



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

December 15, 2022

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

SUBJECT: TURKEY POINT NUCLEAR GENERATING UNITS NOS. 3 AND 4 –
SUPPLEMENT TO REGULATORY AUDIT PLAN IN SUPPORT OF REVIEW OF
LICENSE AMENDMENT REQUEST SUPPORTING DIGITAL
INSTRUMENTATION & CONTROL MODERNIZATION PROJECT
(EPID L-2022-LLA-0105)

Dear Mr. Coffey:

By letter dated May 3, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22123A231), Florida Power & Light Company (FPL, the licensee) requested that the U.S. Nuclear Regulatory Commission (NRC) review the defense in depth and diversity (D3) evaluation for the Turkey Point Nuclear Generating, Units 3 and 4 (Turkey Point). As stated in your letter, the D3 evaluation is part of a license amendment request that was planned to be submitted to the NRC in the second quarter of calendar year 2022 to support the digital instrumentation and control (I&C) modernization project at Turkey Point. By letter dated July 28, 2022 (ML22213A117), the NRC staff initiated a Regulatory Audit in accordance with NRR Office Instruction LIC-111, "Regulatory Audits," Revision 1 (ML19226A274) to support review of the D3 evaluation.

Subsequently, by letter dated July 30, 2022 (ML22213A045), FPL submitted the aforementioned license amendment request to support the digital I&C modernization project. In support of its review of the amendment request, the NRC staff intends to continue the currently established audit. The enclosure to this letter contains additional audit questions based on its review to-date of the amendment request. The numbering scheme for the enclosed audit questions continues from the end of the originally provided list to maintain unique numerical identifiers for each audit question. The NRC staff intends to continue implementation of the audit in accordance with the originally issued plan.

NOTICE: The Attachment to the Enclosure to this letter contains PROPRIETARY INFORMATION. Upon separation from the Attachment, this letter is DECONTROLLED.

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As indicated previously, the audit will consist of a series of open or partially closed public meetings using video conferencing tools and online portal(s) (also known as electronic portal, ePortal, electronic reading room, or eDocs web portal). The conclusion of the audit is currently scheduled for the end of calendar year 2023. Any changes in this schedule will be communicated to you by one of the assigned project managers.

If you have any questions, please contact me by telephone at 301-415-2871 or by email to Michael.Marshall@nrc.gov or Bhagwat "BP" Jain by telephone at 301-415-6303 or by email to Bhagwat.Jain@nrc.gov.

Sincerely,

/RA - GEMiller for /

Michael L. Marshall, Jr., Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosure:
Audit Plan

cc: Listserv

Item No.	Source Branch	Location in Application	Issue Description Prop Info Marked inside [[Square Brackets]]
26	EICB	3.1.3.1.2	<p>ISG4 Point 2 – The response to this point does not discuss [[</p> <p align="right">]]</p> <p><u>Action:</u> Need information on how the safety functions of each safety channel are being protected from adverse influence [[</p> <p align="center">]]</p>
27	EICB	3.18	<p>Self-diagnostic monitoring - In section 3.18 of the submittal, the licensee indicated the intent to follow Branch Technical Position (BTP) 7-17, "Guidance on Self-Test and Surveillance Test Provisions."</p> <p>The guidance of BTP 7-17 states that the capability to periodically test and calibrate the automatic test equipment should be provided.</p> <p>The NRC staff noted that a means of monitoring automatic test equipment was provided, however the NRC staff did not see any information that supports the provisions to confirm the execution of the automatic tests during plant operation.</p> <p>This issue was previously discussed at a pre-application meeting held on June 9, 2021 (ML21246A02109). During that meeting, the NRC staff had comments relating to the ... need for any self-diagnostics employed having a means to periodically evaluate its functionality. A discussion of those self-diagnostics used to evaluate the functionality of the automatic test equipment should be provided.</p> <p>SYRS-8074 states that [[</p> <p align="right">]]</p>

