

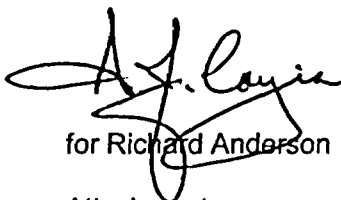
Richard Anderson  
Vice President-Nuclear440-280-5579  
Fax: 440-280-8029November 15, 2005  
PY-CEI/NRR-2917LUnited States Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555Perry Nuclear Power Plant  
Docket No. 50-440**License Amendment Request Pursuant to 10 CFR 50.90: Clarify Wording of Emergency Closed Cooling Water Surveillance Requirement 3.7.10.2**

A license amendment is requested for the Perry Nuclear Power Plant (PNPP). The requested change modifies the Technical Specifications to clarify the wording of Emergency Closed Cooling Water Surveillance Requirement (SR) 3.7.10.2. Approval of the proposed license amendment is requested by November 15, 2006, to be implemented within 90 days following issuance of the amendment. The approval date was administratively selected to allow for Nuclear Regulatory Commission (NRC) review; the plant does not need this amendment by that date in order to continue safe full power operations.

Attachment 1 describes the change, including an Introduction, Description of Proposed Change, Technical Analysis, Regulatory Analysis, and Environmental Consideration. Attachment 2 provides the Significant Hazards Consideration. Attachment 3 provides a markup of the Technical Specification page. Attachment 4 provides a markup of the Bases pages, for information. Bases changes will be made in accordance with the PNPP Bases Control Program. Attachment 5 provides a retyped Technical Specification page.

There are no regulatory commitments contained in this letter or its attachments. If there are any questions concerning this matter, please contact Mr. Gregory A. Dunn, Manager – Fleet Licensing, at (330) 315-7243.

Very truly yours, .

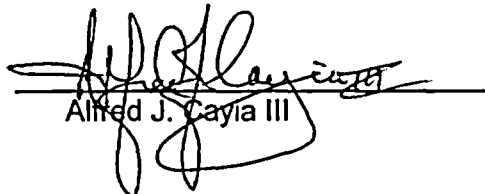
  
for Richard Anderson

Attachments

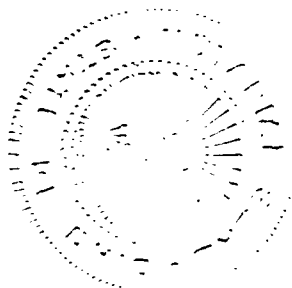
cc: NRC Project Manager  
NRC Resident Inspector  
NRC Region III  
State of Ohio

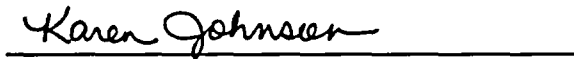
A001

I, Alfred J. Cayia III, hereby affirm that (1) I am Director, Perry Performance Improvement Department of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification as the duly authorized agent for The Cleveland Electric Illuminating Company, Toledo Edison Company, Ohio Edison Company, and Pennsylvania Power Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

  
Alfred J. Cayia III

Subscribed to and affirmed before me, the 15<sup>th</sup> day of November, 2005.



  
Karen Johnson

KAREN L. JOHNSON  
Notary Public, State of Ohio  
My Commission Expires 2/5/08  
Recorded in Lake County

## **Introduction**

A license amendment is requested for the Perry Nuclear Power Plant (PNPP). The requested change modifies the Technical Specifications to clarify the wording of Emergency Closed Cooling Water Surveillance Requirement 3.7.10.2. This will resolve a corrective action in the PNPP Corrective Action Program.

## **Description of Proposed Change**

Revise Technical Specification (TS) Surveillance Requirement (SR) 3.7.10.2 for the Emergency Closed Cooling Water (ECCW) System Specification to clarify that this SR verifies actuation of the entire ECCW system rather than just verifying "valve" actuation.

