists of two independent and redundant trains that provide cooling of recirculated control room air. Each train consists of cooling coils, instrumentation, and controls to provide for control room temperature control. The CRACWS is a subsystem providing air temperature control for the control room.

The CRACWS is an emergency system, parts of which may also operate during normal unit operations. A single train will provide the required temperature control to maintain the control room at approximately 75°F. The CRACWS operation in maintaining the control room temperature is discussed in the UFSAR, Section 6.4 (Ref. 1).

There are components that are part of the CRACWS but do not affect the CRAVS. These components are associated with the Control Room Area Air Handling units, the Switchgear Air Handling units. LCO 3.7.10 does not apply if a CRAVS component does not directly impact the CRACWS.

APPLICABLE SAFETY ANALYSES

The design basis of the CRACWS is to maintain the control room temperature for 30 days of continuous occupancy.

The CRACWS components are arranged in redundant, safety related trains. During emergency operation, the CRACWS maintains the temperature between 75°F and 90°F. A single active failure of a component of the CRACWS, 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 CRACWS is designed in accordance with Seismic Category I requirements. The CRACWS 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 CRACWS satisfies Criterion 3 of 10 CFR 50.36 (Ref. 2).

BASES

LCO

Two independent and redundant trains of the CRACWS 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 CRACWS 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 cooling coils and associated temperature control instrumentation. In addition, the CRACWS must be operable to the extent that air circulation can be maintained.

The CRACWS is shared between the two units. The system must be OPERABLE for each unit when that unit is in the MODE of Applicability. Additionally, both normal and emergency power must also be OPERABLE because the system is shared. If a CRACWS component becomes inoperable, or normal or emergency power to a CRACWS component becomes inoperable, then the Required Actions of this LCO must be entered independently for each unit that is in the MODE of applicability of the LCO.

APPLICABILITY

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

ACTIONS

A.1

With one CRACWS train inoperable, action must be taken to restore OPERABLE status within 30 days. In this Condition, the remaining OPERABLE CRACWS train is adequate to maintain the control room temperature within limits. However, the overall reliability is reduced because a single failure in the OPERABLE CRACWS train could result in loss of CRACWS 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.

ACTIONS (continued)

B.1 and B.2

In MODE 1, 2, 3, or 4, if the inoperable CRACWS train cannot be restored to OPERABLE status within the required Completion Time, 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 36 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.

C.1, C.2.1, and C.2.2

In MODE 5 or 6, or during movement of irradiated fuel, or during CORE ALTERATIONS, if the inoperable CRACWS train cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CRACWS 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 to Required Action C.1 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.

D.1 and D.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS, with two CRACWS 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.

E.1

If both CRACWS trains are inoperable in MODE 1, 2, 3, or 4, the control room CRACWS may not be capable of performing its intended function. Therefore, LCO 3.0.3 must be entered immediately.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

This SR verifies that the heat removal capability of the system is sufficient to maintain the temperature in the control room at or below 90°F. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. UFSAR, Section 6.4.
2. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).

Technical Specification Task Force
Improved Standard Technical Specifications Change Traveler

Add Action for Two Inoperable Control Room AC Subsystems

NUREGs Affected: ☐ 1430 ☐ 1431 ☐ 1432 ☑ 1433 ☑ 1434

Classification: 1) Technical Change | Recommended for CLIIP?: Yes

Correction or Improvement: Improvement | NRC Fee Status: Not Exempt

Benefit: Provides Longer Completion Time

Industry Contact: John Messina, (330) 384-5878, jmessina@firstenergycorp.com

1.0 Description

The Actions of the [Control Room AC] System Technical Specification are revised to provide a new Action for both [control room AC] subsystems inoperable. The new Action allows a finite time to restore one [control room AC] subsystem to operable status and requires verification that control room temperature is maintained < [90] F once every 4 hours. The BWR/6 (NUREG-1434) Completion Time is 7 days. The BWR/4 (NUREG-1433) Completion Time is 72 hours.

2.0 Proposed Change

BWR/4 (NUREG-1433) Specification 3.7.5, [Control Room AC] System, and BWR/6 (NUREG-1434) Specification 3.7.4, [Control Room AC] System are revised to add a new Action B. Action B applies when two [control room AC] subsystems are inoperable. Required Action B.1 requires verification once per 4 hours that control room area temperature is < [90] F. Required Action B.2 requires restoration of one [control room AC] subsystem to operable status within 72 hours (7 days for BWR/6 plants).

