



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 15, 2022

Mr. Bob Coffey
Executive Vice President, Nuclear Division
and Chief Nuclear Officer
Florida Power & Light Company
Mail Stop: EX/JB
700 Universe Blvd.
Juno Beach, FL 33408

SUBJECT: TURKEY POINT NUCLEAR GENERATING UNIT NOS. 3 AND 4 -
SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF
REQUESTED LICENSING ACTION RE: LICENSE AMENDMENT REQUESTS
TO REPLACE INSTRUMENTATION WITH DIGITAL SYSTEMS
(EPID L-2022-LLA-0105)

Dear Mr. Coffey:

By letter dated July 30, 2022, Florida Power & Light (FPL, the licensee) submitted license amendment requests for the Turkey Point Nuclear Generating Unit Nos. 3 and 4 (Turkey Point). The proposed license amendment requests would permit the use of digital instrumentation and controls (I&C) for the reactor protection system, engineered safety features actuation system, and nuclear instrumentation system at Turkey Point. In addition, the proposed amendments would allow use of safety related video display units; allow use of a non-safety-related diverse actuation system; allow changes to the control room; allow the automation of channel checks, channel operational tests, and actuation logic tests; change instrumentation allowable values for affected functions; change the definitions of channel check and channel operational test to account for the automation; and change the surveillance frequencies of affected channel checks, channel operational tests, and actuation logic tests.

The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of these license amendment requests. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an application for an amendment to a license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed license amendment requests in terms of regulatory requirements for the protection of public health and safety and the environment.

To make the application complete, the NRC staff requests that FPL supplement the application to address the information requested in the enclosure by October 5, 2022. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with your staff on September 13, 2022, during a public meeting with the NRC staff.

If you have any questions, please contact the Project Managers for this license amendment request, Bhagwat "BP" Jain at Bhagwat.Jain@nrc.gov or (301) 415-6303, and Michael Marshall at Michael.Marshall@nrc.gov or (301) 415-2871.

Sincerely,

/RA/

Bhagwat Jain, Senior Project Manager
Plant Licensing Branch 4
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosure:
Supplemental Information Needed

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED RELATED TO
AMENDMENT REQUESTS TO REPLACE INSTRUMENTATION WITH DIGITAL SYSTEMS
FLORIDA POWER & LIGHT COMPANY
TURKEY POINT NUCLEAR GENERATING UNIT NOS. 3 AND 4
DOCKET NOS. 50-250 AND 50-251

By letter dated July 30, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22213A045), Florida Power & Light (FPL, the licensee) submitted license amendment requests for Turkey Point Nuclear Generating Unit Nos. 3 and 4 (Turkey Point). The proposed amendment request would permit the use of digital instrumentation and controls (I&C) for the reactor protection system (RPS), engineered safety features actuation system (ESFAS), and nuclear instrumentation system (NIS) at Turkey Point. In addition, the proposed amendment would allow use of safety related video display units (SVDUs); allow use of a non-safety related diverse actuation system; allow changes to the control room; allow the automation of channel checks, channel operational tests, and actuation logic tests; change instrumentation allowable values for affected functions; change the definitions of channel check and channel operational test to account for the automation; and change the surveillance frequencies of affected channel checks, channel operational tests, and actuation logic tests.

To support the continuation of the acceptance review, the U.S. Nuclear Regulatory Commission (NRC) staff in a public meeting on September 13, 2022, discussed the supplemental information needed and requested that the licensee address the technical information insufficiencies (five acceptance issues) listed below. The NRC staff has determined that the information below is necessary for the NRC staff to complete the detailed technical review and render an independent assessment of changes described in the license amendment requests.

