

L. M. Stinson (Mike)
Vice President
Fleet Operations Support

**Southern Nuclear
Operating Company, Inc.**
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201

Tel 205.992.5181
Fax 205.992.0341



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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

**Joseph M. Farley Nuclear Plant – Units 1 and 2
Technical Specifications Amendment Request
Engineered Safety Feature Room Coolers**

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) is proposing a change to the Joseph M. Farley Nuclear Plant (FNP) Unit 1 and Unit 2 Technical Specifications (TS). This amendment request is for a new TS to address the operation of Engineered Safety Feature (ESF) Room Coolers required to support ESF TS equipment. This amendment includes surveillance requirements and will establish a Completion Time of 72 hours to allow adequate time to complete maintenance activities on the ESF Room Coolers and thus reduce the need for unnecessary plant shutdowns. An additional minor editorial change is also made in the TS table of contents.

Enclosure 1 provides the basis for the proposed changes, an evaluation determining that the proposed changes involve no significant hazards consideration as defined in 10 CFR 50.92 and an evaluation that determines that these changes satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment. Marked-up TS and TS Bases pages are provided in Enclosure 2, and clean typed pages are provided in Enclosure 3.

SNC requests approval of the proposed license amendments by June 1, 2008. The proposed changes would be implemented within 60 days of issuance of the amendment.

(Affirmation and signature are provided on the following page.)

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Mr. L. M. Stinson, states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

This letter contains no NRC commitments. If you have any questions, please advise.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



L. M. Stinson
Vice President Fleet Operations Support

Sworn to and subscribed before me this 5th day of June, 2007.


Notary Public

My commission expires: July 5, 2010

LMS/CHM

Enclosures: 1. Basis for Proposed Changes
2. Technical Specifications and Bases Marked-up Pages
3. Technical Specifications and Bases Clean Typed Pages

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. J. R. Johnson, Vice President - Farley
Mr. D. H. Jones, Vice President – Engineering
RTYPE: CFA04.054; LC# 14342

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Ms. K. R. Cotton, NRR Project Manager – Farley
Mr. E. L. Crowe, Senior Resident Inspector – Farley

Alabama Department of Public Health
Dr. D. E. Williamson, State Health Officer

**Joseph M. Farley Nuclear Plant – Units 1 and 2
Technical Specifications Amendment Request
Engineered Safety Feature Room Coolers**

Enclosure 1

Basis for Proposed Changes

**Joseph M. Farley Nuclear Plant – Units 1 and 2
Technical Specifications Amendment Request
Engineered Safety Feature Room Coolers**

Enclosure 1

Basis for Proposed Changes

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1.0 Summary Description

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) is proposing a change to the Joseph M. Farley Nuclear Plant (FNP) Unit 1 and Unit 2 Technical Specifications (TS). This amendment request is for a new TS to address the operation of Engineered Safety Feature (ESF) Room Coolers required to support ESF TS equipment. This amendment includes surveillance requirements and will establish a Completion Time of 72 hours to allow adequate time to complete maintenance activities on the ESF Room Coolers and thus reduce the need for unnecessary plant shutdowns.

This Completion Time is consistent with other ESF mechanical system Completion Time and also with similar previously approved room cooler LCO's.

A minor editorial change has been made on the TS Table of Contents page iii. The change affects the format of the title for TS 3.7.3 to allow the title to be placed on just two lines. This allowed the insertion of the new TS 3.7.19 without having information roll to additional pages. This change is strictly editorial and has no affect on the technical aspect of the new TS 3.7.19.

2.0 Detailed Description

Room cooling for Technical Specifications (TS) ESF equipment is provided by the ESF Room Coolers. The Room Coolers are divided into subsystems and each subsystem has two 100 % capacity trains. The ESF Room Cooler subsystems are:

- Motor Driven Auxiliary Feedwater (MDAFW) Pump Rooms
- Charging Pump Rooms
- Containment Spray (CS) Pump Rooms
- Residual Heat Removal (RHR) Pump Rooms
- Component Cooling Water (CCW) Pumps Room
- Auxiliary Building DC Switchgear / Battery Charger Rooms
- Load Control Center (LCC) Rooms (LCC D and E Rooms)

The ESF Room Coolers are considered support equipment for ESF equipment in these rooms with the exception of the CCW Pumps Room (see discussion in section 3.1.2 of this enclosure).

Each ESF Room Cooler subsystem consists of two 100 % capacity trains which include cooling coils, electric fans, piping, manual valves, and instrumentation. The ESF Room Coolers provide cooling to ESF equipment rooms during accident, and post accident conditions. The ESF Room Coolers supplement the normal Heating / Ventilation and Air Conditioning (HVAC) system in cooling certain rooms during normal operations. The Service Water system supplies water to the cooling coils for ESF Room Coolers.

The ESF Room Coolers are designed to maintain the ambient air temperature within the continuous-duty rating of the ESF equipment served by the system. Each equipment room is cooled by a fan cooler that is powered from the same ESF train as that associated with the equipment in the room. Thus, a power failure or other single failure to one cooling system train will not prevent the cooling of redundant ESF equipment in the other train. In addition to a manual start / run capability, automatic cooling of ESF equipment rooms is initiated by two possible signals: high room temperature or an equipment running signal, depending on the Room Cooler. The ESF Room Coolers are seismic category I and remain operational during and after a safe shutdown earthquake

SNC proposes to add a new TS to address ESF Room Coolers. The TS will address the operability of the ESF Room Coolers when associated ESF equipment is required to be operable. This new TS will establish a Completion Time of 72 hours to allow adequate time to complete maintenance activities on the ESF Room Coolers along with associated surveillances.

Additionally a minor editorial change has been made on the TS Table of Contents page iii. The change affects the format of the title for TS 3.7.3 to allow the title to be placed on just two lines. This allowed the insertion of the new TS 3.7.19 without having information roll to additional pages. This change is strictly editorial and has no affect on the technical aspect of the new TS 3.7.19.

