FENOC
FirstEnergy Nuclear Operating Company

Perry Nuclear Power Plant
10 Center Road
P.O. Box 97
Perry, Ohio 44081

February 22, 2012
L-12-064

10 CFR 50.90

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

Subject:
Perry Nuclear Power Plant, Unit No. 1
Docket Number 50-440, License Number NPF-58
Request for an Amendment to Revise Technical Specification 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," Using the Consolidated Line Item Improvement Process

In accordance with the provisions of Section 50.90 of Title 10 of the Code of Federal Regulations (10 CFR 50.90), FirstEnergy Nuclear Operating Company (FENOC) is submitting a request for an amendment to the technical specifications (TS) for Perry Nuclear Power Plant, Unit No. 1.

The proposed amendment would revise TS 3.10.1, and the associated Bases, to expand its scope to include provisions for temperature excursions greater than 200 degrees Fahrenheit as a consequence of inservice leak and hydrostatic testing, and as a consequence of scram time testing initiated in conjunction with an inservice leak or hydrostatic test, while considering operational conditions to be in MODE 4. This change is consistent with NRC approved Revision 0 to Technical Specification Task Force (TSTF) Improved Standard Technical Specification Change Traveler, TSTF-484, "Use of TS 3.10.1 for Scram Time Testing Activities." The availability of the TS 3.10.1 revision was announced in the Federal Register on October 27, 2006 (71 FR 63050) as part of the consolidated line item improvement process (CLIIP).

The enclosure contains an evaluation of the proposed changes. Attachments in the enclosure provide markup pages of the existing TS to show the proposed changes, information-only markup pages of the existing TS Bases to show the proposed changes, and revised (clean) TS pages.

FENOC requests approval of the proposed license amendment by February 28, 2013, with the amendment being implemented within 90 days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Ohio official.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Supervisor - Fleet Licensing, at (330) 315-6808.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 22, 2012.

Sincerely,

Eric A. Larson
Site Vice President, Acting

Enclosure:
Evaluation of Proposed Change

cc: NRC Region III
NRC Resident Inspector
NRC Project Manager
Executive Director, Ohio Emergency Management Agency, State of Ohio (NRC Liaison)
Utility Radiological Safety Board

1.0 DESCRIPTION

2.0 PROPOSED CHANGE

3.0 BACKGROUND

4.0 TECHNICAL ANALYSIS

5.0 REGULATORY SAFETY ANALYSIS

- 5.1 No Significant Hazards Determination
- 5.2 Applicable Regulatory Requirements/Criteria

6.0 ENVIRONMENTAL CONSIDERATION

7.0 REFERENCES

8.0 ATTACHMENTS

1. Proposed Technical Specification Change (Electronic Mark-ups)
2. Proposed Technical Specification Bases Changes (For Information-Only)
3. Proposed Technical Specification Change (Typed with Mark-ups Incorporated)

1.0 DESCRIPTION

The proposed amendment would revise Technical Specification (TS) 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," and the associated Bases, to expand its scope to include provisions for temperature excursions greater than 200 degrees Fahrenheit (°F) as a consequence of inservice leak and hydrostatic testing, and as a consequence of scram time testing initiated in conjunction with an inservice leak or hydrostatic test, while considering operational conditions to be in MODE 4. This change is consistent with Nuclear Regulatory Commission (NRC) approved Revision 0 to Technical Specification Task Force (TSTF) Improved Standard Technical Specification Change Traveler, TSTF-484, "Use of TS 3.10.1 for Scram Time Testing Activities." The availability of the TS 3.10.1 revision was announced in the Federal Register on October 27, 2006 (71 FR 63050) as part of the consolidated line item improvement process (CLIIP).

2.0 PROPOSED CHANGE

Consistent with the NRC approved Revision 0 of TSTF-484, the proposed TS changes include a revised TS 3.10.1, "Inservice Leak and Hydrostatic Testing Operation." Proposed revisions to the TS Bases are also included in this application. Adoption of the TS Bases associated with TSTF-484, Revision 0 is an integral part of implementing this TS amendment. The changes to the affected TS Bases pages will be incorporated in accordance with the Perry Nuclear Power Plant, Unit No. 1 (PNPP) TS 5.5.11 "Technical Specifications (TS) Bases Control Program."

This application is being made in accordance with the CLIIP. FirstEnergy Nuclear Operating Company (FENOC) is not proposing variations or deviations from the TS changes described in TSTF-484, Revision 0. However, there will be a difference in the NRC staff's model safety evaluation (SE) published on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability. The PNPP (TS) are different from the Standard Technical Specifications (STS). TS 3.10.1 in the STS contains requirements to satisfy the MODE 3 limiting conditions for operation associated with secondary containment. The PNPP TS 3.10.1 MODE 3 requirements are associated with primary containment control. Due to the PNPP specific design, the more appropriate method for establishing a boundary for control of fission products is the primary containment. The primary containment requirements were included in the PNPP TS when PNPP converted to the Improved STS in 1995 (References 4, 5, and 6). There are no additional TS changes required since TSTF-484 does not impact the MODE 3 requirements.

