From:	Brown, Eva
Sent:	Friday, May 1, 2020 9:10 AM
To:	Mack, Jarrett; Hanek, Olga
Subject:	FINAL: Turkey Point Units 3 and 4 - Request for Additional Information Concerning Emergency Action Level Scheme Change (EPID L-2019-LLA-0271) [FPL: L-2019-203]
Attachments:	Final 0271 EAL RAI Input.docx

Jarrett,

By letter dated December 6, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML19343A373), Florida Power & Light Company requested U.S. Nuclear Regulatory Commission (NRC) approval for an emergency action level (EAL) scheme change for the Turkey Point Nuclear Plant, Units 3 and 4. The NRC staff has determined that the attached additional information is needed to complete its review of the proposed amendment.

On April 30, 2020, you indicated that a response would be provided to the NRC within 30 days.

Thanks.

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Email Number: 558

Mail Envelope Properties (MN2PR09MB527481CEDF970FFEDD3D01C7EFAB0)

Subject: FINAL: Turkey Point Units 3 and 4 - Request for Additional Information Concerning Emergency Action Level Scheme Change (EPID L-2019-LLA-0271) [FPL: L-2019-203]
Sent Date: 5/1/2020 9:09:48 AM
Received Date: 5/1/2020 9:09:00 AM
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Tracking Status: None

Post Office: MN2PR09MB5274.namprd09.prod.outlook.com

Files	Size	Date & Time
MESSAGE	833	5/1/2020 9:09:00 AM
Final 0271 EAL RAI Input.docx	44997	

Options
Priority: Normal
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:

REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

TURKEY POINT NUCLEAR PLANT, UNITS 3 AND 4

DOCKET NUMBERS 50-250 AND 50-251

By letter dated December 6, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML19343A373), Florida Power & Light Company (FPL) requested U.S. Nuclear Regulatory Commission (NRC) approval for an emergency action level (EAL) scheme change for the Turkey Point Nuclear Plant, Units 3 and 4 (Turkey Point). The NRC staff has reviewed the submittal and determined that additional information is needed to complete the review, as indicated in the request for additional information (RAI) below.

Regulatory Requirements/Background

The requirements of Section 50.47(b)(4) to Title 10 of the *Code of Federal Regulations* (10 CFR) state, in part, that:

> *A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee...*

The most recent industry EAL scheme development guidance is provided in the Nuclear Energy Institute (NEI) document NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," Revision 6 (ADAMS Accession Number ML12326A805). By letter dated March 28, 2013, the NRC endorsed NEI 99-01, Revision 6, as acceptable generic (i.e., non-plant-specific) EAL scheme development guidance. FPL proposed to revise the current Turkey Point EAL scheme to one based on NEI 99-01, Revision 6.

RAI 1

The proposed EAL RU1.1 threshold values for unusual event classifications have substantially changed from the currently approved EAL threshold values for Turkey Point. Considering that the NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 5 (ADAMS Accession No. ML080450149), guidance for RU1.1 is similar to the guidance provided by NEI 99-01, Revision 6, the proposed changes in values should be justified. The NRC staff could not determine a valid reason for the setpoint changes based on the information provided in the proposed EAL scheme change.

The threshold values for RU1.1 are intended to address a low-level radiological release that exceeds regulatory commitments for an extended time. Appendix A, "Basis for Radiological Effluent EALs," of NEI 99-01, Revision 5, Section A.4 discusses the usage of Offsite Dose Calculation Manual (ODCM) values as threshold values for RU1. This attachment is still applicable to NEI 99-01, Revision 6.

Justify the proposed Turkey Point RU1.1 threshold values. This justification should include a discussion as to how the proposed RU1.1 values are reasonably close to a 2 times the radiation alarm setpoints, as calculated in the ODCM, for each of the proposed release points.

RAI 2

The proposed Table R-1, "Unit [1 or 2, as applicable] Effluent Monitor Classification Thresholds," that is used for RA1.1, RS1.1, and RG1.1 have eliminated threshold values based on main steam line radiation monitors. FPL did not provide a justification that supports the removal of the main steam line and steam jet air ejector radiation monitor threshold values for RA1.1, RS1.1, and RG1.1.

Justify the removal of the threshold values based on main steam line and steam jet air ejector radiation monitors from EALs RA1.1, RS1.1, and RG1.1.

RAI 3

The proposed Table R-1, have threshold values for RA1.1, RS1.1, and RG1.1 that have substantially changed from the current NRC approved threshold values. An explanation that supports the changes in values or changes in instrumentation was not provided.

Explain the changes to the threshold values and the changes in instrumentation the for RA1, RS1, and RG1.

RAI 4

The proposed threshold value for RA2.1 is not consistent with the guidance provided by NEI 99-01, Revision 6. FPL proposed replacing uncovery of irradiation fuel with imminent uncovery of irradiated fuel. FPL provided that the term "imminent" is consistent with the basis document. Although the term "imminent" is used in the basis document, it is used in reference to imminent damage rather than imminent uncovery.