3.0 Technical Evaluation

3.1 Deterministic Justification

Analyses were performed to determine how room temperature was affected during a design bases accident (DBA) event. The DBA heat loads and service water temperature were used and the resulting room temperatures were compared against the continuous-duty rating of the ESF TS equipment in the rooms. The analyses showed that the Room Cooler arrangement at FNP is effective in mitigating the consequences of the DBA.

The proposed FNP TS requires an ESF Room Cooler to be operable when associated ESF equipment is required to be operable. With the condition of one required ESF Room Cooler subsystem train inoperable, the required action is to restore the Room Cooler subsystem train to operable status within 72 hours.

The major maintenance activities that require a significant amount of time are repair or replacement of the fan motor or cooling coils. This is based on the time required to access the Room Cooler motor, remove the motor from the cooler housing, order and receive replacement parts, repair the motor, install the motor back in the cooler housing, and test the cooler. Access to these Room Coolers is limited and requires significant rigging to

remove and install the housing and motor. Similarly, repair or replacement of the cooler coil is also limited by available space and rigging requirements. Based on the history of maintenance activities that have been required on the plant Room Coolers, a Completion Time of 72 hours is reasonable and will allow maintenance activities to be completed without requiring unnecessary plant transients. In addition, the Completion Time is consistent with other ESF mechanical system Completion Times and also with similar previously approved Room Cooler LCO's.

Following is a discussion on the operability requirements for each ESF Room Cooler subsystem:

3.1.1 MDAFW, Charging, CS and RHR Pump Rooms Subsystems

In accordance with FNP TS, when both trains of these ESF pumps are required to be operable, a single train of each ESF pump system is allowed to be out of service for up to 72 hours before shutdown actions are required. This Completion Time is consistent with the Completion Time in this TS for ESF Room Coolers and will allow sufficient time for maintenance or repair activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train ESF Pump and Room Cooler are available to support the ESF equipment for mitigation of the accident.

3.1.2 CCW Pumps Room Subsystem

Calculations show that with the safety-related Room Coolers out of service under accident conditions, temperature of the CCW pumps room will not exceed the continuous-duty rating of the ESF TS equipment in the room. Thus the associated safety-related Room Coolers are not considered support equipment for the ESF TS equipment in this room and as such, are not required for the ESF TS equipment in the room to remain operable. Therefore, other than for pressure boundary integrity, the safety-related Room Coolers for the CCW Pumps Room are not considered a required ESF Room Cooler subsystem.

3.1.3 Auxiliary Building DC Switchgear / Battery Charger Rooms Subsystem

FNP has three Room Coolers and three battery chargers servicing two trains of Auxiliary Building DC Switchgear / Battery Charger. Analysis has determined that aligning the swing battery charger and Room Cooler power supply, cooling water supply and fan discharge (by opening the room door), to the switchgear train room with an inoperable Room Cooler will provide adequate cooling to the switchgear / battery charger room. During the times when two trains of Auxiliary Building DC Switchgear / Battery Charger are required,

only two of three Room Coolers are required with one Room Cooler aligned to each train room.

The current FNP TS for electrical distribution systems provides a Completion Time of 2 hours for the Auxiliary Building DC electrical power distribution subsystem. This does not allow sufficient time to complete required maintenance or repairs on the Room Coolers. The addition of this ESF Room Cooler TS will provide a 72 hour Completion Time to perform the required Room Cooler maintenance or align the swing Auxiliary Building DC Switchgear / Battery Charger Room Cooler to the affected train and is consistent with other mechanical ESF system Completion Times.

This 72 hour Completion Time allows sufficient time for maintenance activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train Auxiliary Building DC Switchgear / Battery Charger and Room Cooler is available to support the ESF equipment to mitigate the accident.

3.1.4 Load Control Center (LCC) Rooms (LCC D and E) Subsystem

The current FNP TS for electrical distribution systems provides a Completion Time of 8 hours for the Auxiliary Building AC electrical power distribution subsystem. This does not allow sufficient time to complete required maintenance or repairs on the Room Coolers. The addition of this ESF Room Cooler TS will provide a 72 hour Completion Time to perform the required Room Cooler maintenance and is consistent with other mechanical ESF system Completion Times.

This 72 hour Completion Time will allow sufficient time for maintenance or repair activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train of Auxiliary Building AC electrical power distribution subsystem and Room Cooler is available to support the ESF equipment to mitigate the accident.

3.2 Evaluation of Environmental Qualifications

In accordance with 10 CFR 50.49, each of the listed ESF equipment rooms are considered a mild environment with the exception of the Charging Pump Rooms, Containment Spray Pump Rooms, and Residual Heat Removal Pump Rooms. Each room is accessible during normal operations for completion of any required maintenance. The non-mild environment rooms would have limited access during the low probability LOCA event.

The ESF Room Cooler fan motors located in the Charging Pump Rooms, Containment Spray Pump Rooms, and Residual Heat Removal Pump Rooms, are within the scope of the FNP Environmental Qualification Program thus giving additional assurance that they will perform as designed.

3.3 Limiting Condition for Operation and Applicability

When associated ESF equipment is required to be operable, the ESF Room Cooler is required to be operable to ensure that the system functions to remove heat from the ESF equipment rooms. An ESF Room Cooler is considered operable when the cooling coils, electrical fans, piping, manual valves, instrumentation and cooling water supply required to perform the safety-related function are operable.

The major maintenance activities that require a significant amount of time are repair or replacement of the fan motor or cooling coils. This is based on the time required to access the Room Cooler motor, remove the motor from the cooler housing, order and receive replacement parts, repair the motor, install the motor back in the cooler housing, and test the cooler. Access to these Room Coolers is limited and requires significant rigging to remove and install the housing and motor. Similarly, repair or replacement of the cooler coil is also limited by available space and rigging requirements. Based on the history of maintenance activities that have been required on the plant Room Coolers, a Completion Time of 72 hours is reasonable and will allow maintenance activities to be completed without requiring unnecessary plant transients.

3.4 Condition for Entering Action Statements

The actions table is modified by a Note indicating that separate Condition entry is allowed for each ESF Room Cooler subsystem. This is acceptable since each ESF Room Cooler subsystem supports a separate ESF system. Having separate condition entry is consistent with the TS governing the associated supported ESF equipment, which allow concurrent inoperabilities of the separate ESF systems.

