



May 19, 2022

L-2022-071
10 CFR 54.17

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
11545 Rockville Pike
One White Flint North
Rockville, MD 20852-2746

St. Lucie Nuclear Plant Units 1 and 2
Dockets 50-335 and 50-389
Facility Operating Licenses DPR-67 and NPF-16

SUBSEQUENT LICENSE RENEWAL APPLICATION REVISION 1 – SUPPLEMENT 3

References:

1. FPL Letter L-2021-192 dated October 12, 2021 – Subsequent License Renewal Application – Revision 1 (ADAMS Accession No. ML21285A107)
2. U.S. Nuclear Regulatory Commission (NRC) Letter dated September 24, 2021, St. Lucie Plant, Units 1 and 2 – Aging Management Audit Plan Regarding the Subsequent License Renewal Application Review (ADAMS Accession No. ML21245A305)

FPL, owner and licensee for St. Lucie Nuclear Plant (PSL) Units 1 and 2, has submitted a revised subsequent license renewal application (SLRA) for the Facility Operating Licenses for PSL Units 1 and 2 (Reference 1). During NRC's aging management audit of the SLRA with FPL (Reference 2), FPL agreed to supplement the SLRA (Enclosure 3, Attachment 1 of Reference 1) with new or clarifying information. The attachments to this letter provide that information.

For ease of reference, the index of attachment topics is provided on page 3 of this letter. In each attachment, changes are described along with the affected section(s) and page number(s) of the docketed SLRA (Enclosure 3, Attachment 1 of Reference 1) where the changes are to apply. For clarity, revisions to the SLRA are provided with deleted text by ~~strike-throughs~~ and inserted text by **bold red underline**. Revisions to SLRA tables are shown by providing excerpts from each affected table.

Should you have any questions regarding this submittal, please contact me at (561) 304-6256 or William.Maher@fpl.com.

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

Executed on the 19th day of May 2022.

Sincerely,

William D. Maher
Licensing Director – Nuclear Licensing Projects

Cc: Regional Administrator, USNRC, Region II
 Senior Resident Inspector, USNRC, St. Lucie Plant
 Chief, USNRC, Division of New and Renewed Licenses
 Senior Project Manager, USNRC, Division of New and Renewed Licenses
 Chief, Bureau of Radiation Control, Florida Department of Health

Attachments Index	
Attachment No.	PSL SLRA Revision 1 Enclosure 3 Attachment 1 Topic
1	Electrical Clarifications
End	

Electrical Clarifications

Affected SLRA Sections: 2.1.4.5, 2.5.1.2, 19.2.2.38 (Appendices A1 and A2), 19.2.2.39 (Appendices A1 and A2), 19.2.2.40 (Appendices A1 and A2), B.2.3.38, and B.2.3.40.

SLRA Page Numbers: 2.1-6, 2.1-13, 2.1-19, 2.5-2, A1-37, A1-38, A1-39, A1-40; A2-37, A2-38, A2-39, A2-40, B-270, B-271, B-284.

Description of Change:

The SLRA is revised to confirm SLR scoping was performed on electrical and I&C systems at PSL against the criteria in 10 CFR 54.4(a)(1), (a)(2) and (a)(3). The SLRA is revised to add Cable Bus to Section 2.5.1.2. The SLRA is revised to add specific language from SLR-ISG-2021-04-ELECTRICAL to the inaccessible medium-voltage, instrument & control, and low-voltage power cable AMPs in Appendices A1 and A2, as requested by NRC. This change aligns the Appendix A1 and Appendix A2 AMP descriptions with SLRA Section 2.1.6.1 and the specific language updates shown in the ISG. Appendix B, Section B.2.3.38 is also revised to be consistent with the SLR-ISG-2021-04-ELECTRICAL terminology. Section B.2.3.40 is revised for consistent wording for the XIE3 series AMPs.

SLRA Section 2.1.3.3, third paragraph, page 2.1-6, is revised as follows:

The first item includes NNS SSCs credited as mitigative design features or for providing system functions relied on by SR SSCs in the PSL Units 1 and 2 CLBs. These NNS SSCs are identified by reviewing the PSL Unit 1 and 2 UFSARs and other CLB documents. In addition, a supporting system review was performed to identify any NNS mechanical systems or electrical and I&C systems that supports a SR intended function of a system included within the scope of SLR in accordance with 10 CFR 54.4(a)(1). Any NNS mechanical or electrical and I&C systems identified during this review are included within the scope of SLR in accordance with 10 CFR 54.4(a)(2).

