



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

January 14, 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: ST. LUCIE NUCLEAR PLANT, UNIT NOS. 1 AND 2 – ISSUANCE OF  
AMENDMENT NOS. 252 AND 207 TO ALLOW RISK-INFORMED  
COMPLETION TIMES (RICT) FOR THE 120-VOLT ALTERNATING CURRENT  
(AC) INSTRUMENT BUS REQUIREMENTS (EPID L-2020-LLA-0283)

Dear Mr. Coffey:

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 252 and 207 to Renewed Facility Operating License (RFOL) Nos. DPR-67 and NPF-16 for the St. Lucie Nuclear Plant (St. Lucie), Unit Nos. 1 and 2, respectively. These amendments are in response to Florida Power & Light Company's (FPL) license amendment request dated December 21, 2020, as supplemented by letters dated May 12, 2021 and January 13, 2022.

The amendments revise the RFOLs by changing Operating License and Technical Specifications for St. Lucie, Unit Nos. 1 and 2, consistent with TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times RITSTF Initiative 4b."

The amendments extend TS requirements to permit the use of Risk Informed Completion Times (RICTs) to the 120-Volt alternating current (AC) Instrument Bus TS, in accordance with Nuclear Energy Institute (NEI) 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines." Accordingly, these amendments revise License Condition J of the St. Lucie 1 RFOL and License Condition O of St. Lucie 2 RFOL, respectively, each of which adds the amendment numbers resulting from this amendment request and deletes the first listed condition specifying activities to be completed prior to implementing the RICT Program. The amendments also modify Unit 1 TS 3.8.2.1 Action b and Unit 2 TS 3.8.3.1 Action b to permit the use of a RICT for the 120 VAC instrument buses.

R. Coffey

- 2 -

A copy of the related safety evaluation is also enclosed. A notice of issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

***/RA/***

Michael Mahoney, Project Manager  
Plant Licensing Branch LPLII-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-335 and 50-389

Enclosures:

1. Amendment No. 252 to DPR-67
2. Amendment No. 207 to NPF-16
3. Safety Evaluation



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

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 252  
Renewed License No. DPR-67

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Florida Power & Light Company (FPL, the licensee), dated December 21, 2021, as supplemented by letters dated May 12, 2021 and January 13, 2022, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, Renewed Facility Operating License No. DPR-67 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 3.B and 3.J to read as follows:

- B. Technical Specifications

- The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 252, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

- J. FPL is authorized to implement the Risk Informed Completion Time Program as approved in License Amendments No. 247 and 252 subject to the following conditions:

1. Deleted

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

David J. Wrona, Chief  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility  
Operating License and  
Technical Specifications

Date of Issuance: January 14, 2022

ATTACHMENT

ST. LUCIE NUCLEAR PLANT, UNIT NO. 1

LICENSE AMENDMENT NO. 252

RENEWED FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace the following pages of the Renewed Facility Operating License with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

DPR-67, page 3

DPR-67, page 9

Insert

DPR-67, page 3

DPR-67, page 9

Replace the following pages of the Appendix A, Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

TS 3/4 8-8

Insert

TS 3/4 8-8

applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

A. Maximum Power Level

FPL is authorized to operate the facility at steady state reactor core power levels not in excess of 3020 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 252, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

Appendix B, the Environmental Protection Plan (Non-Radiological), contains environmental conditions of the renewed license. If significant detrimental effects or evidence of irreversible damage are detected by the monitoring programs required by Appendix B of this license, FPL will provide the Commission with an analysis of the problem and plan of action to be taken subject to Commission approval to eliminate or significantly reduce the detrimental effects or damage.

C. Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on March 28, 2003, describes certain future activities to be completed before the period of extended operation. FPL shall complete these activities no later than March 1, 2016, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on March 28, 2003, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed license. Until that update is complete, FPL may make changes to the programs described in such supplement without prior Commission approval, provided that FPL evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

D. Sustained Core Uncovery Actions

Procedural guidance shall be in place to instruct operators to implement actions that are designed to mitigate a small-break loss-of-coolant accident prior to a calculated time of sustained core uncovery.

