From:	Jordan, Natreon
To:	Godes, Wyatt
Cc:	Frehafer, Ken; Shoop, Undine
Subject:	Request For Additional Information Regarding License Amendment Request to Adopt EAL Schemes Pursuant to NEI 99-01 (L-2019-LLA-0210)
Date:	Monday, March 30, 2020 9:30:00 AM

Dear Mr. Godes,

By letter dated September 30, 2019 (Agencywide Documents Access and Management System Accession No. ML19273A908), Florida Power & Light Company (the licensee) requested an amendment to the Renewed Facility Operating License Nos. DPR-67 and NPF-16 for St. Lucie Plant, Units 1 and 2. The proposed amendment involves revising the emergency plan for St. Lucie, Units 1 and 2 to adopt the Nuclear Energy Institute's (NEI) revised emergency action level (EAL) scheme described in NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors." The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the application and has identified areas where additional information is needed to support its review. The requests for additional information (RAIs) are provided below. A clarification call between the licensee and NRC staff took place on March 12, 2020, to ensure that the licensee understood the nature of the RAIs. As discussed during the call, the NRC staff request your response to the RAIs within 45 days of the date of this email. If you do not believe that you can meet the response date, please provide an acceptable alternate date and justification for extending the response date.

If you have any questions, please contact me at (301) 415-7410 or Natreon.Jordan@nrc.gov.

Thanks,
-Nate

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REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

ST. LUCIE PLANT, UNITS 1 AND 2

DOCKET NUMBERS 50-335 AND 50-389

By letter dated September 30, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML19275G789 [package]), Florida Power & Light Company (FPL) requested U.S. Nuclear Regulatory Commission (NRC) approval for an emergency action level (EAL) scheme change for the St. Lucie Plant, Units 1 and 2 (St. Lucie). 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 St. Lucie 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 St. Lucie. 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.

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

RAI 2

The proposed Table 1/2R-1, “Unit [1 or 2, as applicable] Effluent Monitor Classification Thresholds,” do not include the condenser evacuation or the steam generator blowdown building ventilation system effluent flow paths. These effluent flow paths are included in the St. Lucie ODCM.

Please explain why the condenser evacuation and the steam generator blowdown building ventilation system effluent flow paths are not included in the proposed Table 1/2R-1 or revise accordingly.

RAI 3

The proposed Table 1/2R-1 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 radiation monitor threshold values for RA1.1, RS1.1, and RG1.1. Although the NRC staff understands that main steam line radiation monitors are not typically effective in providing accurate effluent dose values, that understanding is not sufficient for the NRC staff to provide sufficient input for a site-specific safety evaluation.

Please provide a justification that supports removing threshold values based on main steam line radiation monitors from EALs RA1.1, RS1.1, and RG1.1.

RAI 4

The proposed Table 1/2R-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.

Please provide an explanation that supports the changes to the threshold values and the changes in instrumentation the for RA1, RS1, and RG1.

RAI 5

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.

Please provide a justification that specifically supports the use of “imminent” in the threshold value for RA2.1. Note: this explanation should include a discussion as to why St. Lucie cannot 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 6

The proposed threshold value for CS1.1 is the lowest readable level on LI-1117 or LI-1117-1 (zero inches).

Considering that a reading of zero inches could be the result of an instrument failure, please explain how an accurate determination can be made for a reading of zero inches on LI-1117 or LI-1117-1.

RAI 7

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 deviation could result in potential misclassification for an event other than a loss of RCS cooling that leads to an unplanned RCS pressure increase. Note: the NRC staff does agree that "…due to the loss of RCS cooling," is included in NEI 99-01, Revision 6. However, that statement is only one clause in the following sentence: "[CU3.1] involves a loss of decay heat removal capability, or an addition of heat to the RCS in excess of that which can currently be removed, such that reactor coolant temperature cannot be maintained. . .."

Please provide justification, in greater detail, for including "due to the loss of RCS cooling" to the threshold value for the proposed EAL CU3.1. Note: this change could impact the timing of the declaration of CU3.1. Thus, this change could reasonably be considered as a deviation.

RAI 8

The proposed reactor coolant system barrier (RCB) A.1 potential loss threshold value does not appear to be directly tied to having a RCS leak that is greater than the capacity of a charging pump as indicated by either direct indications from control room panels. As provided, it appears that a mass balance must be performed to assess RCS leak rate.

Please explain how St. Lucie can assess RCB potential loss A.1 in a timely and accurate manner given the proposed threshold value wording or revise accordingly.

RAI 9

The proposed fuel clad barrier (FCB) FCB3 and RCB3 potential loss threshold values on Table F-1 are different from the threshold values provided in the individual technical basis discussion pages. Additionally, it appears that meeting the applicable heat removal safety function status checks would only apply to heat removal via steam generators and would not apply to heat removal via once-through core cooling. This could result in inaccurate and/or delayed classifications.

a. Please explain why a consistent threshold value was not applied to all heat removal paths that could provide effective RCS heat removal or revise accordingly.

b. Please explain how different threshold values on Table F-1 and the associated fission product barrier basis discussion pages will not potentially cause delayed or inaccurate EAL classifications.

RAI 10

The proposed Containment High Range Monitor threshold values for FCB2 loss, RCB2 loss, and containment barrier (CB)2 potential loss have substantially changed from the current threshold values. An explanation that supports the changes in values was not provided.

Please provide an explanation that supports the changes to the Containment High Range Monitor threshold values for FCB2 loss, RCB2 loss, and CB2 potential loss.

RAI 11

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 [alternating current] power source that has sufficient capability to operate equipment necessary maintain a safe shutdown condition, such as FLEX [Diverse and Flexible Mitigation Capability] generators." The NRC staff does not agree that the existence of FLEX equipment and appropriate procedures to use that equipment provides justifies 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 is not reflected in the threshold values for SS 1.1 and SG 1.1. Note: 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. Please explain what features, that are unique to St. Lucie, 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. To ensure timely and accurate assessment of SS 1.1 and SG 1.1, please include either a condition or a note in that threshold values for EALs MS 1.1 and MG 1.1 that clearly indicates that "credit can be taken for any AC power source that has sufficient capability to operate equipment necessary maintain a safe shutdown condition, such as the FLEX generators."

RAI 12

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. It does not seem appropriate to declare a Notification of Unusual Event when the Technical Specification Limiting Condition for Operation (LCO) is met. This is especially true when the LCO allows continued operation at full power for an extended time.

Please 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.