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

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

Subject: License Amendment Request – Proposed Changes to Technical Specifications Section 5.0 Administrative Controls for Permanently Defueled Condition – Supplement 1 (TAC No. MF8224)

References: 1. Letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "License Amendment Request – Proposed Changes to Technical Specifications Section 5.0 Administrative Controls for Permanently Defueled Condition," dated July 28, 2016 (ML16210A300)

By letter dated July 28, 2016 (Reference 1), Exelon Generation Company, LLC (EGC) submitted a License Amendment Request (LAR) to Appendix A, Technical Specifications (TS), of Facility Operating License (FOL) NPF-62 for Clinton Power Station (CPS). The proposed amendment would revise the organization, staffing, and training requirements contained in Section 5.0, Administrative Controls, of the CPS Technical Specifications (TS) to support the transition of the CPS facility to a permanently defueled condition.

EGC has identified additional changes to TS Sections 1.1 and 5.0 are needed to allow CPS to transition to a defueled condition. The proposed changes are based upon the review of recent NRC requests for additional information issued at the Oyster Creek Nuclear Generating Station and the James A FitzPatrick Nuclear Power Plant for similar LAR submittals. The proposed supplemented changes are the addition of the definition for Non-Certified Operator and clarifications for principal positions in the offsite and onsite organization. Additionally, provisions are being added to ensure that crew composition is not below minimum requirements during specified activities. Lastly, since the LAR submittal in Reference 1, the Cask Drop Accident has been determined to not be credible because the Fuel Building crane has been upgraded to meet single failure proof requirements.

Attachment 1 to this letter contains a detailed description and evaluation of the proposed supplemental changes to the TS. Attachment 2 contains the marked-up TS pages depicting the proposed changes.

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

Exelon has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the NRC in Reference 1. The additional information provided in this response does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. Furthermore, the additional information provided in this supplement 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.

There are no regulatory commitments contained within this submittal.

If you have any questions concerning this submittal, please contact Mr. Paul Bonnett at (610) 765-5264.

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

Respectfully,

A handwritten signature in black ink, appearing to read "Michael P. Gallagher", with a long horizontal flourish extending to the right.

Michael P. Gallagher
Vice President, License Renewal & Decommissioning
Exelon Generation Company, LLC

Attachments: 1. Evaluation of Proposed Changes
2. Proposed Technical Specifications (Marked-Up Pages)

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

EVALUATION OF PROPOSED CHANGES

1.0 SUMMARY DESCRIPTION

By letter dated July 28, 2016 (Reference 1), Exelon Generation Company, LLC (EGC) submitted a License Amendment Request (LAR) to Appendix A, Technical Specifications (TS), of Facility Operating License (FOL) NPF-62 for Clinton Power Station (CPS). The proposed amendment would revise the organization, staffing, and training requirements contained in Section 5.0, Administrative Controls, of the CPS Technical Specifications (TS) to support the transition of the CPS facility to a permanently defueled condition.

EGC has identified additional changes to TS Sections 1.1 and 5.0 are needed to allow CPS to transition to a defueled condition. The proposed changes are based upon the review of recent NRC requests for additional information issued at the Oyster Creek Nuclear Generating Station and the James A FitzPatrick Nuclear Power Plant for similar LAR submittals.

The proposed supplemented changes are the addition of the definition for Non-Certified Operator and clarifications for principal positions in the offsite and onsite organization. Additionally, provisions are being added to ensure that crew composition is not below minimum requirements during specified activities. Lastly, since the LAR submittal in Reference 1, the Cask Drop Accident has been determined to not be credible because the Fuel Building crane has been upgraded to meet single failure proof requirements.

The proposed changes in the original LAR submittal (Reference 1) were bold-italicized; the additional changes that are being proposed in this supplement are bold-italicized and underlined below. Attachment 2 includes the revised TS page mark-ups. The revisions proposed by this supplement to the originally submitted LAR are designated by using a box/cloud around the change.

2.0 DETAILED DESCRIPTION

The specific proposed changes affecting CPS TS Sections 1.1 and 5.0 are described below. The supporting technical evaluation for these supplemental changes is provided in Section 3.0, "Technical Evaluation."