- J. FPL is authorized to implement the Risk Informed Completion Time Program as approved in License Amendments No. 247 and 252 subject to the following conditions:
1. Deleted
  2. The risk assessment approach and methods, shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant; and reflect the operating experience of the plant as specified in RG 1.200. Methods to assess the risk from extending the completion times must be PRA methods accepted as part of this license amendment, or other methods approved by the NRC for generic use. If the licensee wishes to change its methods, and the change is outside the bounds of this license condition, the licensee will seek prior NRC approval via a license amendment.
4. This renewed license is effective as of the date of issuance and shall expire at midnight on March 1, 2036.

FOR THE NUCLEAR REGULATORY COMMISSION

ORIGINAL SIGNED BY  
J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A, Technical Specifications
2. Appendix B, Environmental Protection Plan

Date of Issuance: October 2, 2003

**ELECTRICAL POWER SYSTEMS**

**3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS**

**A.C. DISTRIBUTION - OPERATING**

**LIMITING CONDITION FOR OPERATION**

---

3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized from sources of power other than the diesel generator sets:

4160	volt Emergency Bus	1A3
4160	volt Emergency Bus	1B3
480	volt Emergency Bus	1A2
480	volt Emergency Bus	1B2
480	volt Emergency MCC Busses	1A5, 1A6, 1A7
480	volt Emergency MCC Busses	1B5, 1B6, 1B7
120	volt A.C. Instrument Bus	1MA
120	volt A.C. Instrument Bus	1MB
120	volt A.C. Instrument Bus	1MC
120	volt A.C. Instrument Bus	1MD

**APPLICABILITY:** MODES 1, 2, 3 and 4.

**ACTION:**

**NOTE**

Enter applicable ACTIONS of LCO 3.8.2.3, "D.C. Distribution - Operating," for DC trains made inoperable by inoperable AC distribution system.

- a. With less than the above complement of A.C. emergency busses OPERABLE, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one A.C. Instrument Bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. Bus: (1) re-energize the A.C. Instrument Bus within 2 hours or in accordance with the Risk Informed Completion Time Program, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours and (2) re-energize the A.C. Instrument Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or in accordance with the Risk Informed Completion Time Program, or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

**SURVEILLANCE REQUIREMENTS**

---

4.8.2.1 The specified A.C. busses shall be determined OPERABLE and energized from A.C. sources other than the diesel generators in accordance with the Surveillance Frequency Control Program by verifying indicated power availability.





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

FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF

THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 207  
Renewed License No. NPF-16

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Florida Power & Light Company, et al. (FPL, the licensee), dated December 21, 2021, as supplemented by letters dated May 12, 2021 and January 13, 2022, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, Renewed Facility Operating License No. NPF-16 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 3.B and 3.O to read as follows:

- B. Technical Specifications

- The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 207, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

- O. FPL is authorized to implement the Risk Informed Completion Time Program as approved in License Amendments No. 199 and 207 subject to the following conditions:

1. Deleted

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

David J. Wrona, Chief  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Operating License  
and Technical Specifications

Date of Issuance: January 14, 2022

ATTACHMENT

ST. LUCIE NUCLEAR PLANT, UNIT NO. 2

LICENSE AMENDMENT NO. 207

RENEWED FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace the following pages of the Renewed Facility Operating License with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

NPF-16, page 3

NPF-16, page 9

Insert

NPF-16, page 3

NPF-16, page 9

Replace the following pages of the Appendix A, Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

TS 3/4 8-15

Insert

TS 3/4 8-15

neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required.

- D. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, FPL to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- E. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, FPL to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

- 3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission's regulations: 10 CFR Part 20, Section 30.34 of 10 FR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

- A. Maximum Power Level

FPL is authorized to operate the facility at steady state reactor core power levels not in excess of 3020 megawatts (thermal).

- B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 207, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

NRC dated December 9, 2003, and October 29, 2004, in response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.

- (c) The first performance of the periodic measurement of CRE pressure, Specification 6.15.d, shall be within 36 months in a staggered test basis, plus the 138 days allowed by SR 4.0.2, as measured from November 13, 2006, which is the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.

N. FATES3B Safety Analyses (Westinghouse Fuel Only)

FATES3B has been specifically approved for use for St. Lucie Unit 2 licensing basis analyses based on FPL maintaining the more restrictive operational/design radial power fall-off curve limits as specified in Attachment 4 to FPL Letter L-2012-121, dated March 31, 2012 as compared to the FATES3B analysis radial power fall-off curve limits. The radial power fall-off curve limits shall be verified each cycle as part of the Reload Safety Analysis Checklist (RSAC) process.