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28	EICB	3.1.2.4.6	<p>Peer to Peer Network: [[</p> <p align="right">]]</p> <p>and therefore cannot be used as a basis for meeting the independence criteria of IEEE 603, 7-4.3.2, or ISG-4. Because of this, [[</p> <p align="right">]] must be implemented in the application software of the system in order to establish compliance [[</p> <p align="right">]]</p> <p>While this method of establishing independence is not prohibited, it relies upon the development of application software which has not yet been developed. Therefore, the NRC staff does not currently have information on the application design that can be used as a basis for a determination of compliance with the independence requirements of IEEE 603, Clause 5.6 and additional information will be needed when the software design implementation is performed.</p> <p>[[</p> <p align="right">]] Since software is not available for the NRC to review, it will be difficult to confirm establishment of independence or to support a safety conclusion</p> <p>[[</p> <p align="right">]]</p> <p><u>Action:</u> Verify design and implementation of the protocol and network since this is a plant-specific application software development.</p>

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29	EICB	3.1.2.4.6	<p>Test Access Point (TAP): [[]]</p> <p>(1) The safety evaluation for the Tricon V10 TR includes the following application specific action item in Section 3.7.2.1 of the Tricon V10 SE: [[]]</p> <p>What is the model number of the aggregator TAP being used for the PTP network to confirm it is the same device that was approved for the Tricon TR.</p> <p>(2) Review of the SAP protocol was identified as ASAI 18 in the SER of the Tricon.</p> <p>Verify design and implementation of the protocol and network since this is a plant-specific application software development.</p>
30	EICB	3.1.2.4.4	<p>Communication Interfaces to DCS: Communication with DCS. [[]]</p> <p>The Tricon V10 SE Section 3.7.2.1 describes the use of a TAP for this type of communication [[]] however, no such device is included in the serial communication interfaces to the Foxboro DCS.</p> <p>Action: require information on [[]] DCS interfaces is implemented or enforced. Further, need information to determine how this communication meets IEEE</p>

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			Std 603-1991 Clause 5.6, "Independence," states that if a digital computer system used in a safety system is connected to a digital computer system used in a non-safety system, a logical or software malfunction of the non-safety system must not be able to affect the functions of the safety system.
31	EICB	Section 3.7	<p>To facilitate the NRC staff to plan an onsite audit on the equipment qualification (EQ), the licensee is requested to provide the following information for each of EQ tests including temperature and humidity, seismic, and electromagnetic compatibility qualification for both nuclear instrumentation and RPS/ESFAS components which are not covered by other reports:</p> <ul style="list-style-type: none"> • Current specific dates for the tests • Vendor or lab to conduct the tests • Location for the tests
32	SNSB	Section 4 of D3 Analysis	<p><u>Acceptance Criteria for the D3 Analysis</u></p> <p>1. Acceptance Criterion (AC) c in Section B.3.3 of BTP 7-19 specifies that for postulated accidents, the D3 analysis should not result in violation of the integrity of the reactor coolant pressure boundary (RCPB), or violation of the integrity of the containment. In addressing the requested AC c, it states in Section 4 of the D3 analysis report (page 35/180) that for cited AC c, the reactor coolant system pressure limit is set to be 3,215 pounds per square inch absolute (psia) for the RCPB integrity. The D3 analysis report does not discuss the requested AC for the integrity of the containment.</p> <p>Discuss the applicable AC that was used in the D3 analysis for the integrity of the containment during an accident in conjunction with each software common cause failure and discuss applicable D3 analyses to show that the associated AC for the containment integrity can</p>

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			<p>be met. If it determined that an AC for the containment integrity is not needed, provide the rationale supporting the determination.</p>
33	SNSB	Section 4.4 of D3 Analysis	<p>Section 4.4 (page 131) of the D3 analysis report indicates that “ground rules a. to f.” are considered bounding and used in for the control system evaluation, and claims that those ground rules are provided in the guidance of BTP 7-19 (Refer to reference 3 section 3) and the FMEA report (Refer to reference 26 section 4). Specifically, ground rule b. states that</p> <p>“For a postulated SWCCF in the RPS/ESFAS that results in the output signals [[(underlined for emphasis), each postulated SWCCF is [[]].</p> <p>The postulated SWCCF is considered the initiating event”.</p> <p>Provide pointers to Section 3 of the BTP 7-19 guidance and Section 4 of the FMEA report to demonstrate that the ground rules (specially, rule b. cited above) are provided in BTP 7-17 and the FMEA report. For those ground rules that are included in the FMEA report, provide relevant pages that discuss the ground rules and justify that the rules used in the FMEA is acceptable for evaluation of the control system responses due to a SWCCF in the RPS/ESFAS.</p>