Condition A is entered if one train of a required ESF Room Cooler subsystem is inoperable. Action must be taken to restore the subsystem train to operable status within 72 hours. In this Condition, the remaining operable ESF Room Cooler subsystem train is adequate to perform the heat removal function for its associated ESF equipment.

Condition B is entered if the ESF Room Cooler subsystem train cannot be restored to operable status within the 72 hours or if two trains of the same ESF Room Cooler subsystem are inoperable. This condition would require the unit to be placed in a Mode in which the LCO does not apply. To achieve this, the unit must be placed in at least Mode 3 within 6 hours and 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.

3.5 Surveillance Requirements

New Surveillance Requirement (SR) 3.7.19.1 verifies the correct alignment for manual valves servicing safety-related Room Coolers and provides assurance that the proper flow paths exist for ESF Room Cooler operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve position.

New SR 3.7.19.2 verifies the proper actuation of the ESF Room Coolers on an actual or simulated actuation signal. Depending on the room cooler, this may be manual, high room temperature, an equipment running signal, or some combination. This is performed on an 18 month basis which is consistent with the current fuel cycle for FNP. Industry operating experience has shown that these components consistently pass the surveillance when performed at the 18 month frequency. Therefore, the 18 month frequency is acceptable from a reliability standpoint.

3.6 TS Safety Function Determination Program

These proposed TS are consistent with the Limiting Condition for Operation (LCO) 3.0.6 for the treatment of support systems in that a supported system is not declared inoperable solely due to a support system being inoperable. This is supported by TS 5.5.15 "Safety Function Determination Program (SFDP)."

The Safety Function Determination Program is invoked by LCO 3.0.6 and TS 5.5.15. LCO 3.0.6 states that, "when a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered." However, additional evaluations and limitations may be required in accordance with Specification 5.5.15. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

According to Specification 5.5.15, the SFDP shall contain the following:

- a. Provisions for cross train checks to ensure a loss of the capability to perform the safety function assumed in the accident analysis does not go undetected;

- b. Provisions for ensuring the plant is maintained in a safe condition if a loss of function condition exists;
- c. Provisions to ensure that an inoperable supported system's Completion Time is not inappropriately extended as a result of multiple support system inoperabilities; and
- d. Other appropriate limitations and remedial or compensatory actions.

A loss of safety function exists when; assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed. For the purpose of this program, a loss of safety function may exist when a support system is inoperable, and:

- a. A required system redundant to the system(s) supported by the inoperable support system is also inoperable; or
- b. A required system redundant to the system(s) in turn supported by the inoperable supported system is also inoperable; or
- c. A required system redundant to the support system(s) for the supported systems (a) and (b) above is also inoperable.

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

For example, LCC D contains the motor breakers for the A-Train containment spray (CS) pump. Consider the case where the unit is in Mode 1 which requires two Trains of CS to meet LCO 3.6.6, "Containment Spray and Containment Cooling." If LCC D Room Cooler becomes inoperable, the new LCO for Room Coolers will be entered with a 72 hour Completion Time. Subsequently, 24 hours later, the B-Train CS Pump is declared inoperable due to an oil leak. The SFDP would identify that condition as a potential loss of safety function and the required actions of TS 3.6.6, Condition F, "Two containment spray trains inoperable..." would be entered thus requiring the immediate entry into LCO 3.0.3.

3.7 Risk Insight

This TS change is consistent with the currently approved staff position for Palo Verde (Combustion Engineering Standard TS) and Vogtle. Therefore, per RG 1.174 the submittal of risk information is not required.

A risk insight discussion on each of the ESF Room Coolers is provided below to show how the Room Coolers are addressed in the FNP Probability Risk Assessment (PRA) model.

3.7.1 MDAFW, Charging, CS and RHR Pump Rooms Subsystems

The associated safety-related Room Coolers are considered support equipment for each pump and as such, must be functional to meet the operability requirements of the ESF pump. Therefore, the ESF Room Coolers for these pump rooms are included in the current FNP PRA model with a Completion Time of 72 hours. This is consistent with the proposed TS. No PRA modeling changes are required.

3.7.2 CCW Pumps Room Subsystem

Evaluations have determined that the functional limit for the equipment located in these rooms is not exceeded in the mission time of the PRA model. Therefore, the ESF Room Coolers for the CCW Pumps Room are not part of the FNP PRA model. No PRA modeling changes are required.

3.7.3 Auxiliary Building DC Switchgear / Battery Charger Rooms Subsystem

Evaluations have determined that the functional limit for the equipment located in these rooms is not exceeded in the mission time of the PRA model. Therefore, the ESF Room Coolers for the Auxiliary Building DC Switchgear / Battery Charger Rooms are not part of the FNP PRA model. No PRA modeling changes are required.

3.7.4 Load Control Center (LCC) D and E Rooms Subsystem

Evaluations have determined that the functional limit for the equipment located in these rooms is not exceeded in the mission time of the PRA model. Therefore, the ESF Room Coolers for the LCC D and E Rooms are not part of the FNP PRA model. No PRA modeling changes are required.

3.7.5 Risk Insight Conclusion

Implementation of the proposed TS does not require any changes to the current FNP PRA Model. As described above, the risk impact of the proposed change has been evaluated and it has been determined that the overall risk is not impacted.

There are risks associated with manually shutting down the unit from a stable condition, including the risk during the power and Mode transition periods, and the risk while shutdown. NUREG-1024, "Technical Specifications - Enhancing the Safety Impact," states:

Allowable outage times that are too short will subject the plant to unnecessary trips, transients, and fatigue cycling.

The proposed Completion Time for ESF Room Coolers provides the additional safety benefit of averting the transitional risk associated with shutting down the unit. Therefore, it is judged that the relative safety significance of the proposed Completion Time is low and the potential consequences of the request are preferable to the potential consequences associated with transitioning to and maintaining the units shutdown and their eventual transition back to full power operation.