- O. FPL is authorized to implement the Risk Informed Completion Time Program as approved in License Amendments No. 199 and 207 subject to the following conditions:

1. Deleted
2. The risk assessment approach and methods, shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant, and reflect the operating experience of the plant as specified in RG 1.200. Methods to assess the risk from extending the completion times must be PRA methods accepted as part of this license amendment, or other methods approved by the NRC for generic use. If the licensee wishes to change its methods, and the change is outside the bounds of this license condition, the licensee will seek prior NRC approval via a license amendment.

## **ELECTRICAL POWER SYSTEMS**

### **ACTION:**

#### **NOTE**

Enter applicable ACTIONS of LCO 3.8.2.1, "D.C. Sources - Operating," for DC trains made inoperable by inoperable AC distribution system.

- a. With one of the required trains of A.C. Emergency busses not fully energized, re-energize the train within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one A.C. Instrument Bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. Bus: (1) re-energize the A.C. Instrument Bus within 2 hours or in accordance with the Risk Informed Completion Time Program, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours and (2) re-energize the A.C. Instrument Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or in accordance with the Risk Informed Completion Time Program, or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.
- c. With one D.C. Bus not energized from its associated Battery Bank, re-energize the D.C. Bus from its associated Battery Bank within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

## **SURVEILLANCE REQUIREMENTS**

- 4.8.3.1 The specified busses shall be determined energized in the required manner in accordance with the Surveillance Frequency Control Program by verifying correct breaker alignment and indicated voltage on the busses.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 252 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-67

AND

AMENDMENT NO. 207 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER & LIGHT COMPANY

ST. LUCIE NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By letter dated December 21, 2020 (Reference [1]), as supplemented by letters dated May 12, 2021 (Reference [2]) and January 13, 2022 (Reference [17]), Florida Power & Light Company (FPL or the licensee), submitted a license amendment request (LAR) regarding the St. Lucie Nuclear Plant (St. Lucie or PSL), Unit Nos. 1 and 2, requesting to revise the St. Lucie Renewed Facility Operating Licenses (RFOLs) and Technical Specifications (TS) to permit the application of risk-informed completion times (RICT) for the 120-Volt (V) alternating current (AC) Instrument Bus requirements.

The amendment extends TS requirements to permit the use of Risk Informed Completion Times (RICTs) to the 120-Volt AC Instrument Bus TS, in accordance with Nuclear Energy Institute (NEI) 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines" (Reference [3]). Accordingly, this amendment revises License Condition J of St. Lucie 1 RFOL and License Condition O of the St. Lucie 2 RFOL, respectively, each of which adds the amendment number resulting from this amendment request and deletes the first listed condition specifying activities to be completed prior to implementing the RICT Program. The amendment also modifies Unit 1 TS 3.8.2.1 Action b and Unit 2 TS 3.8.3.1 Action b to permit the use of a RICT for the 120 VAC instrument busses.

The Nuclear Regulatory Commission (NRC) approved St. Lucie's adoption of the RICT Program in Amendment Nos. 247 and 199 for Unit Nos. 1 and Unit 2, respectively (Reference [4]). The licensee stated in the current LAR that it proposes to add a new TS Action to the RICT Program for each unit consistent with Technical Specifications Task Force (TSTF) Traveler TSTF-505,

Revision 2, "Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b" (Reference [5] and [6]). TSTF-505 describes criteria for adding a RICT Program into TS.

The supplemental letters dated May 12, 2021 and January 13, 2022, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 20, 2021 (86 FR 20526).

## 2.0 REGULATORY EVALUATION

### 2.1 Background

#### 2.1.1 Program Description

The TS limiting conditions for operation (LCOs) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO is not met, the licensee must shut down the reactor or follow any remedial or required action (e.g., testing, maintenance, or repair activity) permitted by the TSs until the condition can be met. The remedial actions (i.e., ACTIONS) associated with an LCO contain Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Times (CTs). The established CTs are referred to as the "front stops" in the context of this safety evaluation (SE). For certain Conditions, the TS require exiting the Mode of Applicability of an LCO (i.e., shut down the reactor).