Additionally, the TSTF-484 TS Bases changes associated with the fourth paragraph in the BACKGROUND section and the third paragraph in the LCO section will not be made. The current PNPP TS Bases do not include these paragraphs. The

paragraphs were eliminated when PNPP converted to the Improved STS in 1995 (References 4 and 6). Not making these TS Bases revisions does not impact the proposed TS changes nor detract from their bases.

3.0 BACKGROUND

The background for this application is adequately addressed by the NRC Notice of Availability published on October 27, 2006 (71 FR 63050).

4.0 TECHNICAL ANALYSIS

FENOC has reviewed the safety evaluation (SE) published on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability. FENOC has concluded that the technical justifications presented in the SE prepared by the NRC staff are applicable to PNPP using primary containment requirements and therefore justify this amendment for the incorporation of the proposed changes to the PNPP TS.

5.0 REGULATORY SAFETY ANALYSIS

5.1 NO SIGNIFICANT HAZARDS DETERMINATION

FENOC has reviewed the no significant hazards determination published on August 21, 2006 (71 FR 48561) as part of the CLIIP Notice for Comment. The no significant hazards determination was made available on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability. FENOC has concluded that the determination presented in the notice is applicable to PNPP using primary containment requirements and the determination is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

5.2 APPLICABLE REGULATORY REQUIREMENTS / CRITERIA

A description of the proposed TS change and its relationship to applicable regulatory requirements was provided in the NRC Notice of Availability published on October 27, 2006 (71 FR 63050).

6.0 ENVIRONMENTAL CONSIDERATION

FENOC has reviewed the environmental evaluation included in the safety evaluation (SE) published on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability. FENOC has concluded that the staff's findings presented in that evaluation are applicable to PNPP, and the evaluation is hereby incorporated by reference for this application.

7.0 REFERENCES

1. Federal Register Notice, Notice of Availability published on October 27, 2006 (71 FR 63050).

2. Federal Register Notice, Notice for Comment published on August 21, 2006 (71 FR 48561).

3. TSTF-484 Revision 0, "Use of TS 3.10.1 for Scram Times Testing Activities."

4. Centerior Energy, "License Amendment Request: Conversion to Technical Specifications Based on NUREG-1434 'Improved BWR-6 Technical Specifications' Revision 0," dated December 16, 1993.

5. Centerior Energy, "License Amendment Request: Supplemental Submittal for Conversion of Current Technical Specifications to Technical Specifications Based on NUREG-1434 'Improved BWR-6 Technical Specifications' Revision 0," dated November 7, 1994.

6. Nuclear Regulatory Commission, "AMENDMENT NO. 69 TO FACILITY OPERATING LICENSE NO. NPF-58 – PERRY NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M88400)," dated June 23, 1995.

8.0 ATTACHMENTS

1. Proposed Technical Specification Change (Electronic Mark-ups)

2. Proposed Technical Specification Bases Changes (For Information-Only)

3. Proposed Technical Specification Change (Typed with Mark-ups Incorporated)

Attachment 1
Proposed Technical Specification Change (Electronic Mark-ups)
(Three pages follow)

3.10 SPECIAL OPERATIONS

3.10.1 Inservice Leak and Hydrostatic Testing Operation

LCO 3.10.1 The average reactor coolant temperature specified in Table 1.1-1 for MODE 4 may be changed to "NA," and operation considered not to be in MODE 3; and the requirements of LCO 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System-Cold Shutdown," may be suspended to allow reactor coolant temperature > 200°F:

- For performance of an inservice leak or hydrostatic test,
- As a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or
- As a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

Deleted: , to allow performance of an inservice leak or hydrostatic test

provided the following MODE 3 LCOs are met:

a. LCO 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," Functions 2.a, 2.c, 2.e and 2.h of Table 3.3.6.1-1;

b. LCO 3.6.1.1, "Primary Containment-Operating";

c. LCO 3.6.1.2, "Primary Containment Air Locks";

d. LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)";

e. LCO 3.6.1.11, "Containment Vacuum Breakers"; and

f. LCO 3.6.1.12, "Containment Humidity Control".

APPLICABILITY: MODE 4 with average reactor coolant temperature > 200°F.