Justify the use of "imminent" in the threshold value for RA2.1. This discussion should address Turkey Point's ability to accurately determine whether irradiated fuel is uncovered or not as well as providing a clarification as to what "imminent" specifically means as applied to uncovery of irradiated fuel.

RAI 5

The proposed Containment High Range Monitor threshold values for CS1.2 and CG1.1 have substantially changed from the current threshold values. An explanation that supports the changes in values was not provided.

Explain the changes to Containment High Range Monitor threshold values for CS1.2 and CG1.1.

RAI 6

The proposed EAL CU3.1, contains the condition, "…due to the loss of RCS [reactor coolant system] cooling," which is not consistent with NEI 99-01, Revision 6. FPL provides that this wording is "consistent with the generic basis." This difference could result in potential

misclassification for an event other than a loss of RCS cooling that leads to an unplanned RCS pressure increase. As this change could impact the timing of the declaration of CU3.1, this change could reasonably be considered as a deviation.

Therefore, justify including "due to the loss of RCS cooling" to the threshold value for the proposed EAL CA3.1.

RAI 7

For EAL SA1.1, Table S-1, "AC [alternating current] Power Sources," appears to provide one offsite power source per unit. Considering that technical specification 3.8.1.1.a requires two offsite power sources. Describe how the required two offsite power sources per unit are reflected in Table S-1, and address how SA1.1 is accurately assessed regarding offsite power sources.

RAI 8

FPL proposes to deviate from a standard EAL scheme by eliminating the site-specific restoration time from the threshold value for EAL SG 1.1. The NRC staff does agree that, as stated in the proposed basis discussion for EALs SS 1.1 and SG 1.1, "credit can be taken for any AC power source that has sufficient capability to operate equipment necessary maintain a safe shutdown condition, such as FLEX [Diverse and Flexible Mitigation Capability] generators." Sufficient justification was not provided to justify that the existence of FLEX equipment and appropriate procedures to use that equipment supports the removal of the "site-specific" time to restore AC power. Additionally, the basis discussion that credit can be taken for any AC power source does not appear to be reflected in the threshold values for SS 1.1 and SG 1.1. The NRC staff notes that Emergency Preparedness Frequently Asked Question 2015-015, "Consideration of listing site-specific power sources applicable for consideration for loss of power EALs," scope is limited to the identification of power sources and neither discusses or supports coping time changes.

a. Explain what features, that are unique to Turkey Point, require a deviation from a standard EAL scheme or provide threshold values that are consistent with NEI 99-01, Revision 6, such that a general emergency would be declared for an extended loss of AC power concurrent with the inability to operate equipment necessary to maintain a safe shutdown condition.

b. For SS 1.1 and SG 1.1, address the threshold values for EALs SS 1.1 and SG 1.1 that support crediting "…any AC power source that has sufficient capability to operate equipment necessary to maintain a safe shutdown condition, such as the FLEX generators."

RAI 9

The proposed threshold value for EAL SU4.1 appear to apply to conditions where the technical specifications allow continued operation for 48 hours while the licensee makes attempts to restore either I-131 or Xe-133 concentrations to within the technical specification limits. The appropriateness of declaring a Notification of Unusual Event when the Technical Specification Limiting Condition for Operation (LCO) is met was not provided; especially when the LCO allows continued operation at full power for an extended time.

Explain how EAL SU4.1 will be accurately declared for conditions which indicate a potential degradation of the level of safety of the plant that is consistent with the declaration of a Notification of Unusual Event emergency classification.

RAI 10

The proposed Turkey Point basis discussion provides that a reactor shutdown is determined in accordance with applicable Emergency Operating Procedure (EOP) criteria. The Westinghouse nuclear power plant Reactor Trip or Safety Injection and the Response to Nuclear Power Generation/Anticipated Transient Without Scram (ATWS) EOPs typically provide that a successful reactor trip exists when all rods are inserted, and neutron flux is decreasing. Additionally, typical Critical Safety Function Status Trees provide that either a reactor power of greater than five percent or intermediate range power increasing is an indication that the reactor is not shutdown and that implementation of the Response to Nuclear Power Generation/ATWS procedure is required.

Attachment 3, “Emergency Action Level Scheme Comparison Matrix,” for SU6.1, SA6.1, and SS6.1 provides that the Turkey Point Critical Safety Function Status Tree Subcriticality Red Path criteria defines a successful shutdown based on reactor power being less than 5 percent. As noted above, 5 percent is only one criterion that requires implementation of the Response to Nuclear Power Generation/ATWS procedure.

The NRC staff notes that the reactor protective system is designed to place the reactor in a subcritical position. As such, relying solely on an indication of 5 percent power is not indicative of a failure of an automatic or manual trip failing to shut down the reactor. Explain how the SU6.1, SA6.1, and SS6.1 threshold value of 5 percent power is used to indicate that a reactor is shutdown when typical Westinghouse plant EOPs use all rods inserted and neutron flux decreasing in addition to reactor power.