Topical Report (TR) Nuclear Energy Institute (NEI) 06-09-A provides a methodology for extending existing CTs and thereby delay exiting the operational mode of applicability or taking Required Actions if risk is assessed and managed within the limits and programmatic requirements established by the RICT Programs in TS 6.8.4.r for Unit 1 and TS 6.8.4.s for Unit 2.

#### 2.1.2 120-V ac Instrumentation System Descriptions

##### Unit 1, 120-V ac Instrument System

The Updated Final Safety Analysis Report (UFSAR) for Unit 1, Section 8.3.1.1.6, states, in part:

Four redundant 120 volt ac single phase instrument power buses (1MA, 1MB, 1MC and 1MD) provide power to essential instrumentation and control loads under all operating conditions. Each bus is supplied separately from an inverter connected to one of the two Class 1E 125 volt dc [direct current] buses.

To permit maintenance of any inverter without disabling the corresponding instrument bus, two maintenance bypass buses (1A and 1B) fed from Isolimiters 1A and 1B, respectively, are provided. Instrument buses can be connected to the bypass buses by individual "make before break" transfer switches. Breaker interlocks prevent simultaneous connection of more than one instrument bus to a maintenance bypass bus. Each of the four redundant measurement channels of the nuclear instrumentation and reactor protective systems (RPS) equipment is supplied from a separate bus of the four redundant buses. Also, each instrumentation channel of the four redundant



measurement channels of the engineered safety features actuation system (ESFAS) is supplied from a separate bus of the four redundant buses. The system is arranged so that no single failure will prevent the RPS and ESFAS from performing their safety functions.

The normal and alternate maintenance source power feeds to 120-V ac instrument buses 1MA, 1MB, 1MC, and 1MD are shown in the drawing 8770-G-332, Sheet 1, provided by the licensee in supplement dated May 12, 2021.

## Unit 2, 120-V ac Instrument System

The UFSAR for Unit 2, Section 8.3.1.1.1.e, states, in part:

Four pairs of redundant 120 V ac single phase ungrounded instrument buses (2MA, 2MA-1; 2MB, 2MB-1; 2MC, 2MC-1; and 2MD, 2MD-1) provide uninterrupted power to ESFAS and RPS instrumentation. Buses 2MA-1, 2MB-1, etc. are extensions of buses 2MA, 2MB, etc. to allow for future expansion of the instrument power supply system. Each bus is supplied separately from an inverter connected to one of the two safety related 125V dc panels.

To permit maintenance of any inverter without disabling the corresponding instrument bus, maintenance bypass transformers and voltage regulators [isolimiters] are provided for each inverter system. Each of the four redundant measurement channels of the nuclear instrumentation and RPS equipment is supplied from a separate bus. Also, each instrumentation channel of the four redundant measurement channels of the ESFAS is supplied from a separate bus. The system is arranged so that any single failure does not prevent the RPS and ESFAS from performing their safety functions.

The normal and alternate maintenance source power feeds to 120-V ac instrument buses 2MA, 2MB, 2MC, and 2MD are shown in the drawing 2998-G-332, Sheet 1, provided by the licensee in the supplement dated May 12, 2021.

## 2.2 Description of TS Changes

### 2.2.1 Application of the RICT Program to Existing LCOs and Conditions

The licensee proposed the following changes to St. Lucie Unit 1 TS 3.8.2.1, "A.C. Distribution - Operating" (additions in bold):

- Existing unnumbered Action to be designated "a" and add descriptor to change components applicable to this Action:
  - a. With less than the above complement of A.C. **emergency** busses OPERABLE, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- Add new Action "b":

**b. With one A.C. Instrument Bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. Bus: (1) re-energize the A.C. Instrument**

**Bus within 2 hours or in accordance with the Risk Informed Completion Time Program, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours and (2) re-energize the A.C. Instrument Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or in accordance with the Risk Informed Completion Time Program, or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.**

The above changes to the Unit 1 TS would split the existing Action into Action “a” and Action “b.” Action a will be applicable to only the 4160 V and 480 V emergency busses. Action b will be applicable to only 120 V AC instrument busses and associated inverters.