## **Technical Analysis**

The current wording of SR 3.7.10.2 requires that automatic valves in ECCW actuate on an actuation signal. However, the Bases for the SR identify that more than just valves are tested; they state that "This Surveillance also verifies the automatic start capability of the ECCW pump in each subsystem."

Therefore, the wording of this SR is revised to clarify that its purpose is to verify actuation of the *entire* ECCW system, rather than just verifying "valve" actuation. This change makes the SR 3.7.10.2 wording consistent with the more "standard" wording of the system actuation SRs in Section 3.7 of the Technical Specifications, such as the SRs for Specifications 3.7.1, 3.7.2, and 3.7.3. Copies of these other SRs are included in Attachment 3, pages 1, 2 and 3, for comparison purposes.

The improved Standard Technical Specification (ISTS) document (NUREG-1434) provides the standard wording for system actuation SRs in TS 3.7.1, 3.7.2, and 3.7.3. However, NUREG-1434 does not include an ECCW Specification, because ECCW is a PNPP-specific design. The PNPP ECCW system is a closed loop system designed to provide a heat sink, during a Design Basis Accident (DBA) or transient, for safety-related components in systems such as the low-pressure Emergency Core Cooling System (ECCS) subsystems. ECCW then transfers that heat to the Emergency Service Water (ESW) system, which transports the heat to Lake Erie. More details on the ECCW system are provided in the Bases for TS 3.7.10 and in Updated Safety Analysis Report (USAR) Section 9.2.2.

During development of the PNPP ISTS there was no direct template for the wording of PNPP SR 3.7.10.2, since NUREG-1434 did not include an ECCW Specification. Therefore, wording similar to the original PNPP surveillance requirement was incorporated. That non-standard wording focused on valve actuation, since the original ECCW design required several valves to close after an accident to isolate the safety-related ECCW system from a non-safety cooling water system. The overall system actuation was only addressed in the Bases. Since that time, the physical boundary for the safety-related ECCW subsystems has been made passive. It is therefore appropriate to revise the SR wording to reflect actuation of the total system, consistent with the standard wording of SRs in TS 3.7.1, 3.7.2, and 3.7.3. This is accomplished by revising the SR to read "Verify each ECCW subsystem actuates on an actual or simulated initiation signal."

Changing these words also helps to eliminate another possible misinterpretation. Several Unit 2 and "Common" ECCW valves were kept in service when Unit 2 was abandoned. Those Unit 2 ECCW valves have no link with the Unit 1 ECCW system, which is the system covered by LCO 3.7.10. However, the current wording of SR 3.7.10.2 could be misinterpreted to apply to the Unit 2 ECCW valves. These Unit 2/Common ECCW valves were kept in service to provide a support function for

the Unit 1 ESW system, not ECCW. As described in USAR Section 9.2.2.6, the safety-related Unit 1 ESW system is cross-tied into a portion of the Unit 2 ECCW piping so ESW can provide cooling of the Fuel Pool heat exchangers if the normal, non-safety heat exchanger cooling system is lost. In accordance with the Bases Control Program, a Bases change will be processed to clarify this by explaining that the Unit 2 ECCW valves are not related to OPERABILITY of the Unit 1 ECCW subsystems - see example Bases markups in Attachment 4, for information only.

The proposed change to ECCW SR 3.7.10.2 simply rewords the SR to include requirements already stated in the Bases. The existing test procedures already include verification of the ECCW pump start, therefore rewording of the TS SR does not change the method of testing currently being performed on associated components. The reworded SR more clearly states that the ECCW system's total actuation capability must continue to be tested.

### **Regulatory Analysis**

This change is consistent with the BWR ISTS format and intent. There are no regulations or Regulatory Guides directly applicable to the wording of this SR. There are no known industry precedents, since the need for correction of the PNPP Technical Specifications is due to the PNPP-specific nature of the existing requirement. Proposed Bases markups are provided in Attachment 4, for information.