Action B, now renamed Action C, which applies when the Required Action and associated Completion Time of Condition A (one [control room AC] subsystem inoperable) is not met in MODES 1, 2, or 3, is revised to also be applicable when the Required Actions and associated Completion Times of Condition B are not met. Renumbered Condition C requires being in Mode 3 in 12 hours and Mode 4 in 36 hours.

Action D, which applied when two [control room AC] subsystems are inoperable in MODE 1, 2, or 3, and requires entry into LCO 3.0.3, is deleted.

Action E, which applies when two [control room AC] subsystems are inoperable during movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs, is revised to be applicable when the Required Actions and associated Completion Times of Condition B are not met.

The Bases are revised to reflect the changes to the Specifications.

3.0 Background

The [Control Room AC] System provides temperature control for the control room following isolation of the control room. The [Control Room AC] System consists of two independent, redundant subsystems that provide cooling and heating of recirculated control room air. Each subsystem consists of heating coils, cooling coils, fans, chillers, compressors, ductwork, dampers, and instrumentation and controls to provide for control room temperature control.

The [Control Room AC] System is designed to provide a controlled environment under both normal and accident conditions. The design basis of the [Control Room AC] System is to maintain the control room temperature for a 30 day continuous occupancy. During emergency operation, the [Control Room AC] System maintains a habitable environment and ensures the OPERABILITY of components in the control room.

4.0 Technical Analysis

A recent survey of BWR plants determined that the Technical Specifications of all of the BWR/6 plants (Grand Gulf, River Bend, Clinton, and Perry) contain an Action for two [control room AC] subsystems inoperable that allows 7 days to restore an inoperable system and requires verification that the control room temperature is within a temperature limit every 4 hours. This action was added during conversion to the ITS. Therefore, the changes to the BWR/6 NUREG are considered administrative, intended to have the BWR/6 Standard Technical Specifications reflect the plant-specific specifications of all of the BWR/6 plants.

The BWR/6 plant's Actions are also applicable to the non-BWR/6 plants. There are no significant design or operational differences between the BWR/4 and BWR/6 [control room AC] systems. There are no differences in the BWR/4 or BWR/6 accident analysis assumptions regarding the [control room AC] system. Therefore, there should be no difference the in TS requirements for these systems.

With one [control room AC] subsystem inoperable, 30 days is provided to restore the inoperable subsystem. Technical Specifications with 30 day Completion Times for one inoperable train typically provide a finite time to restore one train when both trains are inoperable. Examples are:

- Post Accident Monitoring (7 days),
- Main Steam Isolation Valve (MSIV) Leakage Control System (LCS) (7 days),
- [Drywell Cooling System Fans] (7 days),
- Containment Atmosphere Dilution (CAD) System (7 days),
- Residual Heat Removal Service Water (RHRSW) System pumps (7 days), and
- [Plant Service Water (PSW)] System and [Ultimate Heat Sink (UHS)] (7 days).

The requirement to monitor control room temperature ensures the environment for the control room equipment is maintained with the design limits. Provided that temperature may be maintained within the design limits, 72 hours is allowed to restore one [control room AC] subsystem for the BWR/4 plants. The 72 hour Completion Time is reasonable considering that control room temperature is being maintained within limits and the low probability of an event occurring that would require control room isolation. The 72 hour Completion Time is more conservative than the approved Completion Times for the BWR/6 plants and more conservative than other similar Conditions in the ISTS. Alternate methods of maintaining control room temperature, such as non-safety grade air conditioning systems or fans, can also be used to maintain control room temperature.

Topical Report NEDC 31336 PA, "General Electric Instrument Setpoint Methodology," states that the error allowance for control room in-cabinet temperatures is 40-104 degrees F for BWR/6 plants and 40 to 156 degrees F for BWR/4 plants. The qualified life of the panel components (as an example, Rosemount 710 DU trip units) is dependent on the continuous ambient temperature at the installation site, from a maximum life of over 30 years for approximately 95 degree temperatures to just over two years for continuous ambient temperatures over 150 degrees. The temperature rise in closed control room trip panels is 14 to 18 degrees. With control room temperature controlled at less than 90 degrees, the maximum control room panel temperature would be less than the qualification temperature and would be within the temperature assumed in the setpoint accuracy calculations. This Traveler does not change the equipment qualification temperature in the control room. Therefore, the equipment enclosed in the cabinets is unaffected by this change.

