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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001

Clinton Power Station Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: License Amendment Request for Adoption of Technical Specification Task Force Traveler TSTF-484, Revision 0, "Use of TS 3.10.1 for Scram Time Testing Activities"

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (EGC), requests an amendment to Facility Operating License No. NPF-62 for Clinton Power Station (CPS), Unit 1, Technical Specifications (TS) 3.10.1, "Inservice Leak and Hydrostatic Testing Operation."

The proposed change would revise CPS TS Limiting Condition for Operation (LCO) 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," and the associated TS Bases, to expand its scope to include operations in which reactor coolant system temperature exceeds 200°F as a consequence of maintaining reactor pressure for inservice leak and hydrostatic testing or as a consequence of maintaining reactor pressure for scram time testing initiated in conjunction with an inservice leak or hydrostatic test when the initial test conditions are below 200°F, while considering operational conditions to be in Mode 4. This change will allow more efficient testing during a refueling outage.

This proposed 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 this TS improvement was announced in the Federal Register published on October 27, 2006 (71 FR 63050) as part of the Consolidated Line Item Improvement Process (CLIIP).

Attachment 1 provides an evaluation of the proposed change. Attachment 2 provides the existing TS pages marked up to show the proposed changes. Attachment 3 provides the proposed TS changes in final typed format. Attachment 4 provides the existing TS Bases pages marked up to show the proposed change. The proposed Bases changes are provided for information only.

EGC requests approval of the proposed license amendment by April 4, 2017. Once approved, the amendment shall be implemented within 60 days.

The proposed changes have been reviewed and approved by the CPS Plant Operations Review Committee and by the Nuclear Safety Review Board in accordance with the requirements of the EGC Quality Assurance Program.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), EGC is notifying the State of Illinois of this application for license amendment by transmitting a copy of this application, with attachments, to the designated Illinois Official.

There are no regulatory commitments contained within this letter. Should you have any questions concerning this letter, please contact Mr. Timothy A. Byam at (630) 657-2818.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 4th day of April 2016.

Respectfully,

Patrick R. Simpson
Manager – Licensing
Exelon Generation Company, LLC

Attachments:
1. Evaluation of Proposed Changes
2. Proposed Technical Specification Change (Mark-Up)
3. Proposed Technical Specification Change (Re-Typed)
4. Proposed Technical Specification Bases Change (Mark-Up)

cc: NRC Regional Administrator, Region III, USNRC
NRC Senior Resident Inspector – Clinton Power Station
Illinois Emergency Management Agency – Division of Nuclear Safety

ATTACHMENT 1
Evaluation of Proposed Changes

Subject: License Amendment Request for Adoption of Technical Specification Task Force Traveler TSTF-484, Revision 0, "Use of TS 3.10.1 for Scram Time Testing Activities"

1.0 SUMMARY DESCRIPTION

The proposed amendment would revise Technical Specifications (TS) Limiting Condition for Operation (LCO) 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°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 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 DETAILED DESCRIPTION

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 Clinton Power Station (CPS) TS 5.5.11, "Technical Specifications (TS) Bases Control Program."

This application is being made in accordance with the CLIIP. Exelon Generation Company, LLC (EGC) 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's model safety evaluation (SE) published on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability. The fourth paragraph of Section 3.0, "Technical Evaluation," in the model SE addresses the TS requirements for emergency core cooling system (ECCS) operability in Mode 4. Specifically, this paragraph states that two low-pressure ECCS injection/spray subsystems are required to be operable in Mode 4 by TS 3.5.2, "ECCS – Shutdown." As noted in the model SE this is significant since in the event of a large reactor coolant system (RCS) leak, the RPV would rapidly depressurize and allow operation of the low pressure ECCS. CPS is a BWR/6 and, as such, takes credit for the High Pressure Core Spray (HPCS) System as an ECCS subsystem in Mode 4. Therefore, CPS TS 3.5.2 states that "Two ECCS injection/spray subsystems shall be OPERABLE." As described in the TS Bases for TS 3.5.2, the ECCS injection/spray subsystems are defined as three Low Pressure Coolant Injection (LPCI) subsystems, the Low Pressure Core Spray System, and the HPCS System. While the ECCS available at CPS differs from those described in the model SE, CPS TS 3.5.2 will ensure that adequate ECCS is available to provide core cooling in the event of a large RCS leak in Mode 4 while implementing the requirements of TS 3.10.1.