The licensee proposed the following changes to St. Lucie Unit 2 TS 3.8.3.1, “Onsite Power Distribution Operating” Action “b” (emphasis added):

b. With one A.C. Instrument Bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. Bus: (1) re-energize the A.C. Instrument Bus within 2 hours **or in accordance with the Risk Informed Completion Time Program**, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours and (2) re-energize the A.C. Instrument Bus from its associated inverter connected to its associated D.C. Bus within 24 hours **or in accordance with the Risk Informed Completion Time Program**, or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

## 2.3 Regulatory Review

### *Regulations*

Under Section 50.90, “Application for amendment of license, construction permit, or early site permit,” of Title 10 of the *Code of Federal Regulations* (10 CFR), whenever a holder of a license wishes to amend the license, including TSs in the license, an application for amendment must be filed, fully describing the changes desired.

The regulation under 10 CFR 50.36(c)(2) requires that TSs include LCOs, which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the LCO can be met. Typically, the TSs require restoration of equipment in a timeframe commensurate with its safety significance, along with other engineering considerations. The regulation under 10 CFR 50.36(b) requires that TSs be derived from the analyses and evaluation included in the safety analysis report, and amendments thereto.

In determining whether the proposed TS remedial actions should be granted, the Commission will apply the “reasonable assurance” standards of 10 CFR 50.40(a) and 50.57(a)(3). The regulation at 10 CFR 50.40(a) states that in determining whether to grant an amendment, the Commission will be guided by, among other things, consideration about whether “the processes to be performed, the operating procedures, the facility and equipment, the use of the facility, and other technical specifications, or the proposals, in regard to any of the foregoing collectively provide reasonable assurance that the applicant will comply with the regulations in this chapter,

including the regulations in 10 CFR Part 20 of this chapter, and that the health and safety of the public will not be endangered.”

The regulation under 10 CFR 50.55a(h) “Protection and safety systems” states that protection systems of nuclear power reactors of all types must meet the requirements specified in section 50.55a(h)(2). Section 50.55a(h)(3) requires applications filed after May 13, 1999, to meet the requirements for safety systems specified in that section.

Section 10 CFR 50.65, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants” (i.e., the Maintenance Rule), requires licensees to monitor the performance or condition of structures, systems, and components (SSCs) against licensee-established goals in a manner sufficient to provide reasonable assurance that these SSCs are capable of fulfilling their intended functions. The regulation under 10 CFR 50.65(a)(4) requires the assessment and management of the increase in risk that may result from a proposed maintenance activity.

### *Regulatory Guidance*

The NRC staff considered the following regulatory guidance during its review of the proposed changes:

- Regulatory Guide (RG) 1.200, Revision 2, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities” (Reference [7]).
- RG 1.174, Revision 3, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis” (Reference [8]).
- Revision 1 of RG 1.177, “An Approach for Plant-Specific, Risk-Informed Decision-making: Technical Specifications” (Reference [9]).
- NUREG-0800, “Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” Chapter 19, Section 19.2, “Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance” (Reference [10]).
- NUREG-1432, “Standard Technical Specifications for Combustion Engineering Plants, Revision 5,” Reference [16])

### *NRC-Endorsed Guidance*

Topical Report NEI 06-09-A, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines.” The NRC issued a final model SE approving NEI 06-09-A on May 17, 2007 (Reference [11]).

## 3.0 TECHNICAL EVALUATION

The NRC staff has evaluated the proposed TS changes based on both deterministic (defense-in-depth) and risk-informed perspectives.

### 3.1 Deterministic Evaluation

#### 3.1.1 Evaluation of Unit 1 TS Changes

According to current TS 3.8.2.1, Unit 1 is required to be shut down if any of the 120-V AC instrument buses 1MA, 1MB, 1MC, and 1MD is declared inoperable and is not restored to operable status within 8 hours. However, the current TS 3.8.2.1 unnumbered Action allows less than the full complement of AC buses, which ranges from one AC bus to all AC buses inoperable (including a loss of specified safety function). In particular, current TS 3.8.2.1 allows all four 120 VAC instrument buses to be inoperable simultaneously for 8 hours, which would disable the ESFAS and RPS instrumentation safety function, as further described below. The proposed changes would split the existing Action into re-numbered Action "a" and new Action "b" to allow different actions for the specific bus types. In addition to the new designator, Action a also adds the label "emergency" to designate the AC buses to which new Action a would apply. This designation excludes the AC instrumentation buses from re-numbered Action a; new Action b would govern the AC instrumentation buses.

