

RS-17-164

10 CFR 50.90

December 20, 2017

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

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

Subject: Supplement to Clinton Power Station, Unit 1 Application to Revise Technical Specifications to Adopt TSTF-542, "Reactor Pressure Vessel Water Inventory Control"

- References:
- (1) Letter from P. R. Simpson (Exelon Generation Company, LLC (EGC)) to NRC, "Application to Revise Technical Specifications to Adopt TSTF-542, 'Reactor Pressure Vessel Water Inventory Control,'" dated April 27, 2017
 - (2) Email from J. Rankin (NRC) to M. A. Mathews (EGC), "Clinton Power Station - Request for Additional Information Regarding License Amendment Request Related to Reactor Pressure Vessel Water Inventory Control (CAC No. MF9666)," dated October 3, 2017
 - (3) Letter from P. R. Simpson (EGC) to NRC, "Supplement to Clinton Power Station, Unit 1 Application to Revise Technical Specifications to Adopt TSTF-542, 'Reactor Pressure Vessel Water Inventory Control,'" dated November 15, 2017

In Reference 1, Exelon Generation Company, LLC (EGC) submitted a request for an amendment to the Technical Specifications (TS) for Clinton Power Station (CPS), Unit 1. In Reference 2, the NRC determined that additional information was required to complete its evaluation of the Reference 1 request. The requested information, along with one additional variation from TSTF-542 related to the manual operation of a required emergency core cooling subsystem was provided in Reference 3.

In Reference 3, EGC also provided revised markups of the CPS, Unit 1 TS to address issues identified in Reference 2, the adoption of TSTF-545, and the additional variation discussed above. These markups superseded those provided in Reference 1, Attachment 2 in their entirety.

Upon review of the Reference 3 TS markups and discussions with the NRC, it has been determined that an additional supplement is required to address the elimination of proposed Surveillance Requirement 3.3.5.2.3. This Logic System Function Test is no longer required as all references to it have been removed through the removal of all emergency core cooling subsystem manual initiation Functions from proposed TS Table 3.3.5.2-1. The revised TS markup that addresses this change is included in Attachment 1. Additionally, formatting issues were identified on seven of the previously provided revised TS (clean) pages, and no changes were made to TS Pages 3.3-55 and 3.3-58, so TS Pages 3.3-55 and 3.3-58 and hereby withdrawn from NRC review. The identified issues are resolved through resubmission of revised pages in Attachment 2.

EGC has also determined that the TS and TS Bases Table of Contents previously submitted in References 1 and 3 should be treated as licensee-controlled, since it has not been historically submitted for NRC approval. Therefore, EGC hereby withdraws the CPS TS and TS Bases Table of Contents from NRC review. EGC will continue to treat the TS and TS Bases Table of Contents as a licensee-controlled document. The revised TS pages and TS Bases markups corresponding to the issues discussed above are included in Attachments 2 and 3, respectively.

EGC has reviewed the information supporting a finding of no significant hazards consideration, and the environmental consideration, that were previously provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

EGC is notifying the State of Illinois of this supplement to a previous application for a change to the TS by sending a copy of this letter and its attachment to the designated State Official in accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b).

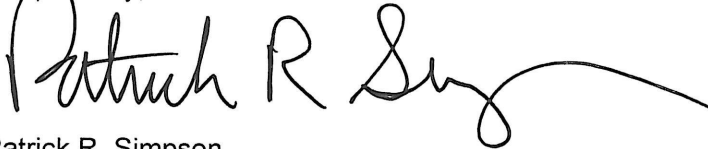
There are no regulatory commitments contained within this letter.

Should you have any questions concerning this letter, please contact Mr. Mitchel A. Mathews at (630) 657-2819.

December 20, 2017
U.S. Nuclear Regulatory Commission
Page 3

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 20th day of December 2017.

Respectfully,

A handwritten signature in black ink, appearing to read "Patrick R. Simpson", with a long, sweeping horizontal line extending to the right.