The licensee developed and submitted the application based on the Alternate Review Process (ARP) guidance in Interim Staff Guidance 06, Revision 2, "Licensing Process" (ISG-06). If accepted for review, the staff will not strictly employ the ARP because (1) the nuclear instrumentation system signal conditioning components as well as the SVDU subsystem, peer-to-peer communication components, and some other safety related equipment are based on non-Tricon system components not previously approved in a topical report by NRC and (2) the availability of some requirements and design information for the entire RPS/ESFAS/NIS system is not consistent with the upfront information needs of the ARP. As noted in Enclosure B of ISG-06, different information may be provided, depending on the scope and complexity of the system modification to support the NRC evaluation against the applicable acceptance criteria. Therefore, the staff will adjust its planned licensing review to identify information needs described in ISG-06, as appropriate, that will lead to the most effective and efficient review of the proposed modification on the development timeframe planned by Turkey Point. This type of specific information is clarified further below.

1. Implementation Items and Supplements

In the letter dated July 30, 2022, and Enclosures 1 and 2 to the letter, FPL identifies "documents that may be necessary to support NRC review, which are not available at this stage of the project." These documents have been labeled implementation items by

FPL and listed in a table on Page 3 of 3 of the letter. The information or a portion of the information in the documents identified by FPL are necessary to support NRC staff's review of the license amendment request and necessary for the NRC staff to make an independent assessment of the acceptability of the proposed change. The description of the implementation items does not clearly identify that the information necessary to support the review will be provided to the NRC on the docket by FPL nor does the description identify the date that the information will be submitted to the NRC on the docket as a supplement to the license amendment request.

The NRC staff accepts the licensee's position that the information is not available at this stage of the project. As an alternative to providing the information necessary to make the application complete, FPL can provide a detailed and specific description of the necessary information and date that the information will be provided to the NRC staff.

Additional information on information needs related to implementation items is provided below:

1.1 General need for more detailed descriptions regarding information to be provided and the timing of availability of that information

For each of the implementation items listed in the letter dated July 30, 2022, please provide a detailed description of the information that will be provided as a supplement to the license amendment requests or made available for audit, and the date (i.e., month, day, and year) that FPL will either provide the information on the docket as a supplement or make the information available for audit. If the information is only made available for audit, please note that the NRC may need some or all of that information to be subsequently submitted on the docket to support its regulatory review.

Note that the description of the fifth implementation item (Technical Specification supplement) is sufficient, so a more detailed description of the fifth implementation item is not needed. However, a date (i.e., month, day, and year) is needed.

1.2 Environmental Qualification (EQ) Supplement / Revised Tricon Platform Components

The scope of the planned EQ supplement identified in the first implementation item is unclear. It does not identify specific components for which EQ test summary reports will be provided or a planned date for submittal of these documents. Instead, it refers to an EQ Plan for a list of reports to be provided in the supplement. However, the NRC staff does not have access to this reference. Therefore, the NRC staff does not know what specific EQ summary reports will be provided in the supplement. Also, the license amendment request identifies several Tricon components that have been revised since the topical report was last approved by the NRC, the revised TR does not contain EQ test summary reports for these modified components.

The EQ test summary reports should document the results of the qualification testing. The summary should compare the standards and test limits to which

the equipment has been qualified and should compare the equipment qualification test limits to the licensee-established plant environmental conditions.

Please provide a detailed description of the information mentioned in the first implementation item that will be provided as a supplement to the license amendment request and the date (i.e., month, day, and year) that FPL will provide the information on the docket as a supplement.

1.3 Human Factors Engineering (HFE) Verification and Validation (V&V) Information

NUREG-0711, "Human Factors Engineering Program Review Model," Revision 3, discusses the process by which applicants can submit implementation plans (IPs) as part of an initial license amendment request (LAR) submittal, discussing the methodology for conducting work associated with the applicable HFE program elements, after which the applicant will submit a results summary report (RSR) when the work described within each IP is completed. For HFE V&V activities, Section 11.3 of NUREG-0711 specifies the information that should be included in the RSR. Section 11.3 also clarifies that summaries may be used to address any of the information specified, "provided that references are given for more detailed documents"

Included among the implementation items listed in the letter dated July 30, 2022, is the following:

"The activities and results of each human factors [verification and validation (V&V)] testing stage are documented in a Results Summary Report to specifically identify and describe the test and evaluation conditions at each stage as described in the HFE Plan."