Each instrument bus has two sources of power: (1) normal power is from its associated inverter (fed by the DC power bus), and (2) alternate is from its associated isolimiter (voltage regulated maintenance transformer). Each instrument bus can remain energized uninterrupted if powered through the inverter (fed by the DC power bus - supported by 125 V DC battery), even if offsite power is lost. However, if the instrument bus is energized from the isolimiter (voltage regulated maintenance transformer), the power to the bus can be lost if offsite power is lost. The voltage regulated maintenance transformers are fed from the upstream safety related 480 V motor control centers which in turn can be fed from offsite power or onsite emergency diesel generators (EDGs). Since EDG power cannot be restored immediately after loss of offsite power, a short interruption to instrument bus can occur if the bus is aligned to its associated isolimiter (voltage regulated maintenance transformer). Therefore, power fed to an instrument bus fed by an inverter is the preferred normal power source.

New Action b would apply to one (1) inoperable AC instrument bus or associated inverter. Action b.1's completion time (CT) will be 2 hours to allow the instrument bus to be re-energized from the isolimiter (voltage regulated maintenance transformer), and Action b.2 allows 24 hours for the bus to be re-energized from its associated inverter source (fed from the DC power bus). If Actions b.1 or b.2 are not met, then a unit shutdown is required. Alternatively, both the 2-hour and 24-hour CTs of Action b can be extended in accordance with the RICT Program (up to a maximum of 30 days). However, new Action b does not provide for more than one inoperable AC instrument bus; that scenario would be governed by TS 3.0.3.

In addition to being similar to the existing Unit 2 TS 3.8.3.1 Action b, the proposed requirements of new Unit 1 TS 3.8.2.1 Action b are similar to a combination of requirements described in Standard Technical Specifications (STS) for AC vital buses described in NUREG-1432, Revision 5. Proposed Action b.1 is similar to STS 3.8.9 Condition B (one or more inoperable AC vital buses), which requires the buses be restored to operable within 2 hours or in accordance with the RICT Program, and STS 3.8.9 Condition D (required action and associated CT not met), which requires the unit to be brought down to Mode 3 within 6 hours and Mode 4 within 12 hours. Proposed Action b.2 is similar to STS 3.8.7 Condition A (one inverter inoperable), which requires the inverter be restored to operable status within 24 hours or in accordance with the RICT Program, and STS 3.8.7 Condition B (required action and associated CT not met), which requires the unit to be brought down to Mode 3 within 6 hours and Mode 4 within 12 hours. The Mode 4 requirement in Condition B includes a note stating LCO 3.0.4.a is

not applicable when entering hot shutdown (i.e., entering Mode 4 using LCO 3.0.4.a is prohibited during startup when the LCO is not met).

Comparatively, new Action b.1 is more conservative than the existing TS 3.8.2.1 unnumbered Action (currently applicable to all AC buses when inoperable) due to its shorter CT to restore operability (i.e., 8 hours in the existing Action versus 2 hours for proposed Action b.1). Additionally, proposed Action b.2 would add a new requirement to take action on an inoperable inverter; no current St. Lucie Unit 1 TS Action directly applies to inoperable inverters.

Generally, NRC staff considers a longer CT a relaxation in requirements (i.e., 8 hours for the existing unnumbered Action versus 24 hours for Action b.2.). However, new Action b.2 is more conservative than the existing unnumbered Action because the new Action b.2 described condition allows only one (1) AC instrument bus or inverter to be inoperable at a time, which means the three remaining operable AC instrument buses and inverters are operable and sufficient to achieve the specified safety function. As indicated above, neither new Action b.1 nor new Action b.2 provides for a scenario in which more than one AC instrument bus is inoperable. In such a scenario, a unit shutdown would be required by LCO 3.0.3, since there would no longer be another TS Action describing that condition; this is more conservative than the current requirements.

According the Unit 1 UFSAR, each of the four redundant measurement channels of the nuclear instrumentation and RPS equipment is supplied from a separate bus of the four redundant instrument buses. Also, each instrumentation channel of the ESFAS is supplied from a separate bus of the four redundant instrument buses. Per the Unit 1 UFSAR, the system is arranged so that no single failure will prevent the RPS and ESFAS from performing their safety functions.