4.0 Regulatory Analysis

4.1 Significant Hazards Consideration

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) is proposing a change to the Joseph M. Farley Nuclear Plant (FNP) Unit 1 and Unit 2 Technical Specifications (TS). This amendment request is for a new TS to address the operation of Engineered Safety Feature (ESF) Room Coolers required to support ESF TS equipment. This amendment includes surveillance requirements and will establish a Completion Time of 72 hours to allow adequate time to complete maintenance activities on the ESF Room Coolers and thus reduce the need for unnecessary plant shutdowns. This Completion Time is consistent with other ESF mechanical system Completion Times.

Additionally a minor editorial change has been made on the TS Table of Contents page iii. The change affects the format of the title for TS 3.7.3 to allow the title to be placed on just two lines. This allowed the insertion of the new TS 3.7.19 without having information roll to additional pages. This change is strictly editorial and has no affect on the technical aspect of the new TS 3.7.19.

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed 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 addition of Technical Specification (TS) 3.7.19 creates a Limiting Condition for Operation (LCO) for the Engineering Safety Feature (ESF) Room Coolers required to support ESF TS equipment. The Completion Time presented in the new TS is consistent with other ESF mechanical system Completion Times and is supported by the inputs used in the current analysis. The possibility of a loss of off site power (LOSP) is actually reduced by continuing power operation of the Unit. The radiological consequences of any associated accidents are not impacted by the proposed amendment.

Therefore, it is concluded that this change does not significantly increase 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

The proposed change does not involve a change in the methods governing normal operation of the plant. No new accident scenarios, failure mechanisms or limiting single failures are introduced as result of the proposed change. The change has no adverse effects on any safety-related system.

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 does not impact accident offsite dose, containment pressure or temperature, emergency core cooling system (ECCS) or reactor protection system (RPS) settings or any other parameter that could affect a margin of safety.

Therefore, it is concluded that this change does not involve a significant reduction in a margin of safety.

Based on the preceding analysis, it is concluded that operation of the Farley Nuclear Plant in accordance with the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

4.2 Applicable Regulatory Requirements / Criteria

The following lists the regulatory requirements and plant-specific design bases related to the proposed addition of TS 3.7.19

4.2.1 Regulatory Requirements

- The regulatory basis for TS 3.7.19, "ESF Room Coolers," is to maintain air temperatures as required in rooms containing safety-related equipment during and after a design basis loss of coolant accident (LOCA) with a loss of offsite power.

- General Design Criteria (GDC) 4: Environmental and dynamic effects design bases. Structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. These structures, systems, and components shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit. However, dynamic effects associated with postulated pipe ruptures in nuclear power units may be excluded from the design basis when analyses reviewed and approved by the Commission demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for the piping.

4.2.2 Regulatory Guidance

- FSAR 9.4.2, Auxiliary Building Ventilation System, Components of the battery charger room, ECCS pump room, and 600-V load center D and E Room Coolers are designed to meet Seismic Category I requirements. Power supplies and cooling water supplies to these units are arranged in a manner that will satisfy the single failure criterion.
- The Room Coolers for the Engineered Safety Feature (ESF) pump rooms (except CCW), the Auxiliary Building DC Switchgear / Battery Charger rooms, and Load Control Center (LCC) Rooms (LCC D and E) are considered support equipment and provide cooling to the ESF equipment located in these rooms. Equipment cooled by these Room Coolers is included in the Technical Specifications. Acceptability of the design of these Room Coolers is based on the ability to maintain the ambient air temperature at or below the continuous-duty rating of the ESF equipment in the room. A single failure to one cooling system train will not prevent the cooling of the redundant ESF equipment in the opposite train. The ESF Room Coolers are seismic category I and remain operational during and after a safe shutdown earthquake.

4.3 Precedent

4.3.1 Comparison to Previously Approved NRC Staff Positions

The proposed TS is consistent with the approved staff position as shown in the current TS for Vogtle Electric Generating Plant, (TS 3.7.14 "Engineered Safety Feature (ESF) Room Cooler and Safety Related Chiller System,") and Palo Verde Nuclear Generating Station (TS 3.7.10 "Essential Chilled Water (EC) System") which contain a 72 hour Completion Time for inoperable Room Coolers.

Provided below is a comparison between the FNP ESF Room Coolers and the ESF cooling systems described in the TS for Vogtle Electric Generating Plant and Palo Verde Nuclear Generating Station. This comparison demonstrates that the proposed amendment is consistent with currently approved staff positions.

4.3.2 Comparison with Vogtle Electric Generating Plant (VEGP)

VEGP TS 3.7.14 "Engineering Safety Feature (ESF) Room Cooler and Safety Related Chiller System," serves the same purpose as the new FNP TS.

The VEGP ESF Room Cooler and safety-related chiller system provides cooling to ESF equipment rooms during accident, and post accident conditions. The ESF Room Coolers supplement the normal HVAC system in cooling certain rooms during normal operations. The essential chilled water system supplies chilled water to the cooling coils for ESF Room Coolers and the Control Room Emergency Filtration System (CREFS).

The FNP ESF Room Coolers provide cooling to ESF equipment rooms during accident, and post accident conditions. The ESF Room Coolers supplement the normal HVAC system in cooling certain rooms during normal operations. The safety-related Service Water system supplies water to the cooling coils for ESF Room Coolers.

The VEGP ESF Room Coolers are designed to maintain the ambient air temperature within the continuous-duty rating of the ESF equipment served by the system. Each equipment room is cooled by a fan cooler and associated chiller that are powered from the same ESF train as that associated with the equipment in the room. Thus, a power failure or other single failure to one cooling system train will not prevent the cooling of redundant ESF equipment in the other train.

The FNP ESF Room Coolers are designed to maintain the ambient air temperature within the continuous-duty rating of the ESF equipment served by the system. Each equipment room is cooled by a fan cooler and associated Service Water system which is powered from the same ESF train as that associated with the equipment in the room. Thus, a power failure or other single failure to one Room Cooler train will not prevent the cooling of redundant ESF equipment in the other train.