5.0 Regulatory Analysis

5.1 No Significant Hazards Consideration

The TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change allows 72 hours to restore an inoperable [control room AC] subsystem when both subsystems are inoperable provided temperature is verified to be within the design limits every 4 hours. The [control room AC] system is not an initiator of any accident previously evaluated. As a result, the probability of any accident previously evaluated is not significantly increased. The consequences of any accident previously evaluated during the requested Completion Time are no different that that accident during the current Completion Time. As a result, the consequences of any accident previously evaluated are not significantly increased.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   No new or different accidents result from utilizing the proposed change. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. In addition, the changes do not impose any new or different requirements. The changes do not alter assumptions made in the safety analysis. The proposed changes are consistent with the safety analysis assumptions.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed change allows 72 hours to restore an inoperable [control room AC] subsystem when both subsystems are inoperable provided temperature is verified to be within the design limits every 4 hours. The requirement to monitor control room temperature ensures the environment for the control room equipment is maintained within the design limits. Provided that temperature may be maintained within the design limits, the 72 hour Completion Time to restore one [control room AC] subsystem will not cause a significant reduction in the margin of safety considering that control room temperature is being maintained within limits, the low probability of an event occurring that would require control room isolation, and the availability of alternate cooling methods.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

The operability requirements of the [control room AC] system have not changed. The regulatory requirements do not specifically address Completion Times with inoperable systems. As a result, the regulatory requirements and criteria are not affected by the proposed change.

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

6.0 Environmental Consideration

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 References

None

Revision History

OG Revision 0 Revision Status: Closed

Revision Proposed by: BWROG

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 10-May-04

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 10-May-04

TSTF Review Information

OG Revision 0 Revision Status: Closed

TSTF Received Date: 19-Jun-04 Date Distributed for Review 19-Jun-04

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 25-Aug-04

NRC Review Information

NRC Received Date: 30-Aug-04

NRC Comments:
NRC requested additional information to support the requested change in a teleconference. After further consideration, the requested BWR/4 Completion Time was changed to 72 hours.

Final Resolution: Superceded by Revision

TSTF Revision 1 Revision Status: Closed

Revision Proposed by: BWROG

Revision Description:
The BWR/4 Completion Time is revised from 7 days to 72 hours.

TSTF Review Information

TSTF Received Date: 22-Feb-06 Date Distributed for Review 22-Feb-06

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 30-Mar-06

NRC Review Information

NRC Received Date: 31-Mar-06

NRC Comments:
NRC requested additional justification regarding the in-cabinet temperatures in the control room.

Final Resolution: Superceded by Revision Final Resolution Date: 06-Jul-06

TSTF Revision 2 Revision Status: Closed

Revision Proposed by: NRC

Revision Description:
Added additional Technical Analysis regarding the in-cabinet temperatures in the control room.

TSTF Revision 2 Revision Status: Closed

TSTF Review Information

TSTF Received Date: 06-Jul-06 Date Distributed for Review 06-Jul-07

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 17-Jul-06

NRC Review Information

NRC Received Date: 18-Jul-06

NRC Comments:

At the 8/17/2006 TSTF/NRC meeting, the NRC requested that the TSTF confirm and add the following to the justification, "This Traveler does not change the equipment qualification temperature in the control room. Therefore, the equipment enclosed in the cabinets is unaffected by this change." The TSTF confirmed that the statement was accurate and added it to the justification.

Final Resolution: NRC Requests Changes: TSTF Will Revise Final Resolution Date: 17-Aug-06

TSTF Revision 3 Revision Status: Active

Revision Proposed by: NRC

Revision Description:

At the 8/17/2006 TSTF/NRC meeting, the NRC requested that the TSTF confirm and add the following to the justification, "This Traveler does not change the equipment qualification temperature in the control room. Therefore, the equipment enclosed in the cabinets is unaffected by this change." The TSTF confirmed that the statement was accurate and added it to the justification.

TSTF Review Information

TSTF Received Date: 23-Aug-06 Date Distributed for Review 23-Aug-06

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 08-Sep-06

NRC Review Information

NRC Received Date: 08-Sep-06

NRC Comments: Date of NRC Letter: 26-Mar-07

Notice for comment issued on 12/18/06.
Notice of availability issued on 3/26/07.