In the LAR, the licensee stated that the design success criteria for 120-V AC instrument bus system are having sufficient power for safe shutdown and having the capability to mitigate and control accident conditions. This includes having at least 3 out of 4 channels operable to support at-power operations and three vital A.C. panels each energized by its own inverter (for each unit) for the time specified by TS. The proposed changes do not affect the system's redundant features or system capability to withstand a single failure in the presence of an analyzed accident.

In regard the alternative Actions based in RICT, the RICT Program would apply to Action b.1's frontstop of 2 hours and Action b.2's frontstop of 24 hours. Regarding the associated Risk Management Actions (RMAs), the licensee stated in the LAR that the general RMAs provided with the original TSTF-505 application that was approved for the RICT Program are typically applicable to the currently proposed RICTs. Specific RMAs associated with the configurations in which the new RICTs are applicable depend upon the inoperable equipment. However, the RMA examples provided in the LAR are centered around protecting and guarding the inverters on the opposite train, stopping work on any other instrument channels, ensuring minimum stay with the aligned configuration, and use of procedural adherence to minimize risk during the RICT.

In summary for Unit 1, the staff finds the proposed TS 3.8.2.1 Action "a" (numbering and addition of "emergency") is acceptable because it results in a more conservative Action that only applies to the emergency AC buses. The staff finds acceptable the proposed new TS 3.8.2.1 Action "b" because Action b's frontstop CTs are more conservative than the existing CT because the specified instrumentation safety function is maintained while in the action.

Additionally, proposed Action b allows the alternative to apply the established TS 6.8.4.r RICT Program. Based on above the considerations, the staff finds that Unit 1 TS 3.8.2.1 Action b will continue to have safe shutdown capability and have adequate defense-in-depth. Therefore, the TS changes are acceptable from deterministic perspective.

### 3.1.2 Evaluation of Unit 2 TS Changes

According to current TS 3.8.3.1 Action b, Unit 2 is required to be shut down if one (1) of the 120-V A.C. instrument buses 2MA, 2MB, 2MC, and 2MD is not energized and either the inoperable bus is not re-energized from the voltage regulated maintenance transformer within 2 hours or the bus is not re-energized from its associated inverter source (fed from DC power bus) within 24 hours. Based on proposed TS changes, both the 2-hour and 24-hour CTs can be extended in accordance with the RICT Program (up to maximum of 30 days).

The Unit 2 120-V AC instrument buses have similar power feed arrangements as in the case of Unit 1, with a minor difference. In the case of Unit 2, each of the instrument buses 2MA, 2MB, 2MC, and 2MD has a dedicated individual voltage regulated maintenance transformer (alternate source), whereas in case of Unit 1, the instrument buses 1MA, 1MC share one voltage regulated maintenance transformer, and instrument buses 1MB, 1MD share another voltage regulated maintenance transformer. The staff determined that this difference does not significantly impact defense-in-depth, since this difference is related only to the alternate source. Other defense-in-depth considerations such as meeting single failure criteria and design success criteria remain similar to Unit 1. The staff finds that with the proposed TS changes, Unit 2 will continue to have safe shutdown capability and have adequate defense-in-depth. Therefore, the TS changes are acceptable from a deterministic perspective.

### 3.1.3 Deterministic Evaluation Summary

Based on above the considerations, the NRC staff finds that with the proposed changes, St. Lucie, Unit Nos. 1 and 2 will continue to have safe shutdown capability and have adequate defense-in-depth. Therefore, the NRC staff concludes that the proposed TS LCO changes are acceptable because they provide acceptable remedial actions that allow St. Lucie, Unit Nos. 1 and 2 to restore inoperable AC instrument buses within acceptable times to meet LCO 3.8.2.1 (Unit 1) and LCO 3.8.3.1 (Unit 2), as required by 10 CFR 50.36(c)(2) to ensure when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

## 3.2 Risk-Informed Review

### 3.2.1 Method of Staff Review

In its LAR, the licensee proposed to extend implementation of its RICT program to TS 3.8.2.1 Action b of Unit 1 and TS 3.8.3.1 Action b of Unit 2, applicable to the 120-V AC instrument buses. The LAR also proposed revision of License Conditions J and O of St. Lucie 1 and 2 RFOLs, respectively, which adds the amendment number resulting from this amendment request and deletes the first listed condition specifying activities to be completed prior to implementing the RICT Program. The NRC staff leveraged the previous licensing effort in its issuance of Amendment Nos. 247 and 199 (Reference [8]) to review the licensee's probabilistic risk assessment (PRA) peer review history and results, alternative methods, and proposed approaches to determine if they are acceptable for use in the proposed RICT extensions. The

NRC staff's evaluation of the licensee's proposed use of the RICT Program against the key safety principles is discussed below.