For the VEGP ESF Room Coolers, in addition to a manual start capability, automatic cooling of each ESF equipment room is initiated by three possible signals. All Room Coolers start upon receipt of a high temperature signal from the associated room. Certain Room Coolers will start upon receipt of an equipment running signal or a safety injection (SI) signal. The equipment running signal is used to

provide supplemental cooling for the normal ventilation system in some ESF equipment rooms. The high room temperature signal supplements the normal cooling system function and does not constitute a credited safety function. The SI signal or the equipment running signal is the credited safety function automatic start and will start only those ESF Room Coolers which are required to operate during an SI. In addition, the containment spray pump Room Coolers start when the containment spray pumps start.

For the FNP ESF Room Coolers, in addition to a manual start capability, automatic cooling of each ESF equipment room is initiated by one of two possible signals. Room coolers for the Auxiliary Building DC Switchgear / Battery Charger Rooms, and Load Control Center D and E rooms, start upon receipt of a high temperature signal from the associated room. Room coolers for each ESF pump room start upon receipt of a pump running signal. These two signals ensure that safety-related cooling is provided to ESF equipment.

The VEGP ESF Room Cooler and safety-related chiller system is seismic category I and remains operational during and after a safe shutdown earthquake.

The FNP ESF Room Cooler system is seismic category I and remains operational during and after a safe shutdown earthquake.

Thus the FNP ESF Room Cooler system design and licensing basis is consistent with the VEGP ESF Room Cooler and Safety Related Chiller System design and licensing basis.

4.3.3 Comparison with Palo Verde Nuclear Generating Station (PVNGS)

PVNGS TS 3.7.10 "Essential Chilled Water (EC) System," serves the same purpose as the new FNP TS.

The PVNGS Essential Chilled Water System provides a heat transfer system to the ultimate heat sink for the removal of process and operating heat from selected safety-related air handling systems during a Design Basis Accident (DBA) or transient.

The FNP ESF Room Coolers provide cooling to ESF equipment rooms during accident, and post accident conditions. The ESF Room Coolers supplement the normal HVAC system in cooling certain rooms during normal operations. The safety-related Service Water system supplies water to the cooling coils for ESF Room Coolers.

The PVNGS Essential Chilled Water System is a closed loop system consisting of two independent trains. Each 100% capacity train includes a heat exchanger, surge tank, pump, chemical addition tank, piping, valves, controls, and instrumentation. An independent 100% capacity chilled water refrigeration unit cools each train.

The FNP ESF Room Cooler systems consist of two 100 % capacity trains which include cooling coils, electric fans, piping, manual valves, and instrumentation. The Service Water system supplies water to the cooling coils for ESF Room Coolers.

The PVNGS Essential Chilled Water System is actuated on receipt of an Engineered Safety Feature Actuation System (ESFAS) signal and supplies chilled water to the Heating, Ventilation, and Air Conditioning (HVAC) units in Engineered Safety Feature equipment areas (e.g., the main control room, DC equipment room, AFW pump rooms, EW pump rooms and safety injection pump rooms). The flow path for the EC System includes the closed loop of piping to serviced equipment.

For the FNP ESF Room Coolers, in addition to a manual start capability, automatic cooling of each ESF equipment room is initiated by one of two possible signals. Room coolers for the Auxiliary Building DC Switchgear / Battery Charger Rooms, and Load Control Center D and E rooms, start upon receipt of a high temperature signal from the associated room. Room coolers for each ESF pump room start upon receipt of a pump running signal. The cooling water for each cooler is provided on a continuous basis by the once thru safety-related Service Water system.

The PVNGS design basis of the EC System is to remove the post accident heat load from ESF spaces following a DBA coincident with a loss of offsite power. Each train provides chilled water to the HVAC units.

The FNP design basis of the ESF Room Coolers is to remove the post accident heat load from ESF spaces following a DBA coincident with a loss of offsite power. Each Room Cooler is provided cooling water by the train dependent safety-related Service Water System.

Thus the FNP ESF Room Cooler system design and licensing basis is consistent with and meets the purpose of the PVNGS Essential Chilled Water (EC) System design and licensing basis.

4.3.4 Conclusion of Comparison with VEGP and PVNGS

The above comparison with VEGP and PVNGS Technical Specifications for providing cooling water to the ESF Room Coolers demonstrates that the TS FNP is proposing are consistent with the approved staff position.

5.0 Environmental Consideration

SNC has reviewed the proposed change pursuant to 10 CFR 50.92 and determined that it does not involve a significant hazards consideration. In addition, there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite and there is no significant increase in individual or cumulative occupational radiation exposure. Consequently, the proposed TS change has no significant effect on the human environment and satisfies the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment.

6.0 References

1. Vogtle Electric Generating Plant, TS 3.7.14 "Engineering Safety Feature (ESF) Room Cooler and Safety Related Chiller System,"
2. Palo Verde Nuclear Generating Station TS 3.7.10 "Essential Chilled Water (EC) System"
3. NUREG-1024, "Technical Specifications - Enhancing the Safety Impact"

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Enclosure 2

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3.7 PLANT SYSTEMS

3.7.19 Engineered Safety Feature (ESF) Room Coolers

LCO 3.7.19 ESF Room Coolers shall be OPERABLE.

APPLICABILITY: When associated ESF equipment is required to be OPERABLE.

ACTIONS

----- NOTE -----
 Separate Condition entry is allowed for each ESF Room Cooler subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required ESF Room Cooler subsystem Train inoperable.	A.1 Restore the affected ESF Room Cooler subsystem Train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Two trains of the same ESF Room Cooler subsystem inoperable.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.19.1	Verify each ESF Room Cooler system manual valve servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.19.2	Verify each ESF Room Cooler fan starts automatically on an actual or simulated actuation signal.	18 months

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B 3.7 PLANT SYSTEMS

B 3.7.19 Engineered Safety Feature (ESF) Room Coolers

BASES

BACKGROUND

Room cooling for Technical Specifications (TS) ESF equipment is provided by the ESF Room Coolers. The Room Coolers are divided into subsystems and each subsystem has two 100 % capacity trains. The ESF Room Cooler subsystems are:

- Motor Driven Auxiliary Feedwater (MDAFW) Pump Rooms
- Charging Pump Rooms
- Containment Spray (CS) Pump Rooms
- Residual Heat Removal (RHR) Pump Rooms
- Component Cooling Water (CCW) Pumps Room
- Auxiliary Building DC Switchgear / Battery Charger Rooms
- Load Control Center (LCC) Rooms (LCC D and E Rooms)

The ESF Room Coolers are considered support equipment for ESF equipment in these rooms with the exception of the CCW Pumps Room (see discussion under Applicable Safety Analysis).