Final Resolution: NRC Approves Final Resolution Date: 26-Mar-07

Affected Technical Specifications

Action 3.7.5.B	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: Renumbered C	
Action 3.7.5.B	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: New Action	
Action 3.7.5.B Bases	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: New Action	
Action 3.7.5.B Bases	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: Renumbered C	
Action 3.7.5.C	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: Renumbered D	
Action 3.7.5.C Bases	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: Renumbered D	
Action 3.7.5.D	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: Action deleted	
Action 3.7.5.D Bases	[Control Room AC] System	NUREG(s)- 1433 Only
	Change Description: Action deleted	
Action 3.7.5.E	[Control Room AC] System	NUREG(s)- 1433 Only
Action 3.7.5.E Bases	[Control Room AC] System	NUREG(s)- 1433 Only
Action 3.7.4.B	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: Renumbered C	
Action 3.7.4.B	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: New Action	
Action 3.7.4.B Bases	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: New Action	
Action 3.7.4.B Bases	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: Renumbered C	
Action 3.7.4.C	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: Renumbered D	
Action 3.7.4.C Bases	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: Renumbered D	
Action 3.7.4.D	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: Action deleted	
Action 3.7.4.D Bases	[Control Room AC] System	NUREG(s)- 1434 Only
	Change Description: Action deleted	

Action 3.7.4.E	[Control Room AC] System	NUREG(s)- 1434 Only
Action 3.7.4.E Bases	[Control Room AC] System	NUREG(s)- 1434 Only

3.7 PLANT SYSTEMS

3.7.5 [Control Room Air Conditioning (AC)] System

LCO 3.7.5 Two [control room AC] subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of [recently] irradiated fuel assemblies in the [secondary] containment,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One [control room AC] subsystem inoperable.	A.1 Restore [control room AC] subsystem to OPERABLE status.	30 days
B. Two [control room AC] subsystems inoperable.	B.1 Verify control room area temperature < [90]°F. AND B.2 Restore one [control room AC] subsystem to OPERABLE status.	Once per 4 hours 72 hours
~~B~~C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	~~B~~C.1 Be in MODE 3. AND ~~B~~C.2 Be in MODE 4.	12 hours 36 hours
~~C~~D. Required Action and associated Completion Time of Condition A not met during movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- ~~C~~D.1 Place OPERABLE [control room AC] subsystem in operation.	 Immediately

CONDITION	REQUIRED ACTION	COMPLETION TIME
	OR	

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	~~C~~D.2.1 Suspend movement of [recently] irradiated fuel assemblies in the [secondary] containment. AND ~~C~~D.2.2 Initiate action to suspend OPDRVs.	Immediately Immediately
~~D. Two [control room AC] subsystems inoperable in MODE 1, 2, or 3.~~	~~D.1 Enter LCO 3.0.3.~~	~~Immediately~~
E. ~~Two [control room AC] subsystems inoperable~~Required Action and associated Completion Time of Condition B not met during movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- E.1 Suspend movement of [recently] irradiated fuel assemblies in the [secondary] containment. AND E.2 Initiate action to suspend OPDRVs.	 Immediately Immediately

BASES

ACTIONS (continued)

B.1 and B.2

If both [control room AC] subsystems are inoperable, the [Control Room AC] System may not be capable of performing its intended function. Therefore, the control room area temperature is required to be monitored to ensure that temperature is being maintained low enough that equipment in the control room is not adversely affected. With the control room temperature being maintained within the temperature limit, 72 hours is allowed to restore a [Control Room AC] subsystem to OPERABLE status. This Completion time is reasonable considering that the control room temperature is being maintained within limits and the low probability of an event occurring requiring control room isolation.

~~B~~C.1 and ~~B~~C.2

In MODE 1, 2, or 3, if the inoperable [control room AC] subsystem(s) cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 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.

~~C~~D.1, ~~C~~D.2.1, and ~~C~~D.2.2

The Required Actions of Condition ~~C~~D are modified by a Note indicating that LCO 3.0.3 does not apply. If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs, if Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE [control room AC] subsystem may be placed immediately in operation. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action ~~C~~D.1 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 risk.

If applicable, movement of [recently] irradiated fuel assemblies in the [secondary] containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

BASES

ACTIONS (continued)

~~D.1~~

~~If both [control room AC] subsystems are inoperable in MODE 1, 2, or 3, the [Control Room AC] System may not be capable of performing the intended function. Therefore, LCO 3.0.3 must be entered immediately.~~

E.1 and E.2

The Required Actions of Condition E are modified by a Note indicating that LCO 3.0.3 does not apply. If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not a sufficient reason to require a reactor shutdown.

During movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs, ~~with two [control room AC] subsystems inoperable~~if Required Actions B.1 and B.2 cannot be met within the required Completion Times, action must be taken **to** immediately ~~to~~ 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 risk.

If applicable, handling of [recently] irradiated fuel in the [secondary] containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1

This SR verifies that the heat removal capability of the system is sufficient to remove the control room heat load assumed in the [safety analyses]. The SR consists of a combination of testing and calculation. The [18] month Frequency is appropriate since significant degradation of the [Control Room AC] System is not expected over this time period.

REFERENCES

1. FSAR, Section [6.4].

3.7 PLANT SYSTEMS

3.7.4 [Control Room Air Conditioning (AC)] System

LCO 3.7.4 Two [control room AC] subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment],
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One [control room AC] subsystem inoperable.	A.1 Restore [control room AC] subsystem to OPERABLE status.	30 days
B. Two [control room AC] subsystems inoperable.	B.1 Verify control room area temperature < [90]°F. AND B.2 Restore one [control room AC] subsystem to OPERABLE status.	Once per 4 hours 7 days
~~B~~C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	~~B~~C.1 Be in MODE 3. AND ~~B~~C.2 Be in MODE 4.	12 hours 36 hours
~~C~~D. Required Action and associated Completion Time of Condition A not met during movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- ~~C~~D.1 Place OPERABLE [control room AC] subsystem in operation.	 Immediately

CONDITION	REQUIRED ACTION	COMPLETION TIME
OPDRVs.	OR	

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	~~C~~D.2.1 Suspend movement of [recently] irradiated fuel assemblies in the [primary and secondary containment]. AND ~~C~~D.2.2 Initiate action to suspend OPDRVs.	Immediately Immediately
~~D. Two [control room AC] subsystems inoperable in MODE 1, 2, or 3.~~	~~D.1 Enter LCO 3.0.3.~~	~~Immediately~~
E. ~~Two [control room AC] subsystems inoperable~~Required Action and associated Completion Time of Condition B not met during movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- E.1 Suspend movement of [recently] irradiated fuel assemblies in the [primary and secondary containment]. AND E.2 Initiate action to suspend OPDRVs.	 Immediately Immediately

BASES

ACTIONS (continued)

B.1 and B.2

If both [control room AC] subsystems are inoperable, the [Control Room AC] System may not be capable of performing its intended function. Therefore, the control room area temperature is required to be monitored to ensure that temperature is being maintained low enough that equipment in the control room is not adversely affected. With the control room temperature being maintained within the temperature limit, 7 days is allowed to restore a [Control Room AC] subsystem to OPERABLE status. This Completion time is reasonable considering that the control room temperature is being maintained within limits and the low probability of an event occurring requiring control room isolation.

~~B~~C.1 and ~~B~~C.2

In MODE 1, 2, or 3, if the inoperable [control room AC] subsystem(s) cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 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.

~~C~~D.1, ~~C~~D.2.1, and ~~C~~D.2.2

The Required Actions of Condition ~~C~~ D are modified by a Note indicating that LCO 3.0.3 does not apply.

If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs, if Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE [control room AC] subsystem may be placed immediately in operation. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action ~~C~~D.1 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 risk.

If applicable, movement of [recently] irradiated fuel assemblies in the [primary and secondary containment] must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

BASES

ACTIONS (continued)

~~D.1~~

~~If both [control room AC] subsystems are inoperable in MODE 1, 2, or 3, the [Control Room AC] System may not be capable of performing the intended function. Therefore, LCO 3.0.3 must be entered immediately.~~

E.1 and E.2

The Required Actions of Condition E.1 are modified by a Note indicating that LCO 3.0.3 does not apply. If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs ~~with two [control room AC] subsystems inoperable~~if Required Actions B.1 and B.2 cannot be met within the required Completion Times, action must be taken 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 risk.

If applicable, handling of [recently] irradiated fuel in the [primary or secondary containment] must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

This SR verifies that the heat removal capability of the system is sufficient to remove the control room heat load assumed in the [safety analyses]. The SR consists of a combination of testing and calculation. The [18] month Frequency is appropriate since significant degradation of the [Control Room AC] System is not expected over this time period.

REFERENCES

1. FSAR, Section [6.4].
2. FSAR, Section [9.4.1].