Deleted: 69

ACTIONS

---NOTE---
Separate Condition entry is allowed for each requirement of the LCO.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more of the above requirements not met.	A.1 --------NOTE-------- Required Actions to be in MODE 4 include reducing average reactor coolant temperature to ≤ 200°F. ---------- Enter the applicable Condition of the affected LCO.	Immediately
	OR	
	A.2.1 Suspend activities that could increase the average reactor coolant temperature or pressure.	Immediately
	AND	
	A.2.2 Reduce average reactor coolant temperature to ≤ 200°F.	24 hours

No changes this page.
Included for context.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.1.1	Perform the applicable SRs for the required MODE 3 LCOs.	According to the applicable SRs

No changes this page.
Included for context.

Attachment 2
Proposed Technical Specification Bases Changes (For Information-Only)
(Seven pages follow)

B 3.10 SPECIAL OPERATIONS

B 3.10.1 Inservice Leak and Hydrostatic Testing Operation

BASES

BACKGROUND

The purpose of this Special Operations LCO is to allow certain reactor coolant pressure tests to be performed in MODE 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at temperatures > 200°F (normally corresponding to MODE 3). INSERT #1

Inservice hydrostatic testing and system leakage pressure tests required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Ref. 1) are performed prior to the reactor going critical after a refueling outage. Recirculation pump operation and a water solid RPV (except for an air bubble for pressure control) are used to achieve the necessary temperatures and pressures required for these tests. The minimum temperatures (at the required pressures) allowed for these tests are determined from the RPV pressure and temperature (P/T) limits required by LCO 3.4.11, "Reactor Coolant System (RCS) Pressure and Temperature (P/T) Limits." These limits are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated vessel neutron fluence.

With increased reactor vessel fluence over time, the minimum allowable vessel temperature increases at a given pressure. Periodic updates to the RCS P/T limit curves are performed as necessary, based on the results of analyses of irradiated surveillance specimens removed from the vessel. Hydrostatic and leak testing ~~will~~ MAY eventually be required with minimum reactor coolant temperatures > 200°F. INSERT #2 INSERT #3

APPLICABLE SAFETY ANALYSES

Allowing the reactor to be considered in MODE 4 ~~during hydrostatic or leak testing,~~ when the reactor coolant temperature is > 200°F, effectively provides an exception to MODE 3 requirements, including OPERABILITY of primary containment and the full complement of redundant Emergency Core Cooling Systems (ECCS). Since the ~~hydrostatic or leak~~ tests are performed nearly water solid, at low decay heat values, and near MODE 4 conditions, the stored energy in the reactor core will be very low. Under these conditions, the potential for failed fuel and a subsequent increase in INSERT #4

(continued)

INSERT #1

or to allow completing these reactor coolant pressure tests when the initial conditions do not require temperatures > 200°F. Furthermore, the purpose is to allow continued performance of control rod scram time testing required by SR 3.1.4.1 or SR 3.1.4.4 if reactor coolant temperatures exceed 200°F when the control rod scram time testing is initiated in conjunction with an inservice leak or hydrostatic test. These control rod scram time tests would be performed in accordance with LCO 3.10.4, "Single Control Rod Withdrawal – Cold Shutdown," during MODE 4 operation.

INSERT #2

However, even with required minimum reactor coolant temperatures < 200°F, maintaining RCS temperatures within a small band during this test can be impractical. Removal of heat addition from recirculation pump operation and reactor core decay heat is coarsely controlled by control rod drive hydraulic system flow and reactor water cleanup system non-regenerative heat exchanger operation. Test conditions are focused on maintaining a steady state pressure, and tightly limited temperature control poses an unnecessary burden on the operator and may not be achievable in certain instances.

INSERT#3

Other testing may be performed in conjunction with the allowances for inservice leak or hydrostatic tests and control rod scram time tests.

INSERT #4

during, or as a consequence of, hydrostatic or leak testing, or as a consequence of control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

For Information only.

BASES

APPLICABLE SAFETY ANALYSES (continued)

coolant activity above the limits of LCO 3.4.8, "Reactor Coolant System (RCS) Specific Activity," are minimized. In addition, the primary containment will be OPERABLE, in accordance with this Special Operations LCO, and will be capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing. The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated loss of coolant accidents inside of primary containment described in Reference 2. Therefore, these requirements will conservatively limit radiation releases to the environment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of the low pressure coolant injection and low pressure core spray subsystems, as required in MODE 4 by LCO 3.5.2, "ECCS-Shutdown," would be more than adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred.

For the purposes of this test, the protection provided by normally required MODE 4 applicable LCOs, in addition to the primary containment requirements required to be met by this Special Operations LCO, will ensure acceptable consequences during normal hydrostatic test conditions and during postulated accident conditions.

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of the NRC Final Policy Statement on Technical Specification Improvements (58 FR 39132) apply. Special Operations LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs. A discussion of the criteria satisfied for the other LCOs is provided in their respective Bases.

(continued)

No changes this page.
Included for context.

For Information only.

