October 19, 2017
L-2017-188
10 CFR 50.90

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington D C 20555-0001

RE: Turkey Point Nuclear Plant, Units 3 and 4
Docket Nos. 50-250 and 50-251
Renewed Facility Operating Licenses DPR-31 and DPR-41

Supplemental Information for License Amendment Request 255, Relocate the Explosive Gas Monitoring, Gas Decay Tanks and Standby Feedwater System Technical Specifications to Licensee Controlled Documents

References:

1) FPL letter L-2017-110 dated August 23, 2017, License Amendment Request 255, Relocate the Explosive Gas Monitoring, Gas Decay Tanks and Standby Feedwater System Technical Specifications to Licensee Controlled Documents (Accession No. ML17235B008)

2) NRC letter dated October 6, 2017, Turkey Point Nuclear Generating Unit Nos. 3 and 4 - Supplemental Information Needed for Acceptance of License Amendment Request 255 for the Relocation of the Requirements for Explosive Gas Monitoring, Gas Decay Tanks and Standby Steam Generator Feed Pumps (CAC NOS. MG0143 and MG0144)

In Reference 1, Florida Power & Light Company (FPL) submitted license amendment request (LAR) 255 for Turkey Point Nuclear Plant Units 3 and 4 (Turkey Point), Renewed Facility Operating Licenses DPR-31 and DPR-41, respectively. The proposed license amendments modify the Turkey Point Technical Specifications by relocating the Explosive Gas Monitoring Instrumentation, Explosive Gas Mixture, and Gas Decay Tanks System requirements to licensee controlled documents and establishing a Gas Decay Tank Explosive Gas and Radioactivity Monitoring Program. The license amendments additionally relocate the Standby Feedwater System requirements to licensee controlled documents and modify related Auxiliary Feedwater System requirements.

In Reference 2, the NRC staff requested supplemental information deemed necessary to complete its acceptance review of LAR 255.

The enclosure to this letter provides FPL's response to the supplemental information request.

This letter contains no new or revised regulatory commitments. This supplemental information does not alter the conclusion in Reference 1 that the proposed changes do not involve a significant hazards consideration pursuant to 10 CFR 50.92, and there are no significant environmental impacts associated with the proposed changes.

Should you have any questions regarding this submission, please contact Mr. Mitch Guth, Turkey Point Licensing Manager, at 305-246-6698.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 19, 2017

Sincerely,

Thomas Summers
Regional Vice President - Southern Region
Florida Power & Light Company

Enclosure: Response to Supplemental Information Request

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, Turkey Point Nuclear Plant
USNRC Senior Resident Inspector, Turkey Point Nuclear Plant
Ms. Cindy Becker, Florida Department of Health

Enclosure

Turkey Point Units 3 and 4

Response to Supplemental Information Request for
License Amendment Request 255
Relocate Explosive Gas Monitoring, Gas Decay Tanks and
Standby Feedwater System Technical Specifications to
Licensee Controlled Document

NRC comment:

Provide the basis for concluding the Standby Feedwater System is not significant to public health and safety. The basis should include an assessment of operating experience and risk insights and a discussion of the safety significance of the functions… .

FPL Response:

The proposed license amendments relocate the requirements of Technical Specification (TS) 3.7.1.6, Standby Feedwater System, to licensee controlled documents. The proposed amendments also delete the special reporting requirements of TS 3.7.1.6 such that no notification to the NRC would occur in the event a Standby Steam Generator Feedwater Pump (SSGFP) or the Demineralized Water Storage Tank (DWST) is non-operational in excess of the current TS 3.7.1.6 specified periods triggering special reporting.

In proposing LAR 255, FPL evaluated the Standby Feedwater System's safety-significance and concluded that it does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion as a TS Limiting Condition for Operation (LCO). Consistent with Criterion 4 of 10 CFR 50.36(c)(2)(ii), the evaluation included a determination of whether operating experience or probabilistic risk assessment have shown the Standby Feedwater System's structures, systems and components (SSCs) to be significant to public health and safety.

Regarding the Standby Feedwater System's risk significance:

- For internal events and flooding events, a sensitivity analysis was done by increasing the failure probability of the SSGFPs by two orders of magnitude. This results in the system's contribution to Turkey Point's core damage frequency (CDF) remaining below 1E-6 per year. A substantial portion of the system's risk significance comes from the Turkey Point Fire PRA due to certain fire scenarios that credit the SSGFPs. However, it has long been the NRC's position that fire scenarios and protective features are subject to a separate license condition and do not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion in the TS as an LCO.