Each ESF Room Cooler subsystem consists of two 100 % capacity trains which include cooling coils, electric fans, piping, manual valves, and instrumentation. The ESF Room Coolers provide cooling to ESF equipment rooms during accident, and post accident conditions. The ESF Room Coolers supplement the normal Heating / Ventilation and Air Conditioning (HVAC) system in cooling certain rooms during normal operations. The Service Water system supplies water to the cooling coils for ESF Room Coolers.

The ESF Room Coolers are designed to maintain the ambient air temperature within the continuous-duty rating of the ESF equipment served by the system. Each equipment room is cooled by a fan cooler that is powered from the same ESF train as that associated with the equipment in the room. Thus, a power failure or other single failure to one cooling system train will not prevent the cooling of redundant ESF equipment in the other train.

In addition to a manual start / run capability, automatic cooling of ESF equipment rooms is initiated by two possible signals: high room temperature or an equipment running signal, depending on the Room Cooler.

The ESF Room Coolers are seismic category I and remain operational during and after a safe shutdown earthquake.

BASES

APPLICABLE
SAFETY ANALYSES

The design basis of the ESF Room Coolers is to maintain air temperatures as required in rooms containing safety-related equipment during and after a design basis loss of coolant accident (LOCA) with a loss of offsite power.

The ESF Room Coolers are required to start when the associated equipment is running or based on the temperature of the associated equipment room. Each Room Cooler Fan can also be placed in Run mode locally. With the Room Cooler in the Run mode, the automatic starting functions are being met and the Room Cooler is considered OPERABLE. The system is designed to perform its function with a single failure of any active component, assuming the loss of offsite power. One train of an ESF Room Cooler subsystem provides 100 % of the required cooling for the associated ESF equipment.

Analyses were performed to determine how room temperature was affected during a design basis accident (DBA) event. The DBA heat loads and service water temperature were used and the resulting room temperatures were compared against the continuous-duty rating of the ESF TS equipment in the rooms. The analyses showed that the Room Cooler arrangement at FNP is effective in mitigating the consequences of a DBA.

This TS requires ESF Room Coolers to be OPERABLE when associated ESF equipment is required to be OPERABLE. With the condition of one required ESF Room Cooler subsystem train inoperable, the required action is to restore the Room Cooler to OPERABLE status within 72 hours. If the Room Cooler cannot be restored to OPERABLE status within 72 hours or if two trains of an ESF Room Cooler subsystem are inoperable, the actions will require the plant to be placed in Mode 3 within 6 hours and Mode 5 within 36 hours.

The major maintenance activities that require a significant amount of time are repair or replacement of the fan motor or cooling coils. This is based on the time required to access the Room Cooler motor, remove the motor from the cooler housing, order and receive replacement parts, repair the motor, install the motor back in the cooler housing, and test the cooler. Access to these Room Coolers is limited and requires significant rigging to remove and install the housing and motor. Similarly, repair or replacement of the cooler coil is also limited by available space and rigging requirements. Based on the history of maintenance activities that have been required on the plant Room Coolers, a Completion Time of 72 hours is reasonable and allows maintenance activities to be completed without requiring unnecessary plant transients.

(continued)

BASES

APPLICABLE
SAFETY ANALYSES
(continued)**MDAFW, Charging, CS and RHR Pump Rooms Subsystems**

In accordance with TS, when both trains of these ESF pumps are required to be OPERABLE, a single train of each ESF pump system is allowed to be out of service for up to 72 hours before shutdown actions are required. This Completion Time is consistent with the Completion Time in this TS for ESF Room Coolers and will allow sufficient time for maintenance or repair activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train ESF Pump and Room Cooler are available to support the ESF equipment for mitigation of the accident.

CCW Pumps Room Subsystem

Calculations show that with the safety-related Room Coolers out of service under accident conditions, temperature of the CCW pumps room will not exceed the continuous-duty rating of the ESF TS equipment in the room. Thus the associated safety-related Room Coolers are not considered support equipment for the ESF TS equipment in this room and as such, are not required for the ESF TS equipment in the room to remain OPERABLE. Therefore, other than for pressure boundary integrity, the safety-related Room Coolers for the CCW Pumps Room are not considered a required ESF Room Cooler subsystem.

Auxiliary Building DC Switchgear / Battery Charger Rooms Subsystem

FNP has three Room Coolers and three battery chargers servicing two trains of Auxiliary Building DC Switchgear / Battery Charger. Analysis has determined that aligning the swing battery charger and Room Cooler power supply, cooling water supply and fan discharge (by opening the room door), to the switchgear train room with an inoperable Room Cooler will provide adequate cooling to the switchgear / battery charger room. In the event that a connecting door is opened to align the fan discharge into the affected switchgear train room, plant procedures ensure that the door is secured in the open position and periodically verified. During the times when two trains of Auxiliary Building DC Switchgear / Battery Charger are required, only two of three Room Coolers are required with one Room Cooler aligned to each train room. This 72 hour Completion Time allows sufficient time for maintenance activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train Auxiliary Building DC Switchgear /

(continued)

BASES

**APPLICABLE
SAFETY ANALYSES**
(continued)

Battery Charger and Room Cooler are available to support the ESF equipment to mitigate the accident.

Load Control Center (LCC) Rooms (LCC D and E) Subsystem

FNPP has one Room Cooler servicing each LCC room. Analysis has determined that each Room Cooler will provide adequate cooling to the given LCC room.

