L-2019-114
10 CFR 54.17

June 4, 2019

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

Re: Florida Power & Light Company
Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Turkey Point Units 3 and 4 Subsequent License Renewal Application
Safety Review Requests for Additional Information (RAI) Set 10
RAI No. B.2.3.28-1b Updated Response

References:

1. FPL Letter L-2018-004 to NRC dated January 30, 2018, Turkey Point Units 3 and 4 Subsequent License Renewal Application (ADAMS Accession No. ML18037A812)
2. FPL Letter L-2018-082 to NRC dated April 10, 2018, Turkey Point Units 3 and 4 Subsequent License Renewal Application – Revision 1 (ADAMS Accession No. ML18113A134)
3. FPL Letter L-2019-106 to NRC dated May 21, 2019, Turkey Point Units 3 and 4 Subsequent License Renewal Application Safety Review Requests for Additional Information (RAI) Set 10 RAI No. B.2.3.28-1b Revised Response (ADAMS Accession No. ML19143A092)

Florida Power & Light Company (FPL) submitted a subsequent license renewal application (SLRA) for Turkey Point Units 3 and 4 to the NRC on January 30, 2018 (Reference 1) and SLRA Revision 1 on April 10, 2018 (Reference 2).

The purpose of this letter is to provide the attached update to the safety review Set 10 RAI No. B.2.3.28-1b revised response submitted by FPL on May 21, 2019 (Reference 3). The attachment identifies revisions amending the SLRA.

If you have any questions, or need additional information, please contact me at 561-691-2294.

A084
NRR

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

Executed on June 4, 2019.

Sincerely,

William Maher
Senior Licensing Director
Florida Power & Light Company

WDM/RFO

Attachment: NRC RAI No. B.2.3.28-1b Updated Response

cc:

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

NRC RAI Letter Nos. ML19087A209 and ML19087A211 Dated March 28, 2019

1. Buried and Underground Piping and Tanks, GALL AMP XI.M41

RAI B.2.3.28-1b

Update to FPL revised response Associated SLRA Revisions section:

The Associated SLRA Revisions provided below supersede in their entirety the FPL revised response Associated SLRA Revisions in Reference 1.

References:

1. FPL Letter L-2019-106 to NRC dated May 21, 2019, Turkey Point Units 3 and 4 Subsequent License Renewal Application Safety Review Requests for Additional Information (RAI) Set 10 RAI No. B.2.3.28-1b Revised Response (ADAMS Accession No. ML19143A092)

Associated SLRA Revisions:

SLRA Section 17.2.2.28, Table 17-3 and Section B.2.3.28 are amended as indicated by the following text deletion (strikethrough) and text addition (bold red underlined font) revisions. SLRA text additions made by previous RAI responses are indicated by bold black underlined font.

Revise the fourth paragraph and following table of SLRA Section 17.2.2.28 on page A-33 as follows:

Inspections are conducted by qualified individuals. Where the coatings, backfill or the condition of exposed piping does not meet acceptance criteria, such that the depth or extent of degradation of the base metal could have resulted in a loss of pressure boundary function when the loss of material rate is extrapolated to the end of the SPEO, an increase in the sample size is conducted. Direct visual inspection**s** are performed on the external surfaces, protective coatings, wrappings, quality of backfill and wall thickness measurements using NDE techniques.

Additional inspections are performed on steel piping in lieu of fire main testing. The fire water system jockey pump activity (or a similar parameter) will be monitored for unusual trends. The table below provides additional information related to inspections. Preventative Action Category F has been **initially** selected for monitoring steel piping (which includes cast iron piping) during the initial monitoring period ~~since the cathodic protection system will not be operational during that time period.~~ **prior to the SPEO. A cathodic protection system for buried steel and cementitious piping for systems within the scope of SLR will be installed no later than nine years prior to the SPEO. The intent is to satisfy conditions of Preventive Action Category C in NUREG-2191, Table XI.M41-2, for inspections of buried steel piping during the SPEO (four inspections during**

each ten-year period). As part of the cathodic protection system installation, FPL will also perform soil corrosivity testing per Item E.b.iii of Table XI.M41-2 of NUREG-2191. If after five years of operation the cathodic protection system does not meet the effectiveness acceptance criteria defined by NUREG-2191, Tables XI.M41-2 and -3 (-850 mV relative to a CSE, instant off, for at least 80% of the time, and in operation for at least 85% of the time), the number of inspections to be performed will be as follows:

- **If soil testing has determined the soil is not corrosive per Item E.b.iii of Table XI.M41-2 of NUREG-2191 (including a minimum soil resistivity value of 10,000 ohm-cm), FPL commits to performing two additional buried steel piping inspections beyond the number required by Preventive Action Category F. This would result in a total of thirteen inspections being completed six months prior to the SPEO.**
- **If soil testing has determined the soil is corrosive per Item E.b.iii of Table XI.M41-2 of NUREG-2191, FPL commits to performing five additional buried steel piping inspections beyond the number required by Preventive Action Category F. This would result in a total of sixteen inspections being completed six months prior to the SPEO.**

Based on the cathodic protection survey results and OE gathered prior to the SPEO, the preventive action category and number of inspections may be changed depending on which set of preventive actions listed GALL-SLR Table XI.M41-2 are satisfied at the time. The **currently planned** number of inspections for each 10-year inspection period, commencing 10 years prior to the start of SPEO, are based on the inspection quantities noted in Table XI.M41-2, adjusted for a 2-Unit plant site **as shown in the table below**. **Once cathodic protection is installed for steel piping, annual cathodic protection surveys are conducted. For steel components, the acceptance criteria for the effectiveness of the cathodic protection is -850 mV relative to a copper/copper sulfate reference electrode, instant off, for at least 80% of the time, and in operation for at least 85% of the time for five years. ~~A reduction in the number of inspections based on a lack of soil corrosivity is not taken so soil testing is not conducted.~~**