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 EVALUATION

EGC has reviewed the SE published on October 27, 2006 (71 FR 63050) as part of the CLIIP Notice of Availability. EGC has concluded that the technical justifications presented in the SE prepared by the NRC staff are applicable to CPS, Unit 1, and therefore justify this amendment for the incorporation of the proposed changes to the CPS TS.

5.0 REGULATORY EVALUATION

5.1 No Significant Hazards Determination

EGC 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. EGC has concluded that the determination presented in the notice is applicable to CPS, Unit 1 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

EGC 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. EGC has concluded that the staff's findings presented in that evaluation are applicable to CPS, Unit 1 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"

ATTACHMENT 2

Proposed Technical Specification Change (Mark-Up)

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 ~~performance of an inservice leak or hydrostatic test provided the following MODE 3 LCOs are met~~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 3.6.1.2, "Primary Containment Air Locks," for the upper containment personnel air lock;

b. LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," and LCO 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," for those valves and Functions which isolate secondary containment bypass leakage paths;

c. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 2, 3, 4, 5, and 7 of Table 3.3.6.2-1;

d. LCO 3.6.4.1, "Secondary Containment";

e. LCO 3.6.4.2, "Secondary Containment Isolation Dampers (SCIDs)"; and

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

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

ATTACHMENT 3

Proposed Technical Specification Change (Re-Typed)

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 3.6.1.2, "Primary Containment Air Locks," for the upper containment personnel air lock;

b. LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," and LCO 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," for those valves and Functions which isolate secondary containment bypass leakage paths;

c. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 2, 3, 4, 5, and 7 of Table 3.3.6.2-1;

d. LCO 3.6.4.1, "Secondary Containment";

e. LCO 3.6.4.2, "Secondary Containment Isolation Dampers (SCIDs)"; and

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

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

ATTACHMENT 4

Proposed Technical Specification Bases Change (Mark-Up)

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) 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.

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. However, even with required minimum reactor coolant temperatures < 200°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

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BASES

BACKGROUND (continued)

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.

The hydrostatic and/or RCS system leakage tests require increasing pressure to 1025 - 1040 psig. Scram time testing required by SR 3.1.4.1 and SR 3.1.4.4 requires reactor pressures ≥ 950 psig

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

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, 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, 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 coolant activity above the limits of LCO 3.4.8, "Reactor Coolant System (RCS) Specific Activity," 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 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 main steam line break outside 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.

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BASES

APPLICABLE SAFETY ANALYSES (continued)

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 part of ensuring the Standby Gas Treatment System filters fission products released from leakages during the test, the secondary containment bypass paths (the upper containment personnel air lock and valves which isolate other secondary containment bypass paths) are also required to meet their associated LCOs.

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of the NRC Policy Statement 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.

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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. Additionally, even with required minimum reactor coolant temperatures < 200°F, RCS temperatures may drift above 200°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 others tests and inspections is not precluded.

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 secondary containment and secondary containment bypass path 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, and for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test.

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, or as a consequence of, inservice leak or hydrostatic tests, or as a consequence of control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test, so that these operations can be considered as in MODE 4, even though the reactor coolant temperature is > 200°F. The additional requirement for secondary 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.

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BASES (Continued)

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 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 $\leq 200^{\circ}F$.

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 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 $\leq 200^{\circ}F$ 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.

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BASES (continued)

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.
REFERENCES	1. American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section XI. 2. USAR, Section 15.6.4.