BASES (continued)

LCO

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Operation at reactor coolant temperatures > 200°F, can be in accordance with Table 1.1-1 for MODE 3 operation without meeting this Special Operations LCO or its ACTIONS. This option may be required due to P/T limits, however, which require testing at temperatures > 200°F, while the ASME inservice test itself requires the safety/relief valves to be gagged, preventing their OPERABILITY. INSERT #5

If it is desired to perform these tests while complying with this Special Operations LCO, then the MODE 4 applicable LCOs and specified MODE 3 LCOs must be met. This Special Operations LCO allows changing Table 1.1-1 temperature limits for MODE 4 to "NA" and suspending the requirements of LCO 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System-Cold Shutdown." The additional requirements for primary containment LCOs to be met will provide sufficient protection for operations at reactor coolant temperatures > 200°F for the purposes of performing either an inservice leak or hydrostatic test. INSERT #6

APPLICABILITY

The MODE 4 requirements may only be modified for the ~~performance of~~ inservice leak or hydrostatic tests, so that these operations can be considered as in MODE 4, even though the reactor coolant temperature is > 200°F. The additional requirement for primary containment OPERABILITY according to the imposed MODE 3 requirements provides conservatism in the response of the unit to any event that may occur. Operations in all other MODES are unaffected by this LCO. INSERT #7

, OR AS A CONSEQUENCE OF,

ACTIONS

A Note has been provided to modify the ACTIONS related to inservice leak and hydrostatic testing operation. Section 1.3, Completion Times, specifies once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for each requirement of the

(continued)

INSERT #5

Additionally, even with required minimum reactor coolant temperatures < 200°F, RCS temperatures may drift above 200°F during performance of inservice leak and hydrostatic testing or during subsequent control rod scram time testing, which is typically performed in conjunction with inservice leak and hydrostatic testing. While this Special Operations LCO is provided for inservice leak and hydrostatic testing, and for scram time testing initiated in conjunction with an inservice leak or hydrostatic test, parallel performance of other tests and inspections is not precluded.

INSERT #6

and for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test.

INSERT#7

or as a consequence of contol rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

For Information only.

BASES

ACTIONS (continued)

LCO not met provide appropriate compensatory measures for separate requirements that are not met. As such, a Note has been provided that allows separate Condition entry for each requirement of the LCO.

A.1

If an LCO specified in LCO 3.10.1 is not met, the ACTIONS applicable to the stated requirements shall be entered immediately and complied with. Required Action A.1 has been modified by a Note that clarifies the intent of another LCO's Required Action to be in MODE 4. This Required Action includes reducing the average reactor coolant temperature to $\leq$ 200°F.

A.2.1 and A.2.2

Required Actions A.2.1 and A.2.2 are alternate Required Actions that can be taken instead of Required Action A.1 to restore compliance with the normal MODE 4 requirements, and thereby exit this Special Operations LCO's Applicability. Activities that could further increase reactor coolant temperature or pressure are suspended immediately, in accordance with Required Action A.2.1, and the average reactor coolant temperature is reduced to establish normal MODE 4 requirements. The allowed Completion Time of 24 hours for Required Action A.2.2 is based on engineering judgment and provides sufficient time to reduce the average reactor coolant temperature from the highest expected value to $\leq$ 200°F with normal cooldown procedures. The Completion Time is also consistent with the time provided in LCO 3.0.3 for reaching MODE 4 from MODE 3.

SURVEILLANCE REQUIREMENTS

SR 3.10.1.1

The LCOs made applicable are required to have their Surveillances met to establish that this LCO is being met. A discussion of the applicable SRs is provided in their respective Bases.

(continued)

No changes this page.
Included for context.

For Information only.

BASES (continued)

REFERENCES

1. American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section XI.

2. USAR, Section 15.6.5.

No changes this page.
Included for context.

Attachment 3
Proposed Technical Specification Change (Typed with Mark-ups Incorporated)
(One page follows)

3.10 SPECIAL OPERATIONS

3.10.1 Inservice Leak and Hydrostatic Testing Operation

LCO 3.10.1 The average reactor coolant temperature specified in Table 1.1-1 for MODE 4 may be changed to "NA," and operation considered not to be in MODE 3; and the requirements of LCO 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System-Cold Shutdown," may be suspended to allow reactor coolant temperature > 200°F:

- For performance of an inservice leak or hydrostatic test,
- As a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or
- As a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

provided the following MODE 3 LCOs are met:

a. LCO 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," Functions 2.a, 2.c, 2.e and 2.h of Table 3.3.6.1-1;

b. LCO 3.6.1.1, "Primary Containment-Operating";

c. LCO 3.6.1.2, "Primary Containment Air Locks";

d. LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)";

e. LCO 3.6.1.11, "Containment Vacuum Breakers"; and

f. LCO 3.6.1.12, "Containment Humidity Control".

APPLICABILITY: MODE 4 with average reactor coolant temperature > 200°F.

For Information only.