Material	Parameter(s) Monitored	No. of Inspections	Notes
Steel ~~(Category F)~~	Loss of Material	11 **to 16 (pre-SPEO)** **Per GALL-SLR XI.M41 requirements (during the SPEO)**	GALL-SLR Report AMP XI.M41 Table XI.M41-2 quantity increased by 2 in lieu of fire main flow testing
Stainless Steel	Loss of Material Cracking	2 **(underground environment)** **2 (buried environment)**	**Number of inspections are for prior and during the SPEO**
Cementitious	Loss of Material Cracking	2	**Number of inspections are for prior and during the SPEO**

Revise the current commitment for the Buried and Underground Piping and Tanks AMP in SLRA Table 17-3, Item 32, updated per page 4 of 6 of Attachment 25 to Ref. 2 as follows:

Table 17-3
List of SLR Commitments and Implementation Schedule

No.	Aging Management Program or Activity (Section)	NUREG-2191 Section	Commitment	Implementation Schedule
32	Buried and Underground Piping and Tanks (17.2.2.28)	XI.M41	Implement the new PTN Buried and Underground Piping and Tanks AMP. Install cathodic protection systems and perform effectiveness reviews in accordance with Table XI.M41-2 in NUREG-2191, Section XI.M41. **Perform soil testing following the guidance of Item E.b.iii of Table XI.M41-2 (including a minimum soil resistivity value of 10,000 ohm-cm) to determine if the soil is corrosive.** **If after five years of operation the cathodic protection system does not meet the effectiveness acceptance criteria defined by NUREG-2191, Tables XI.M41-2 and -3 (-850 mV relative to a CSE, instant off, for at least 80% of the time, and in operation for at least 85% of the time), the number of inspections will be as follows:** • **If soil testing has determined the soil is not corrosive per Item E.b.iii of Table XI.M41-2 of NUREG-2191 (including a minimum soil resistivity value of 10,000), FPL commits to performing two additional buried steel piping inspections beyond the number required by Preventive Action Category F resulting in a total of thirteen inspections being completed six months prior to the SPEO.** • **If soil testing has determined the soil is corrosive per Item E.b.iii of Table XI.M41-2 of NUREG-2191, FPL commits to performing five additional buried steel piping inspections beyond the number required by Preventive Action Category F resulting in a total of sixteen inspections being completed six months prior to the SPEO.**	Implement AMP and start inspections no earlier than 10 years prior to the SPEO. **Install cathodic protection systems and perform soil testing no later than nine ~~7~~ years prior to the SPEO.** Complete pre-SPEO inspections no later than 6 months or the last RFO prior to SPEO. Corresponding dates are as follows: PTN3: 7/19/2022 - 1/19/2032 PTN4: 4/10/2023 - 10/10/2032

Revise current SLRA Section B.2.3.28 page B-219 paragraph 3 under "Preventive measures" (updated per page 5 of 6 of Attachment 25 to Ref. 2) as follows:

PTN currently does not have a cathodic protection system for buried and underground piping. The original plant design assumed that based on the use of the limerock fill around the buried piping the groundwater would migrate to the water table and not be retained in the vicinity of the piping. Due to the high permeability of the limerock, corrosion was not expected to be a significant influence. **Regardless,** in accordance with the requirements of GALL-SLR Report AMP XI.M41, a cathodic protection system will be installed **at least nine years** prior to SPEO. ~~**Because of operating experience related to past corrosion of buried pipe at PTN, a cathodic protection system will be installed in accordance with the requirements of GALL-SLR Report AMP XI.M41 at least 7 years prior to the SPEO.**~~ **Once cathodic protection is installed for steel piping, annual cathodic protection surveys are conducted so that adequate effectiveness can be demonstrated during the first inspection period. For steel components, the acceptance criteria for the effectiveness of ~~the~~ cathodic protection is -850 mV relative to a copper/copper sulfate reference electrode, instant off, for at least 80% of the time, and in operation for at least 85% of the time for five years.**

Revise the table in SLRA Section B.2.3.28 on page B-220

Material	Parameter(s) Monitored	No. of Inspections	Notes
Steel ~~(Category F)~~	Loss of Material	11 **to 16 (pre-SPEO) Per GALL-SLR XI.M41 requirements (during the SPEO)**	GALL-SLR Report AMP XI.M41 Table XI.M41-2 quantity increased by 2 in lieu of fire main flow testing
Stainless Steel	Loss of Material Cracking	2 **(underground environment)** **2 (buried environment)**	**Number of inspections are for prior and during the SPEO**
Cementitious	Loss of Material Cracking	2	**Number of inspections are for prior and during the SPEO**

Revise SLRA Section B.2.3.28 on page B-223 as follows:

~~In addition, PTN has experienced a number of pipe leaks and/or breaks in buried piping. Most of these pipe breaks have been in the piping for the fire water and service water systems. These breaks have been documented in the CAP. A review of the documentation in the CAP indicates that typically they have been~~ **Only one minor (pin-hole) leak has occurred on buried piping in the scope of SLR**. **This pin-hole leak was** caused by **a** localized corrosion **cell**. ~~These breaks have been~~ **The leak was** repaired and the piping returned to service.

Associated Enclosures:

None