TS Section 1.1 - Definitions	
Proposed TS	
<u>Term</u>	<u>Definition</u>
<u>NON-CERTIFIED OPERATOR</u>	<u>A NON-CERTIFIED OPERATOR is a non-licensed operator who complies with the qualification requirements of Specification 5.3.1, but is not a CERTIFIED FUEL HANDLER.</u>

TS Section 5.2 - Organization	
Current TS	Proposed TS
<p>5.2.1 <u>Onsite and Offsite Organizations</u></p> <p>c. A specified corporate executive shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety; and</p>	<p>5.2.1 <u>Onsite and Offsite Organizations</u></p> <p>c. A specified corporate executive responsible officer shall have corporate responsibility for overall plant nuclear safety the safe storage and handling of spent nuclear fuel and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety facility to ensure safe management of spent nuclear fuel; and</p>
<p>5.2.2 <u>Unit Staff</u></p> <p>The unit staff organization shall include the following:</p> <p>a. A non-licensed operator shall be on site when fuel is in the reactor and an additional non-licensed operator shall be on site while the unit is in MODE 1, 2, or 3.</p> <p>b. At least one licensed RO shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed SRO shall be present in the control room.</p> <p>c. Shift crew composition may be one less than the minimum requirements of 10 CFR 50.54(m)(2)(i) and Specifications 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition within the minimum requirements.</p>	<p>5.2.2 <u>Unit Facility Staff</u></p> <p>The unit facility staff organization shall include the following:</p> <p>a. A non-licensed operator shall be on site when fuel is in the reactor and an additional non-licensed operator shall be on site while the unit is in MODE 1, 2, or 3. Each on-duty shift shall be composed of at least one shift supervisor and one NON-CERTIFIED OPERATOR. The NON-CERTIFIED OPERATOR position may be filled by a CERTIFIED FUEL HANDLER.</p> <p>b. At least one licensed RO shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed SRO shall be present in the control room. At all times when nuclear fuel is stored in the spent fuel pool, at least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the control room.</p> <p>c. Shift crew composition may be one less than the minimum requirements of 10 CFR 50.54(m)(2)(i) and Specifications 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition within the minimum requirements and the following conditions are met:</p>

<p>d. A radiation protection technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.</p>	<p><u>1) No fuel movement is in progress;</u> <u>2) No movement of loads over the spent fuel is in progress.</u> <u>This provision does not permit any shift crew position to be unstaffed upon shift change due to the absence or tardiness of an oncoming shift crew member.</u></p> <p>d. A radiation protection technician shall be on site when fuel is in the reactor <u>during the movement of fuel and during the movement of loads over fuel. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.</u></p>
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The proposed changes are shown on the marked-up CPS TS pages included as Attachment 2.

3.0 TECHNICAL EVALUATION

<revised>

The majority of the accident events discussed in Chapter 15 of the CPS Updated Safety Analysis Report (USAR) are not applicable to the reactor in its decommissioned state. The remaining Chapter 15 events applicable to CPS during decommissioning are:

- Fuel Handling Accidents
- Postulated Radioactive Releases Due to Liquid Radwaste Tank Failures
- Cask Drop Accident

The Cask Drop accident is no longer considered a credible "design basis accident." In September 2016, the fuel building crane has been upgraded for implementation of dry cask storage operations and will be used to lift fuel transfer cask and associated equipment. The fuel building overhead crane now meets the single-failure proof criteria of ASME NOG-1-2004, NUREG-0554 and NUREG-0612, Appendix C. The fuel building crane and the Cask Drop Accident are described in the USAR.

TS Section 1.1 – Definitions

<added>

The definition of the term "Non-Certified Operator" is also being added to ensure consistent understanding and application. The term "Non-Certified Operator" is not defined in the CPS TSs, but is common to the industry for decommissioning plants. Once the certifications required by 10 CFR 50.82(a)(1) have been submitted to the NRC, CPS will no longer be able to operate at power or require licensed operators pursuant to the requirements of 10 CFR 50.54(m). "NON-CERTIFIED OPERATOR" will be capitalized to indicate the position is a defined term in Sections 5.2.2.a and 5.2.2.b.

TS Section 5.1 – Responsibility

TS 5.1.1 –

<added>

The plant manager will be the senior position at the facility and will be duly authorized with sufficient authority to carry out the specific responsibilities as described in TS 5.1.1 and TS 5.2.1.b. The plant manager may delegate the authority to perform their functions provided the delegated senior manager meets the qualification requirements for the plant manager functions. This individual will be a senior manager who satisfies the requirements stated in the plant manager job description and the training and experience level of the plant manager position. Normally, authority would be delegated no more than one level lower in the organization. Delegation of authority shall be documented in writing. Management may elect to write a delegation of authority memorandum that is effective from the date written until rescinded. The delegation of authority process is established and maintained in the Quality Assurance Manual (QAM). Changes that reduce the commitments to QAM may not be made without NRC approval (10 CFR 50.54(a)(3)).

TS 5.2.1.c –

<revised>

To reflect the change in safety concerns from an operating plant to a permanently defueled plant, the responsibility for ensuring “nuclear safety” is changed to the responsibility for ensuring “safe storage, handling, and management of spent nuclear fuel.” The proposed change also replaces the term “specified corporate executive” with “responsible officer.” “Responsible officer” is defined in 10 CFR 50.2 whereas “specified corporate executive” is not. The “responsible officer” will be an executive level corporate position who is not located at the site. The “responsible officer” will be vested with the corporate responsibility for ensuring the safe storage and handling of spent nuclear fuel. A description of the overall organizational structure and reporting relationships will be maintained in the Defueled Quality Assurance Manual. The plant manager at the defueled facility will report to the “responsible officer.” By replacing “specified corporate executive” with “responsible officer,” the corporate individual vested with executive authority over facility activities will be clearly defined.