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

Attachments: 1. Supplemental Proposed Technical Specifications Changes (Mark-Up)
 2. Supplemental Revised Technical Specifications Page
 3. Supplemental Technical Specifications Bases Pages Affected by the
 Proposed Change (Mark-Up)

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

Clinton Power Station, Unit 1

**Supplement to Clinton Power Station, Unit 1 Application to Revise Technical
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"Reactor Pressure Vessel Water Inventory Control"**

ATTACHMENT 1

SUPPLEMENTAL PROPOSED TECHNICAL SPECIFICATIONS CHANGES (MARK-UP)

3.3-43c

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.5.2-1 to determine which SRs apply for each ECCS Function.

<i>SURVEILLANCE</i>	<i>FREQUENCY</i>
<i>SR 3.3.5.2.1 Perform CHANNEL CHECK.</i>	<i>In accordance with the Surveillance Frequency Control Program</i>
<i>SR 3.3.5.2.2 Perform CHANNEL FUNCTIONAL TEST.</i>	<i>In accordance with the Surveillance Frequency Control Program</i>

Clinton Power Station, Unit 1

**Supplement to Clinton Power Station, Unit 1 Application to Revise Technical
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ATTACHMENT 2

SUPPLEMENTAL REVISED TECHNICAL SPECIFICATIONS PAGE

1.0-2
1.0-3
3.3-35
3.3-43c
3.3-52
3.6-9
3.8-18
3.8-37

1.1 Definitions (continued)

CORE ALTERATION	<p>CORE ALTERATION shall be the movement of any fuel, sources, or reactivity control components within the reactor vessel with the vessel head removed and fuel in the vessel. The following exceptions are not considered to be CORE ALTERATIONS:</p> <ol style="list-style-type: none">Movement of source range monitors, local power range monitors, intermediate range monitors, traversing incore probes, or special movable detectors (including undervessel replacement); andControl rod movement, provided there are no fuel assemblies in the associated core cell. <p>Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.</p>
CORE OPERATING LIMITS REPORT (COLR)	<p>The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific limits shall be determined for each reload cycle in accordance with Specification 5.6.5. Plant operation within these limits is addressed in individual Specifications.</p>
DOSE EQUIVALENT I-131	<p>DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same inhalation CEDE dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The inhalation CEDE dose conversion factors used for this calculation shall be those listed in Table 2.1 of Federal Guidance Report 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," ORNL, 1989.</p>
DRAIN TIME	<p>The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:</p> <ol style="list-style-type: none">The water inventory above the TAF is divided by the limiting drain rate;The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure (e.g., seismic event, loss of normal power, single human error), for all

(continued)

Definitions

DRAIN TIME
(continued)

penetration flow paths below the TAF except:

1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are locked, sealed, or otherwise secured in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;
 2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or
 3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who is in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation devices without offsite power.
- c. The penetration flow paths required to be evaluated per paragraph b) are assumed to open instantaneously and are not subsequently isolated, and no water is assumed to be subsequently added to the RPV water inventory;
- d. No additional draining events occur; and
- e. Realistic cross-sectional areas and drain rates are used.

A bounding DRAIN TIME may be used in lieu of a calculated value.

EMERGENCY CORE COOLING
SYSTEM (ECCS) RESPONSE
TIME

The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	E.1 -----NOTE----- Only applicable for Functions 1.e, 1.f, and 2.e. ----- Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.	1 hour from discovery of loss of initiation capability for feature(s) in both divisions
	<u>AND</u> E.2 Restore channel to OPERABLE status.	7 days

(continued)

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.5.2-1 to determine which SRs apply for each ECCS Function.