### **Environmental Consideration**

The proposed Technical Specification change was evaluated against the criteria of 10CFR51.22 for environmental considerations. The proposed change does not significantly increase individual or cumulative occupational radiation exposures, does not significantly change the types or significantly increase the amounts of effluents that may be released off-site and, as discussed in Attachment 2, does not involve a significant hazards consideration. Based on the foregoing, it has been concluded that the proposed Technical Specification change meets the criteria given in 10CFR51.22(c)(9) for categorical exclusion from the requirement for an Environmental Impact Statement.

## **SIGNIFICANT HAZARDS CONSIDERATION**

The proposed amendment is requesting Nuclear Regulatory Commission review and approval of changes to the Perry Nuclear Power Plant (PNPP) Technical Specifications (TS). The change revises TS Surveillance Requirement (SR) 3.7.10.2 for the Emergency Closed Cooling Water (ECCW) System specification. The SR wording is revised to clarify that this SR verifies actuation of the entire ECCW system rather than just verifying "valve" actuation.

The standards used to arrive at a determination that a request for amendment involves no significant hazards considerations are included in the Nuclear Regulatory Commission's regulation, 10 CFR 50.92, which states that the operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any previously evaluated; or (3) involve a significant reduction in a margin of safety.

The proposed amendment has been reviewed with respect to these three factors, and it has been determined that the proposed change does not involve a significant hazard because:

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

There are no physical modifications being made to any plant system or component. The only change is to a Surveillance Requirement within the Technical Specifications, in order to improve understanding and avoid misinterpretation of the requirements. The original intent of ECCW SR 3.7.10.2 is maintained by the change being proposed. The revised Technical Specification requirements do not impact initiators of previously evaluated accidents or transients.

The specification being revised is associated with a system used to mitigate the consequences of accidents. The change to the wording of ECCW SR 3.7.10.2 does not impact the capability of the associated system to perform its required function. The reworded ECCW SR more clearly requires that the systems total actuation capability be maintained.

The change does not affect how plant systems are controlled or operated or tested. The change continues to provide confirmation of the capability of plant components to respond as required to mitigate the consequences of events.

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

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

There are no physical modifications being made to any plant system or component, and the proposed change introduces no new method of operation of the plant, or its systems

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

3. The proposed change does not involve a significant reduction in a margin of safety.

The change to the ECCW SR continues to ensure the ECCW subsystems are tested on the same periodicity to verify their capability to respond to actuation signals from the Emergency Core Cooling System (ECCS) Instrumentation Functions of Low Water Level and High Drywell Pressure. Therefore, the necessary function of the Technical Specification requirements is maintained, and the proposed change does not involve a significant reduction in a margin of safety.

Based upon the reasoning presented above, the requested change does not involve a significant hazards consideration.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met.  <u>OR</u>  Both ESW Division 1 and Division 2 subsystems inoperable.	B.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.1.1 Verify each required Division 1 and 2 ESW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.1.2 Verify each required Division 1 and 2 ESW subsystem actuates on an actual or simulated initiation signal.	24 months

No changes to this page. Provided to show an example/model SR, which provided the format used for rewording the ECCW SR in LCD 3.7.10.

### 3.7 PLANT SYSTEMS

#### 3.7.2 Emergency Service Water (ESW) System—Division 3

LCO 3.7.2 The Division 3 ESW subsystem shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ESW Division 3 subsystem inoperable.	A.1 Declare High Pressure Core Spray System inoperable.	Immediately

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.2.1 Verify each required Division 3 ESW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.2.2 Verify the Division 3 ESW subsystem actuates on an actual or simulated initiation signal.	24 months

No changes to this page. Provided to show an example/model SR, which provided the format used for rewording the ECCW SR in LCO 3.7.10.