SLRA Section 2.1.4.2.1, second paragraph, page 2.1-13, is revised as follows:

The identification of the PSL SSCs determined to be within the scope of 10 CFR 54.4(a)(2) for original PSL license renewal is described in the original Unit 1 and Unit 2 scoping reports. These reports were used as a starting point for the determination of the mechanical, electrical and I&C, and civil/structural SSCs within the scope of 10 CFR 54.4(a)(2) for PSL SLR. Additional sources of information used to determine this scope includes the original license renewal NRC Safety Evaluation Report, NUREG-1779, plant design modifications implemented between January 1, 2003 and October 1, 2020, and the information sources listed in [Section 2.1.2](#).

SLRA Section 2.1.4.5, last paragraph, page 2.1-19, is revised as follows:

Electrical and I&C systems at PSL have been scoped for SLR with the criteria of 10 CFR 54.4(a)(1), (a)(2), and (a)(3). Electrical and I&C components of in-scope electrical and in-scope mechanical systems are placed in commodity groups and are screened as commodities. The determination of SLR system and structure boundaries are further described in the screening procedures for mechanical systems ([Section 2.1.5.1](#)), civil structures ([Section 2.1.5.2](#)), and electrical and I&C systems ([Section 2.1.5.3](#)).

SLRA Section 2.5.1.2, page 2.5-2, is revised as follows:

2.5.1.2 Application of Screening Criterion 10 CFR 54.21(a)(1)(i) to the Electrical and I&C Components and Commodities

Following the identification of the electrical and I&C components and commodity groups, the criterion of 10 CFR 54.21(a)(1)(i) is applied to identify electrical and I&C commodity groups that perform their functions without moving parts or without a change in configuration or properties. The following electrical and I&C commodity groups meet the screening criteria of 10 CFR 54.21(a)(1)(i) for PSL:

- Electrical Penetration Assemblies
- Insulated cables and connections
- Metal Enclosed Bus
- **Cable Bus**
- High-voltage insulators
- Switchyard bus
- Transmission conductors
- Uninsulated ground conductors

SLRA Appendix A1, Section 19.2.2.38, pages A1-37 and A1-38 (1st paragraph of section), is revised as follows:

The PSL Electrical Insulation for Inaccessible Medium-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements AMP is a new AMP. The purpose of this AMP is to provide reasonable assurance that the intended functions of inaccessible medium-voltage power cables (operating voltages of 2 kV to 35 kV) that are not subject to the EQ requirements of 10 CFR 50.49 are maintained consistent with the CLB through the SPEO. This AMP applies to **all** inaccessible (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct-buried installations) ~~non-EQ~~ medium-voltage power cables **that are** within the scope of **subsequent license renewal (SLR) and potentially** exposed to wetting or submergence (i.e., significant moisture). Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period), which if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that **results from event-driven occurrences and is mitigated by** ~~is minimized due to effective automatic or passive drainage~~ is not considered significant moisture for **the purposes of** this AMP.

SLRA Appendix A2, Section 19.2.2.38, page A2-37 (1st paragraph of section), is revised as follows:

The PSL Electrical Insulation for Inaccessible Medium-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements AMP is a new AMP. The purpose of this AMP is to provide reasonable assurance that the intended functions of inaccessible medium-voltage power cables (operating voltages of 2 kV to 35 kV) that are not subject to the EQ requirements of 10 CFR 50.49 are maintained consistent with the CLB through the SPEO. This AMP applies to **all** inaccessible (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct-buried installations) ~~non-EQ~~ medium-voltage power cables **that are** within the scope of **subsequent license renewal (SLR) and potentially** exposed to wetting or submergence (i.e., significant moisture). Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period), which if left

unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that results from event-driven occurrences and is mitigated by ~~is minimized due to effective~~ automatic or passive drainage is not considered significant moisture for the purposes of this AMP.