This 72 hour Completion Time allows sufficient time for maintenance activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train LCC and Room Cooler are available to support the ESF equipment to mitigate the accident.

The ESF Room Coolers satisfy Criterion 4 of 10 CFR 50.36(c)(2)(ii).

LCO

ESF Room Coolers are required to be OPERABLE to ensure that the system functions to remove heat from the ESF equipment rooms during and after an accident assuming the worst case single failure occurs coincident with the loss of offsite power.

An ESF Room Cooler train is considered OPERABLE when the cooling coils, electrical fans, piping, manual valves, instrumentation, and cooling water supply required to perform the safety-related function is OPERABLE.

APPLICABILITY

The ESF Room Coolers must be OPERABLE to provide a safety-related cooling function consistent with the OPERABILITY requirements of the ESF equipment they support.

ACTIONS

The actions table is modified by a Note indicating that separate Condition entry is allowed for each ESF Room Cooler subsystem. This is acceptable since each ESF Room Cooler subsystem supports a separate ESF system. Having separate condition entry is consistent with the TS governing the associated ESF equipment, which allows concurrent inoperabilities of the separate ESF systems.

(continued)

BASES

ACTIONS
(continued)A.1

If one train of a required ESF Room Cooler subsystem is inoperable, action must be taken to restore the subsystem train to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE ESF Room Cooler subsystem train is adequate to perform the heat removal function for its associated ESF equipment.

B.1 and B.2

If the ESF Room Cooler subsystem train cannot be restored to OPERABLE status within the associated Completion Time or two trains of the same ESF Room Cooler subsystem are inoperable, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and 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.

SURVEILLANCE
REQUIREMENTSSR 3.7.19.1

Verifying the correct alignment for manual valves servicing safety-related equipment provides assurance that the proper flow paths exist for ESF Room Cooler operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**
(continued)

SR 3.7.19.2

This SR verifies proper operation of the ESF Room Cooler fans on an actual or simulated actuation signal. Depending on the room cooler, this may be manual, high room temperature, an equipment running signal, or some combination. Operating experience has shown that these components usually pass the surveillance when performed at the 18 month Frequency. Therefore, the 18 month Frequency is acceptable from a reliability standpoint.

Each Room Cooler Fan can be placed in Run mode locally. With the Room Cooler in the Run mode, all automatic functions are being met and the Room Cooler is considered OPERABLE.

REFERENCES

1. FSAR, Section 9.4.
-

**Joseph M. Farley Nuclear Plant – Units 1 and 2
Technical Specifications Amendment Request
Engineered Safety Feature Room Coolers**

Enclosure 3

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3.7 PLANT SYSTEMS

3.7.19 Engineered Safety Feature (ESF) Room Coolers

LCO 3.7.19 ESF Room Coolers shall be OPERABLE.

APPLICABILITY: When associated ESF equipment is required to be OPERABLE.

ACTIONS

----- NOTE -----
Separate Condition entry is allowed for each ESF Room Cooler subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required ESF Room Cooler subsystem Train inoperable.	A.1 Restore the affected ESF Room Cooler subsystem Train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Two trains of the same ESF Room Cooler subsystem inoperable.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.19.1	Verify each ESF Room Cooler system manual valve servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.19.2	Verify each ESF Room Cooler fan starts automatically on an actual or simulated actuation signal.	18 months

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B 3.7 PLANT SYSTEMS

B 3.7.19 Engineered Safety Feature (ESF) Room Coolers

BASES

BACKGROUND

Room cooling for Technical Specifications (TS) ESF equipment is provided by the ESF Room Coolers. The Room Coolers are divided into subsystems and each subsystem has two 100 % capacity trains. The ESF Room Cooler subsystems are:

- Motor Driven Auxiliary Feedwater (MDAFW) Pump Rooms
- Charging Pump Rooms
- Containment Spray (CS) Pump Rooms
- Residual Heat Removal (RHR) Pump Rooms
- Component Cooling Water (CCW) Pumps Room
- Auxiliary Building DC Switchgear / Battery Charger Rooms
- Load Control Center (LCC) Rooms (LCC D and E Rooms)

The ESF Room Coolers are considered support equipment for ESF equipment in these rooms with the exception of the CCW Pumps Room (see discussion under Applicable Safety Analysis).

Each ESF Room Cooler subsystem consists of two 100 % capacity trains which include cooling coils, electric fans, piping, manual valves, and instrumentation. The ESF Room Coolers provide cooling to ESF equipment rooms during accident, and post accident conditions. The ESF Room Coolers supplement the normal Heating / Ventilation and Air Conditioning (HVAC) system in cooling certain rooms during normal operations. The Service Water system supplies water to the cooling coils for ESF Room Coolers.

The ESF Room Coolers are designed to maintain the ambient air temperature within the continuous-duty rating of the ESF equipment served by the system. Each equipment room is cooled by a fan cooler that is powered from the same ESF train as that associated with the equipment in the room. Thus, a power failure or other single failure to one cooling system train will not prevent the cooling of redundant ESF equipment in the other train.

In addition to a manual start / run capability, automatic cooling of ESF equipment rooms is initiated by two possible signals: high room temperature or an equipment running signal, depending on the Room Cooler.

The ESF Room Coolers are seismic category I and remain operational during and after a safe shutdown earthquake.

BASES

APPLICABLE
SAFETY ANALYSES

The design basis of the ESF Room Coolers is to maintain air temperatures as required in rooms containing safety-related equipment during and after a design basis loss of coolant accident (LOCA) with a loss of offsite power.

The ESF Room Coolers are required to start when the associated equipment is running or based on the temperature of the associated equipment room. Each Room Cooler Fan can also be placed in Run mode locally. With the Room Cooler in the Run mode, the automatic starting functions are being met and the Room Cooler is considered OPERABLE. The system is designed to perform its function with a single failure of any active component, assuming the loss of offsite power. One train of an ESF Room Cooler subsystem provides 100 % of the required cooling for the associated ESF equipment.