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34	SNSB	Section 4.4 of D3 Analysis	<p>Section 4.4 (page 132) of the D3 analysis report provides the definitions for the failure modes [[</p> <p style="text-align: right;">]] and</p> <p>claims that those definitions are derived from the guidance of BTP 7-19 (Refer to reference 3 section 3) and the FMEA report (Refer to reference 26 section 4). [[</p> <p style="text-align: right;">]]</p> <p>Provide pointers to Section 3 of the BTP 7-19 guidance and Section 4 of the FMEA report to demonstrate the derivations of the definitions (stated on page 132) from the related portions of the BTP 7-19 and FMEA report. For the information from the FMEA report, provide relevant pages that contain the information for the derivation of the definitions, and justify that the information in the FMEA is acceptable for derivation of the definitions that are used in evaluation of the control system responses due to a SWCCF in the RPS/ESFAS.</p>

Table 2 – Requested Documents		
<i>Audit List Item</i>	<i>Source Branch</i>	<i>Requested Information to be Available on Portal for Audit</i>
26	IQVB	Vendor Oversight Plan
27	EICB	5.16 Framatome Inc., Doc. No. 136-9324585-001, Turkey Point Units 3&4 Software Safety Plan
28	EICB	5.17 Framatome Inc., Doc. No.136-9327642-000, Turkey Point Units 3&4 Verification and Validation Test Plan
29	ELTB	Framatome Doc. No. OI-2A826-9327259, Secure Development and Operational Environment, Revision 0 (Reference 5.155)
30	ELTB	Framatome Inc., Doc. No. 51-9324739-001, Florida Power and Light Turkey Point Nuclear Units 3&4 Digital Modernization Cyber Security Plan, dated July 6, 2021 (Reference 5.152)
31	ELTB	NextEra Audit Report No. JQA-21-026, NextEra Energy (NEE) Audit Report # PQA 21-093 of Framatome/BHI LLC and Supplier Finding Reports, dated July 23, 2021 (Reference 5.224)
32	EICB	Framatome Inc., Doc. No. 51-9324222-007, Turkey Point 1E Digital Modernization Equipment Qualification Plan
33	EICB	Appendix A (EPRI-TR-107330 Requirements Compliance and Traceability Matrix) and Appendix B (Application Guide) of Attachment 7.9 in the License Amendment Report
34	EICB	Framatome AP 0412-83, Revision 003, Qualification of Equipment

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DISTRIBUTION:

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PM Reading File	RidsNrrDraAplc Resource
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RidsNrrLARButler Resource	RidsNrrDnrlNphp Resource
RidsNrrDorlLpl2-2 Resource	SSun, NRR
RidsACRS_MailCTR Resource	RStattel, NRR
RidsRgn2MailCenter Resource	DRahn, NRR
RidsNrrDssSnsb Resource	JVazquez, NRR
RidsNrrDssScpb Resource	SAferink, NRR
RidsNrrDexEicb Resource	EReichelt, NRR
RidsNrrDexEltb Resource	CLi, NRR
RidsNrrDexEMib Resource	SMeighan, NRR

ADAMS Accession Nos.:

Package: ML22349A004

Proprietary version: ML22322A160

Nonproprietary version: ML22322A181

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-2/LA	DSS/SNSB/BC	DEX/EICB/BC
NAME	GEMiller	RButler	DWoodyatt	MWaters
DATE	12/8/2022	11/21/2022	12/8/2022	12/6/2022
OFFICE	DORL/LPL2-2/BC	DORL/LPL1/PM		
NAME	DWrona	MMarshall (GEM for)		
DATE	12/9/2022	12/14/2022		

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