TS 5.2.2.a –

<added>

The term “Non-Certified Operator” is capitalized to indicate the position is a defined term. For clarification, “duty shift” was revised to “on-duty shift.”

TS 5.2.2.b –

<added>

The term “Non-Certified Operator” is capitalized to indicate the position is a defined term.

TS 5.2.2.c –

<added>

Additional provisions are being added to ensure that shift crew composition is not below the minimum requirements when fuel movement or movement of loads over the spent fuel is in progress. This provision will not apply to a shift crew position during shift turnover due to the absence or tardiness of the oncoming shift crew member.

TS 5.2.2.d –

<revised>

This section establishes the requirement for a person qualified in radiation protection measures to be onsite when fuel is in the reactor. To reflect a permanently defueled condition, this requirement is being modified to require an individual qualified in radiation protection measures to be present on-site during the movement of fuel and during the movement of loads over fuel. The statement that the position may be vacant for 2 hours is being deleted. The removal of this statement provides the necessity to always have a radiation protect technician on site during fuel and load movement. Following submittal of the certification of permanent removal of fuel from the reactor vessel to the SFP, fuel will no longer be permitted to be emplaced or retained in the vessel. The modified TS reflect those remaining activities where individuals qualified in radiation protection measures are required to be present.

4.0 REFERENCES

1. Letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "License Amendment Request – Proposed Changes to Technical Specifications Section 5.0 Administrative Controls for Permanently Defueled Condition," dated July 28, 2016 (ML16210A300)

Attachment 2

Proposed Technical Specifications (Marked-Up Pages)

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

Supplemented changes to the staffing and training requirements for the CPS staff contained in Section 5.0, Administrative Controls, of the CPS Technical Specifications (TS) and denoted by a box/cloud designation.

TS Pages

1.0-5

5.0-2

5.0-3

1.1 Definitions (continued)

MINIMUM CRITICAL POWER RATIO (MCPR)	The MCPR shall be the smallest critical power ratio (CPR) that exists in the core for each class of fuel. The CPR is that power in the assembly that is calculated by application of the appropriate correlation(s) to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power.
MODE	A MODE shall correspond to any one inclusive combination of mode switch position, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.
OPERABLE—OPERABILITY	A system, subsystem, division, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, division, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3473 MWt.
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. 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)

NON-CERTIFIED
OPERATOR

A NON-CERTIFIED OPERATOR is a non-licensed operator who complies with the qualification requirements of Specification 5.3.1, but is not a CERTIFIED FUEL HANDLER.

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the nuclear power plant.

- a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements, including the plant specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the USAR;
- b. The plant manager shall be responsible for overall safe operation of the plant and shall have control over those onsite activities necessary for safe operation and maintenance of the plant;
- c. A specified corporate executive shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety; and
- d. The individuals who train the operating staff, carry out radiation protection, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.

5.2.2 Unit Staff

The unit staff organization shall include the following:

- a. A non-licensed operator shall be on site when fuel is in the reactor and an additional non-licensed operator shall be on site while the unit is in MODE 1, 2, or 3.

(continued)

Each on-duty shift shall be composed of at least one shift supervisor and one NON-CERTIFIED OPERATOR. The NON-CERTIFIED OPERATOR position may be filled by a CERTIFIED FUEL HANDLER.

5.2 Organization

Facility

5.2.2 Unit Staff (continued)

At all times when nuclear fuel is stored in the spent fuel pool, at least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the control room.

b. ~~At least one licensed RO shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed SRO shall be present in the control room.~~

c. ~~Shift crew composition may be one less than the minimum requirements of 10 CFR 50.54(m)(2)(i) and Specifications 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition within the minimum requirements.~~

d. ~~A radiation protection technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.~~

Oversight of fuel handling operations shall be provided by a CERTIFIED FUEL HANDLER.

e. ~~Deleted.~~

The shift supervisor shall be a CERTIFIED FUEL HANDLER.

f. ~~The operations manager or at least one operations middle manager shall hold an SRO license for Clinton Power Station.~~

g. ~~The Shift Technical Advisor (STA) shall provide advisory technical support to the SS in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.~~

during the movement of fuel and during the movement of loads over fuel.

and the following conditions are met:

- 1) No fuel movement is in progress;
- 2) No movement of loads over the spent fuel is in progress.

This provision does not permit any shift crew position to be unstaffed upon shift change due to the absence or tardiness of an oncoming shift crew member