SLRA Appendix A1, Section 19.2.2.39, page A1-39 (1st paragraph of the section) is revised as follows:

The PSL Electrical Insulation for Inaccessible Instrument and Control Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements AMP is a new AMP. The purpose of this AMP is to provide reasonable assurance that the intended functions of inaccessible instrumentation and control (I&C) cables that are not subject to the EQ requirements of 10 CFR 50.49 are maintained consistent with the CLB through the SPEO. This AMP applies to inaccessible (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct buried installations) (I&C) cables that are within the scope of subsequent license renewal (SLR) and potentially exposed to significant moisture. Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period), which if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that results from event-driven occurrences and is mitigated by either automatic or passive drains is not considered significant moisture for the purposes of this AMP.

SLRA Appendix A2, Section 19.2.2.39, page A2-38 (1st paragraph of the section) is revised as follows:

The PSL Electrical Insulation for Inaccessible Instrument and Control Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements AMP is a new AMP. The purpose of this AMP is to provide reasonable assurance that the intended functions of inaccessible instrumentation and control (I&C) cables that are not subject to the EQ requirements of 10 CFR 50.49 are maintained consistent with the CLB through the SPEO. This AMP applies to inaccessible (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct buried installations) (I&C) cables that are within the scope of subsequent license renewal (SLR) and potentially exposed to significant moisture. Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period), which if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that results from event-driven occurrences and is mitigated by either automatic or passive drains is not considered significant moisture for the purposes of this AMP.

SLRA Appendix A1, Section 19.2.2.40, page A1-40 (1st paragraph of section) is revised as follows:

The PSL Electrical Insulation for Inaccessible Low-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements AMP is a new AMP. The purpose of this AMP is to provide reasonable assurance that the intended functions of inaccessible (e.g., underground) low-voltage AC and DC power cables (i.e., typical operating voltage of less than 1,000 V, but no greater than 2 kV) that are not subject to the EQ requirements of 10 CFR 50.49 are maintained consistent with the current licensing basis through the SPEO. This AMP applies to underground (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct buried installations) low-voltage power cables, including those designed for continuous wetting or submergence, within the scope of subsequent license renewal (SLR) that are potentially exposed to significant moisture. Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period) that if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that results from

event-driven occurrences and is mitigated by either automatic or passive drains is not considered significant moisture for the purposes of this AMP.

SLRA Appendix A2, Section 19.2.2.40, page A2-40 (1st paragraph of section) is revised as follows:

The PSL Electrical Insulation for Inaccessible Low-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements AMP is a new AMP. The purpose of this AMP is to provide reasonable assurance that the intended functions of inaccessible (e.g., underground) low-voltage AC and DC power cables (i.e., typical operating voltage of less than 1,000 V, but no greater than 2 kV) that are not subject to the EQ requirements of 10 CFR 50.49 are maintained consistent with the current licensing basis through the SPEO. This AMP applies to underground (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct buried installations) low-voltage power cables, including those designed for continuous wetting or submergence, within the scope of subsequent license renewal (SLR) that are potentially exposed to significant moisture. Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period) that if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that results from event-driven occurrences and is mitigated by either automatic or passive drains is not considered significant moisture for the purposes of this AMP.

SLRA Section B.2.3.38 (2nd paragraph of section), page B-270 is revised as follows:

This AMP applies to underground (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct buried installations) ~~non-EQ~~ cables within the scope of SLR exposed to wetting or submergence (i.e., significant moisture). Significant moisture is defined as exposure to moisture that lasts more than three (3) days (i.e., long-term wetting or submergence over a continuous period) that if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that occurs for a limited time, as in the case of automatic or passive drainage, is not considered significant moisture for this AMP.

SLRA Section B.2.3.38 (5th paragraph of section), page B-271 is revised as follows:

Inaccessible ~~non-EQ~~ medium-voltage power cables within the scope of SLR exposed to significant moisture will be tested to determine the age-related degradation of their electrical insulation.

SLRA Section B.2.3.40, page B-284 is also revised for consistent wording:

This AMP applies to underground (e.g., installed in buried conduit, embedded raceway, cable trenches, cable troughs, duct banks, vaults, manholes, or direct buried installations) ~~non-EQ~~ low-voltage power cables, including those designed for continuous wetting or submergence, within the scope of SLR potentially exposed to significant moisture. Significant moisture is defined as exposure to moisture that lasts more than three days (i.e., long-term wetting or submergence over a continuous period) that if left unmanaged, could potentially lead to a loss of intended function. Cable wetting or submergence that results from event driven occurrences and is mitigated by either automatic or passive drains is not considered significant moisture for the purposes of this AMP.