SURVEILLANCE	FREQUENCY
SR 3.3.5.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

Primary Containment and Drywell Isolation Instrumentation
3.3.6.1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
M. (Continued)	M.3.1 Initiate action to restore secondary containment to OPERABLE status.	Immediately
	<u>AND</u>	
	M.3.2 Initiate action to restore one standby gas treatment (SGT) subsystem to OPERABLE status.	Immediately
	<u>AND</u>	
	M.3.3 Initiate action to restore isolation capability in each required secondary containment and secondary containment bypass penetration flow path not isolated.	Immediately
	<u>AND</u>	
	M.3.4 -----NOTE----- Entry and exit is permissible under administrative control. -----	
	Initiate action to close one door in the upper containment personnel air lock.	Immediately
N. As required by Required Action F.1 and referenced in Table 3.3.6.1-1.	N.1 Isolate the affected penetration flow path(s).	Immediately
	<u>OR</u> N.2 Suspend movement of recently irradiated fuel assemblies in the primary and secondary containment.	Immediately

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,

-----NOTE-----
The following Applicability applies only to secondary
containment bypass leakage isolation valves.

During CORE ALTERATIONS,
During movement of irradiated fuel assemblies in the
primary or secondary containment.

ACTIONS

- NOTES-----
1. Penetration flow paths may be unisolated intermittently under administrative controls.
 2. Separate Condition entry is allowed for each penetration flow path.
 3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.
 4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria in MODES 1, 2, and 3.
 5. Not applicable for the Inclined Fuel Transfer System (IFTS) penetration when the associated primary containment blind flange is removed, provided that the fuel building fuel transfer pool water is maintained \geq el. 753 ft., the steam dryer pool to reactor cavity pool gate is installed with the seal inflated and a backup air supply provided, the total time the flange is open does not exceed 40 days per operating cycle, and the IFTS transfer tube drain valve(s) remain(s) closed, except that the IFTS tube drain valve(s) may be opened under administrative controls.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. LCO Item b not met.	B.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	B.2 Suspend movement of irradiated fuel assemblies in primary and secondary containment.	Immediately
	<u>AND</u>	
	B.3 Initiate action to restore required DG to OPERABLE status.	Immediately
C. LCO Item c not met.	C.1 Declare High Pressure Core Spray System inoperable.	72 hours

ACTIONS

-----NOTE-----
 LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required divisional inverters inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend handling of irradiated fuel assemblies in the primary and secondary containment.	Immediately
	<u>AND</u>	
	A.2.3 Initiate action to restore required divisional inverters to OPERABLE status.	Immediately

Clinton Power Station, Unit 1

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ATTACHMENT 3

**SUPPLEMENTAL TECHNICAL SPECIFICATIONS BASES PAGES AFFECTED BY THE
PROPOSED CHANGE (MARK-UP)**

B 3.3-122j
B 3.3.-122k

BASES

ACTIONS

F.1 (continued)

injection valves and to manually ensure the pump does not overheat.

G.1

With the Required Action and associated Completion Time of Conditions C, D, E, or F not met, the associated ECCS injection/spray subsystem may be incapable of performing the intended function, and must be declared inoperable immediately.

SURVEILLANCE
REQUIREMENTS

As noted in the beginning of the SRs, the SRs for each RPV Water Inventory Control instrument Function are found in the SRs column of Table 3.3.5.2-1.

SR 3.3.5.2.1

Performance of the CHANNEL CHECK ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK guarantees that undetected outright channel failure is limited; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL FUNCTIONAL TEST.

Agreement criteria are determined by the plant staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the channels required by the LCO.

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**
(continued)SR 3.3.5.2.2

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests.

Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. Information Notice 84-81 "Inadvertent Reduction in Primary Coolant Inventory in Boiling Water Reactors During Shutdown and Startup," November 1984.
 2. Information Notice 86-74, "Reduction of Reactor Coolant Inventory Because of Misalignment of RHR Valves," August 1986.
 3. Generic Letter 92-04, "Resolution of the Issues Related to Reactor Vessel Water Level Instrumentation in BWRs Pursuant to 10 CFR 50.54(f)," August 1992.
 4. NRC Bulletin 93-03, "Resolution of Issues Related to Reactor Vessel Water Level Instrumentation in BWRs," May 1993.
 5. Information Notice 94-52, "Inadvertent Containment Spray and Reactor Vessel Draindown at Millstone 1," July 1994.
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