This discussion of the implementation item for V&V activities, however, does not provide information regarding what stage(s) of testing are being credited towards providing the information necessary for the NRC to make its safety determination. This discussion also does not provide indication regarding when the credited V&V testing results (from early-stage testing or otherwise) will be available for NRC review. Moreover, the implementation item, as phrased in the submittal, does not provide assurance that information will be available before the point in time at which NRC staff will need to have completed their safety determination to support requested approval of the LAR within the timeframe discussed in the submittal.

To determine whether sufficient technical information, both in scope and depth will be available with an appropriate time frame to support the NRC's safety determination regarding the submitted LAR, the following supplemental information is needed:

- a. Identify what stage of validation will be credited and the completion schedule (i.e., month, day, and year) of the validation testing.

- b. Provide the schedule (i.e., month, day, and year) for submitting the results summary report (RSR) (or an equivalent report) discussing credited validation testing results.
- c. Provide the schedule (i.e., month, day, and year) for the availability of supporting documents referenced within the RSR (or equivalent report). This information is needed to enable NRC staff to plan any potential audits.

2. System Components Not Previously Reviewed by NRC

In Section 1.3 of Enclosures 1 and 2 to the letter dated July 30, 2022, the licensee states that the “format and contents of [the license amendment request] were developed in consideration of the guidance for an ARP” described in ISG-06. Figures 2.1-1, 2.2-1, and 2.3-1 of Enclosures 1 and 2 to the letter dated July 30, 2022, indicate that a significant number of new system components are identified by the licensee as “New Scope - Not previously reviewed by NRC.” As such, a large part of the modification does not meet the criteria for an ARP as defined in ISG-06, Section C. These portions of the application will therefore be reviewed under a “Tier 3-like” review process as defined in Section C.3.2.1 of ISG-06. The NRC staff therefore requires additional information as defined in ISG-06 Section D.9 and in Enclosure B for these portions of the replacement RPS, ESFAS, and NIS. This information is not in the request submitted by the licensee.

For each of the topics listed below, please provide a detailed description of the information that will be provided as a supplement to the license amendment request for system components that are not within the Tricon topical report scope and the date (i.e., month, day, and year) that FPL will provide the information on the docket as a supplement. The following information will need to be provided for the NRC staff to make an independent assessment regarding the acceptability of the proposed amendment request:

- a. (Summary of) Application Software Planning and Processes (see D.4)
- b. System Response Time Confirmation Report (see D.9.7)
- c. Platform-Level Failure Modes and Effects Analysis (see D.9.8)
- d. (Summary of) Electromagnetic Interference, Temperature, Humidity, and Seismic Testing Results (see D.3)
- e. Commercial-Grade Dedication Report(s) (see D.9.9)

3. Availability of HFE Results Summary Reports (RSR)

NUREG-0711 discusses the process by which applicants can submit IPs as part of an initial (LAR) submittal, discussing the methodology for conducting work associated with the applicable HFE program elements, after which the applicant will submit a RSR when the work described within each IP is completed. NUREG-0711 specifies, for each program element, the information that should be included in the RSR. NUREG-0711 also clarifies that summaries may be used to address any of the information to be included in each RSR, if references are given for more detailed documents.

The LAR, dated July 30, 2022, includes the Human Factors Engineering Analysis IP and the Human System Interface Design IP as Attachments 5 and 10, respectively. However, the LAR does not provide information regarding when results summary reports (or an equivalent) will be available to provide the information derived using the methodology discussed in these IPs.

To determine whether sufficient scope of information will be available with an appropriate time frame to support the NRC's acceptance of the submittal LAR, the following additional information is required:

- a. For each of the IPs listed above, provide the schedule (i.e., month, day, and year) for submitting the RSRs (or equivalent reports).
- b. Provide the schedule (i.e., month, day, and year) for the availability of supporting documents referenced within the RSRs (or equivalent reports). This information is needed to enable NRC staff to plan any potential audits.

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DATE	09/14/2022	09/14/2022	09/15/2022

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