Analyses were performed to determine how room temperature was affected during a design basis accident (DBA) event. The DBA heat loads and service water temperature were used and the resulting room temperatures were compared against the continuous-duty rating of the ESF TS equipment in the rooms. The analyses showed that the Room Cooler arrangement at FNP is effective in mitigating the consequences of a DBA.

This TS requires ESF Room Coolers to be OPERABLE when associated ESF equipment is required to be OPERABLE. With the condition of one required ESF Room Cooler subsystem train inoperable, the required action is to restore the Room Cooler to OPERABLE status within 72 hours. If the Room Cooler cannot be restored to OPERABLE status within 72 hours or if two trains of an ESF Room Cooler subsystem are inoperable, the actions will require the plant to be placed in Mode 3 within 6 hours and Mode 5 within 36 hours.

The major maintenance activities that require a significant amount of time are repair or replacement of the fan motor or cooling coils. This is based on the time required to access the Room Cooler motor, remove the motor from the cooler housing, order and receive replacement parts, repair the motor, install the motor back in the cooler housing, and test the cooler. Access to these Room Coolers is limited and requires significant rigging to remove and install the housing and motor. Similarly, repair or replacement of the cooler coil is also limited by available space and rigging requirements. Based on the history of maintenance activities that have been required on the plant Room Coolers, a Completion Time of 72 hours is reasonable and allows maintenance activities to be completed without requiring unnecessary plant transients.

(continued)

BASES

**APPLICABLE
SAFETY ANALYSES**
(continued)

MDAFW, Charging, CS and RHR Pump Rooms Subsystems

In accordance with TS, when both trains of these ESF pumps are required to be OPERABLE, a single train of each ESF pump system is allowed to be out of service for up to 72 hours before shutdown actions are required. This Completion Time is consistent with the Completion Time in this TS for ESF Room Coolers and will allow sufficient time for maintenance or repair activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train ESF Pump and Room Cooler are available to support the ESF equipment for mitigation of the accident.

CCW Pumps Room Subsystem

Calculations show that with the safety-related Room Coolers out of service under accident conditions, temperature of the CCW pumps room will not exceed the continuous-duty rating of the ESF TS equipment in the room. Thus the associated safety-related Room Coolers are not considered support equipment for the ESF TS equipment in this room and as such, are not required for the ESF TS equipment in the room to remain OPERABLE. Therefore, other than for pressure boundary integrity, the safety-related Room Coolers for the CCW Pumps Room are not considered a required ESF Room Cooler subsystem.

Auxiliary Building DC Switchgear / Battery Charger Rooms Subsystem

FNP has three Room Coolers and three battery chargers servicing two trains of Auxiliary Building DC Switchgear / Battery Charger. Analysis has determined that aligning the swing battery charger and Room Cooler power supply, cooling water supply and fan discharge (by opening the room door), to the switchgear train room with an inoperable Room Cooler will provide adequate cooling to the switchgear / battery charger room. In the event that a connecting door is opened to align the fan discharge into the affected switchgear train room, plant procedures ensure that the door is secured in the open position and periodically verified. During the times when two trains of Auxiliary Building DC Switchgear / Battery Charger are required, only two of three Room Coolers are required with one Room Cooler aligned to each train room. This 72 hour Completion Time allows sufficient time for maintenance activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train Auxiliary Building DC Switchgear /

(continued)

BASES

**APPLICABLE
SAFETY ANALYSES
(continued)**

Battery Charger and Room Cooler are available to support the ESF equipment to mitigate the accident.

Load Control Center (LCC) Rooms (LCC D and E) Subsystem

FNP has one Room Cooler servicing each LCC room. Analysis has determined that each Room Cooler will provide adequate cooling to the given LCC room.

This 72 hour Completion Time allows sufficient time for maintenance activities to be completed without requiring unnecessary plant transients. In the event of a design basis accident during the 72 hour Completion Time, the opposite non-affected train LCC and Room Cooler are available to support the ESF equipment to mitigate the accident.

The ESF Room Coolers satisfy Criterion 4 of 10 CFR 50.36(c)(2)(ii).

LCO

ESF Room Coolers are required to be OPERABLE to ensure that the system functions to remove heat from the ESF equipment rooms during and after an accident assuming the worst case single failure occurs coincident with the loss of offsite power.

An ESF Room Cooler train is considered OPERABLE when the cooling coils, electrical fans, piping, manual valves, instrumentation, and cooling water supply required to perform the safety-related function is OPERABLE.

APPLICABILITY

The ESF Room Coolers must be OPERABLE to provide a safety-related cooling function consistent with the OPERABILITY requirements of the ESF equipment they support.

ACTIONS

The actions table is modified by a Note indicating that separate Condition entry is allowed for each ESF Room Cooler subsystem. This is acceptable since each ESF Room Cooler subsystem supports a separate ESF system. Having separate condition entry is consistent with the TS governing the associated ESF equipment, which allows concurrent inoperabilities of the separate ESF systems.

(continued)

BASES

ACTIONS
(continued)

A.1

If one train of a required ESF Room Cooler subsystem is inoperable, action must be taken to restore the subsystem train to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE ESF Room Cooler subsystem train is adequate to perform the heat removal function for its associated ESF equipment.

B.1 and B.2

If the ESF Room Cooler subsystem train cannot be restored to OPERABLE status within the associated Completion Time or two trains of the same ESF Room Cooler subsystem are inoperable, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and 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.

**SURVEILLANCE
REQUIREMENTS**

SR 3.7.19.1

Verifying the correct alignment for manual valves servicing safety-related equipment provides assurance that the proper flow paths exist for ESF Room Cooler operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**
(continued)

SR 3.7.19.2

This SR verifies proper operation of the ESF Room Cooler fans on an actual or simulated actuation signal. Depending on the room cooler, this may be manual, high room temperature, an equipment running signal, or some combination. Operating experience has shown that these components usually pass the surveillance when performed at the 18 month Frequency. Therefore, the 18 month Frequency is acceptable from a reliability standpoint.

Each Room Cooler Fan can be placed in Run mode locally. With the Room Cooler in the Run mode, all automatic functions are being met and the Room Cooler is considered OPERABLE.

REFERENCES

1. FSAR, Section 9.4.
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