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two CRER subsystems inoperable during movement of recently irradiated fuel assemblies in the primary containment or fuel handling building or during OPDRVs.	E.1 Suspend movement of recently irradiated fuel assemblies in the primary containment and fuel handling building.	Immediately
	<u>AND</u>	
	E.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.3.1 Operate each CRER subsystem for $\geq 10$ continuous hours with the heaters operating.	31 days
SR 3.7.3.2 Perform required CRER filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.3.3 Verify each CRER subsystem actuates on an actual or simulated initiation signal.	24 months

(continued)

No changes to this page. Provided to show an example/model SR, which provided the format used for rewording the ECCW SR in LCO 3.7.10.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Verify each required ECCW subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	31 days
SR 3.7.10.2 Verify each <del>required</del> <sup>Subsystem</sup> ECCW <del>automatic valve</del> <del>servicing safety related equipment</del> actuates <del>to the correct position</del> on an actual or simulated <del>actuation</del> <sup>initiation</sup> signal.	24 months

BASES

INFORMATION ONLY

APPLICABLE  
SAFETY ANALYSES  
(continued)

The ECCW System satisfies Criterion 3 of the NRC Policy Statement.

LCO

In the event of a DBA, one ECCW subsystem is required to provide the minimum heat removal capability assumed in the safety analysis for the systems to which it supplies cooling water. To ensure this requirement is met, two ECCW subsystems must be OPERABLE. At least one ECCW subsystem will operate assuming the worst single active failure occurs coincident with the loss of offsite power.

An ECCW subsystem is considered OPERABLE when:

- a. The associated pump and surge tank are OPERABLE; and
- b. The associated piping, valves, heat exchanger, and instrumentation and controls required to perform the safety related function are OPERABLE.

The isolation of ECCW to other components or systems may render those components or systems inoperable, but does not affect the OPERABILITY of the ECCW System.

APPLICABILITY

In MODE 1, the ECCW subsystems are in standby except when required to support RHR, LPCS, or RCIC System operations and testing. In MODES 2 and 3, the ECCW System is operated as necessary to support hot standby conditions or normal plant shutdown and cooldown using the RHR System.

In MODES 4 and 5, the requirements of the ECCW System are determined by the systems they support (Ref. 2).

(continued)

Several valves exist with Unit 2 or "Common" ECCW component identification numbers (2P42 or 0P42), which can be used to align the Unit 1 Emergency Service Water (ESW) system to the spent fuel pool heat exchangers. However, those Unit 2 and "Common" valves are not associated with OPERABILITY of the Unit 1 ECCW subsystems addressed by this LCO.

## INFORMATION ONLY

### BASES

#### SURVEILLANCE REQUIREMENTS

##### SR 3.7.10.1 (continued)

Isolation of the ECCW subsystem to components or systems does not necessarily affect the OPERABILITY of the ECCW subsystem. As such, when the ECCW subsystem pump, valves, and piping are OPERABLE, but a branch connection off the main header is isolated, the associated ECCW subsystem needs to be evaluated to determine if it is still OPERABLE.

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

##### SR 3.7.10.2

each Unit 1

This SR verifies that ~~the automatic isolation valves of the Division 1 and 2 ECCW subsystems will automatically realign to the safety or emergency position to provide cooling water exclusively to the safety related equipment during an accident. This is demonstrated by use of an actual or simulated initiation signal.~~ actuates on This Surveillance also including verification of verifies the automatic start capability of the ECCW pump in each subsystem. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.5.1.6 overlaps this Surveillance to provide complete testing of the safety function.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is based on operating experience, and is consistent with a typical industry refueling cycle.

#### REFERENCES

1. USAR, Section 9.2.2.
2. Plant Data Book, Tab R, Section 6.4.9.

**PROPOSED RETYPED  
TECHNICAL SPECIFICATION PAGE**

**(1 page follows)**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Verify each required ECCW subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	31 days
SR 3.7.10.2 Verify each ECCW subsystem actuates on an actual or simulated initiation signal.	24 months