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Pete Dietrich
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February 15, 2007
JAFP-07-0023

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

SUBJECT: Entergy Nuclear Operations, Inc.
James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
License No. DPR-59
Application for Amendment to Technical Specifications 3.10.1, Inservice Leak and Hydrostatic Testing Operation, Consistent with TSTF-484

Gentlemen:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (Entergy) hereby requests an amendment to the Technical Specifications (TS) for the James A. FitzPatrick Nuclear Power Plant (JAF).

The proposed amendment would revise TS Section 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," to expand its scope to include provisions for temperature excursions greater than 212 °F as a consequence of inservice leak or hydrostatic testing, and to allow performance of control rod scram time testing and other required testing when initiated in conjunction with the performance of an inservice leak or hydrostatic test, while considering operational conditions to be in Mode 4. The changes are 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).

Attachment 1 provides a description and evaluation of the proposed TS changes.
Attachment 2 provides the proposed changes to the current TS on marked up pages.
Attachment 3 provides the proposed changes in final typed format.
Attachment 4 provides the proposed changes to the current TS Bases on marked up pages. The Bases changes are provided for NRC information only. The final TS Bases pages will be submitted with a future update in accordance with TS 5.5.11, "Technical Specifications (TS) Bases Control Program".

Entergy requests NRC approval of the proposed TS amendment by February 28, 2008, with the amendment being implemented within 30 days from approval.

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

There are no commitments contained in this letter.

Should you have any questions concerning this submittal, please contact Mr. Jim Costedio at 315-349-6358.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 15th day of February, 2007.

Sincerely,

Pete Dietrich
Site Vice President

PD/tp

Attachments:
1. Description and evaluation of the proposed TS changes
2. Proposed changes to the current TS on marked up pages
3. Proposed changes in final typed format
4. Proposed changes to the current TS Bases on marked up pages

cc: next page

cc:

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Attachment 1

Description and Evaluation

Application for Amendment to Technical Specifications 3.10.1, Inservice Leak and Hydrostatic Testing Operation, Consistent with TSTF-484

1.0 Description

The existing James A. FitzPatrick Nuclear Power Plant (JAF) Technical Specifications (TS) Section 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," allows the average reactor coolant system (RCS) temperature to exceed 212 °F as a consequence of maintaining pressure during an inservice leak or hydrostatic test. The proposed amendment would revise TS 3.10.1 to expand its scope to include provisions for temperature excursions greater than 212 °F as a consequence of inservice leak or hydrostatic testing, and to allow performance of control rod scram time testing and other required testing when initiated in conjunction with the performance of an inservice leak or hydrostatic test, while considering operational conditions to be in Mode 4. A temperature value of 212 °F is used in the JAF TS vs. the bracketed value of 200 °F in NUREG-1433, Standard Technical Specifications General Electric Plants, BWR/4.

The changes are 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).

2.0 Proposed Changes

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 copies of the TS Bases pages are provided for NRC information. The changes to the affected TS Bases pages will be incorporated in accordance with the TS Bases Control Program. This application is being made in accordance with the CLIIP. Entergy Nuclear Operations, Inc. (Entergy) is not proposing variations or deviations from the TS changes described in TSTF–484, Revision 0, published on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability.

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

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

5.0 Regulatory Safety Analysis

5.1 No Significant Hazards Consideration

Entergy 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. Entergy has concluded that the determination presented in the notice is applicable to JAF 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 changes 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 Assessment

Entergy 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. Entergy has concluded that the staff's findings presented in that evaluation are applicable to JAF and the evaluation is hereby incorporated by reference for this application.

7.0 References

1. Federal Register Notice, Notice of Availability of Model Safety Evaluation 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 Time Testing Activities."
4. Federal Register Notice, Notice of Availability of Model Application published on November 27, 2006 (71 FR 68642).

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Attachment 2

Proposed Technical Specification Changes (Mark up)

Page 3.10.1-1

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 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System–Cold Shutdown," may be suspended, to allow ~~performance of an inservice leak or hydrostatic test~~ provided the following MODE 3 LCOs are met:

a. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 3, and 4 of Table 3.3.6.2-1;

b. LCO 3.6.4.1, "Secondary Containment";

c. LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)"; and

d. LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

APPLICABILITY: MODE 4 with average reactor coolant temperature > 212°F.

reactor coolant temperature > 212°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,

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Attachment 3

Proposed Technical Specification Changes
(Final Typed)

Page 3.10.1-1

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 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System—Cold Shutdown," may be suspended to allow reactor coolant temperature > 212°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 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 3, and 4 of Table 3.3.6.2-1;

b. LCO 3.6.4.1, "Secondary Containment";

c. LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)"; and

d. LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

APPLICABILITY: MODE 4 with average reactor coolant temperature > 212°F.

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Attachment 4

Proposed Technical Specification Bases Changes
(Information Only)

Pages

B 3.10.1-1
B 3.10.1-2
B 3.10.1-3
Inserts Page

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 > 212°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, decay heat 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 3.4.9, "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 upon the results of analyses of irradiated surveillance specimens removed from the vessel. INSERT 2

APPLICABLE SAFETY ANALYSES

Allowing the reactor to be considered in MODE 4 ~~during hydrostatic or leak testing;~~ when the reactor coolant temperature is > 212°F, effectively provides an exception to MODE 3 requirements, including OPERABILITY of primary containment and the full complement of redundant Emergency Core Cooling Systems. 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 coolant activity above the LCO 3.4.6, "RCS Specific Activity," limits are minimized. In addition, the secondary 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

INSERT 3

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

during the performance of hydrostatic or leak testing. The required pressure testing conditions provide adequate assurance that the consequences of a recirculation line break (Refs. 2 and 3) will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment described in Reference 4. 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 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 secondary 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 10 CFR 50.36(c)(2)(ii) (Ref. 5) 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.

LCO

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Operation at reactor coolant temperatures > 212°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 > 212°F, while performance of inservice leak and hydrostatic testing results in inoperability of subsystems required when > 212°F.

INSERT 4

(continued)

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

BASES

LCO (continued)

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 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown." The additional requirements for secondary containment LCOs to be met will provide sufficient protection for operations at reactor coolant temperatures > 212°F for the purpose of performing ~~either~~ an inservice leak or hydrostatic test (X1)

This LCO allows primary containment to be open for frequent unobstructed access to perform inspections, and for outage activities on various systems to continue consistent with the MODE 4 applicable requirements ~~that are in effect immediately prior to and immediately after this operation.~~

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 > 212°F. The additional requirement for secondary containment OPERABILITY according to the imposed MODE 3 requirements provides conservatism in the response of the plant to any event that may occur. Operations in all other MODES are unaffected by this LCO.

INSERT 5

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 that 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 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.

(continued)

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TS Bases 3.10.1 Inserts

INSERT 1

or to allow completing these reactor coolant pressure tests when the initial conditions do not require temperatures > 212°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 212°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 < 212°F, maintaining RCS temperatures within a small band during the 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. Scram time testing required by SR 3.1.4.1 and SR 3.1.4.4 requires reactor pressure ≥ 800 psig.

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

INSERT 3

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,

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INSERT 4

Additionally, even with required minimum reactor coolant temperatures < 212°F, RCS temperatures may drift above 212°F during the 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 5

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

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