Regarding current Standby Feedwater System monitoring:

- The Turkey Point NFPA 805 Monitoring Program identifies the SSGFPs as high safety significance (HSS) for certain fire scenarios and thereby subject to NFPA 805 program monitoring. Under this program, target unreliability and unavailability criteria are established based on Fire PRA failure probabilities. The NFPA 805 Monitoring Program screening determination concluded that the current Maintenance Rule (MR) Program monitoring of the SSGFPs is acceptable and that additional NFPA 805 Monitoring Program inspections and tests are not warranted (Reference 1).

- The Turkey Point MR Program established reliability performance criteria for both SSGFPs and adds unavailability criteria for the diesel-driven SSGFP.

Regarding operating experience (OE):

- FPL conducted a search for OE related to similar standby feedwater systems. NUREG/CR-5764, "Auxiliary Feedwater System Risk-Based Inspection Guide for the Ginna Nuclear Power Station" (Reference 2), was identified as a document describing some level of OE. The report details a listing of the risk important AFW components at the Ginna Nuclear Power Station based upon PRA, industry operating experience, etc., and the various failure causes. Though many standby AFW system components were identified as risk significant, none were explicitly identified as affecting the operational performance and readiness of the AFW system and moreover, none were explicitly attributed to the AFW system's failure history.

  While the AFW system at the Ginna Nuclear Power Station is similar in design to the one at Turkey Point, the standby AFW system at Ginna was retrofitted to address a high energy line break (HELB) outside Containment event and thereby satisfies the 10 CFR 50.36(c)(2)(ii) criteria for inclusion as a TS LCO. The system is supported by a safety-related ventilation system and powered by redundant Class lE electrical systems. In contrast, Turkey Point's Standby Feedwater system is a non-safety grade system used for plant startup and shutdowns and is located in the outside environs. Consequently, the OE included in the report was not deemed directly applicable. The system is not relied upon to mitigate a HELB or any other postulated transient or accident, and though credited in select fire scenarios, its function as a backup to the AFW system in these scenarios is not subject to the 10 CFR 50.36(c)(2)(ii) criteria for inclusion as a LCO.

- The NRC's final policy statement on TS improvements (Reference 3) states that the Residual Heat Removal (RHR) system is one example of a system satisfying Criterion 4 of 10 CFR 50.36(c)(2)(ii) and thereby subject to inclusion as a TS LCO. In Standard Technical Specification (STS) 3.9.5 of NUREG-1431, Volume 2, Bases (Reference 4), the only description of the RHR system satisfying Criterion 4 is in MODE 6 with the reactor cavity water level 23 feet or more above the reactor vessel flange. The guidance explains that only one RHR train is required in this configuration because the water above the reactor vessel flange provides backup capability for decay heat removal. In essence, the single RHR train is credited as the primary means and the cavity water level as the backup means for maintaining fuel cladding integrity during this operational mode.

In contrast, the highly reliable AFW trains are credited as the primary and backup means for decay heat removal capability during MODES 1, 2 and 3. In the event one AFW train is unavailable, the redundant AFW train is capable of performing its specified function. The non-safety grade Standby Feedwater System provides a shutdown function but not a safety-related or emergency function. Only for fires disabling all three AFW pumps is credit taken for the Standby Feedwater System. As stated earlier, fire scenarios are subject to a separate license condition and do not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion as a TS LCO. The FPP is not addressed in the TS other than to establish administrative controls consistent with other programs implemented by license condition.

References:

1. Jensen Hughes Report #: 033006-RPT-002, PTN NFPA 805 Implementation – Task 2 Monitoring - NFPA 805 Monitoring Program Phase 2/3: Screening and Risk Target Values, Revision 3, October 24, 2016

2. NUREG/CR-5764, Auxiliary Feedwater System Risk-Based Inspection Guide for the Ginna Nuclear Power Station, September 1991.

3. NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors, dated July 22, 1993 (58 FR 39132)

4. NUREG-1431, Standard Technical Specifications - Westinghouse Plants, Revision 4.0, Volume 2 Bases (Accession No. ML12100A228)