An acceptable approach for making risk-informed decisions on proposed TS changes, including both permanent and temporary changes, is to show that the proposed licensing basis (LB) changes meet the five key principles stated in Section C of RG 1.174, Revision 3 (Reference [8]) and the three tiered approach outlined in Section C of RG 1.177. These key principles and tiers are:

- Principle 1: The proposed LB change meets the current regulations unless it is explicitly related to a requested exemption.
- Principle 2: The proposed LB change is consistent with the defense-in-depth philosophy.
- Principle 3: The proposed LB change maintains sufficient safety margins.
- Principle 4: When the proposed LB change results in an increase in risk, the increase should be small and consistent with the intent of the Commission's policy statement on safety goals for the operations of nuclear power plants.
  - Tier 1: PRA Acceptability; PRA Insights and Results
  - Tier 2: Avoidance of Risk-Significant Plant Configurations
  - Tier 3: Risk-Informed Configuration Risk Management
- Principle 5: The impact of the proposed LB change should be monitored by using performance measures strategies.

Each of these key risk-informed principles and tiers were accepted as a part of NEI 06-09, Revision 0-A. Topical Report NEI 06-09-A provides a methodology for extending existing CTs. If a licensee assesses and manages risk within the limits and programmatic requirements established by a RICT Program, the licensee may apply RICTs to allow delays in exiting TS operational modes of applicability or taking Required Actions.

The NRC staff's evaluation of the licensee's proposed expansion of the RICT Program against the key safety principles is discussed below.

### 3.2.2 Review of Key Principles

RG 1.177 Revision 1 and RG 1.174, Revision 3 identify five key safety principles to be applied to risk-informed changes to the TSs.

#### 3.2.2.1 Key Principle 1: Evaluation of Compliance with Current Regulations

With the incorporation of additional CTs into the RICT Program, the required performance levels of equipment specified in LCOs are not changed. Only the required CTs for the Required Actions are modified by the associated TS 6.8.4 RICT Program such that 10 CFR 50.36(c)(2) will remain met. Therefore, the NRC staff finds that the proposed changes meet the first key safety principle of RG 1.174, Revision 3, and RG 1.177, Revision 1.

### 3.2.2.1 Key Principle 2: Evaluation of Defense-in-Depth

In RG 1.174, Revision 3, the NRC identified considerations used for evaluating whether the LB change remains consistent with the defense-in-depth (D-I-D) philosophy. The evaluation of D-I-D for the RICT Program was documented in the SE for the RICT Program (Reference [4]). The NRC staff finds that the proposed application of the RICT to the TS related to the 120-V AC instrument buses (evaluated in Section 3.1 of this SE) does not adversely affect D-I-D of the 120V AC instrument system for the reasons stated in Section 3.1 of this SE.

The NRC staff has reviewed the licensee's proposed TS changes and supporting documentation. The NRC staff finds that adequate D-I-D is maintained provided that the licensee identifies and implements compensatory measures as appropriate during the extended CT.

Based on the above, the NRC staff finds that the licensee's process is consistent with the NRC-endorsed guidance prescribed in TR NEI 06-09, Revision 0-A and satisfies the second key safety principle of RG 1.177.

### 3.2.2.3 Key Principle 3: Evaluation of Safety Margins

The evaluation of safety margin for the RICT Program was performed in the original SE for the RICT Program (Reference [4]). The NRC staff finds that the proposed application of the RICT to the TS related to the 120-V AC instrument buses does not change any of the conclusions from the previous SE for the RICT Program. Expansion of the RICT Program to determine an extended CT for an inoperable 120-V AC instrument bus will not affect St. Lucie's commitment to the codes and standards used in the design of the plant. The licensee is not proposing in this LAR to change any quality standard, material, operating specification, or the acceptance criteria for operability of equipment. The design-basis analyses for St. Lucie remains applicable and the proposed changes do not adversely affect safety margins. Therefore, Key Principle 3 continues to be met for this application.

### 3.2.2.4 Key Principle 4: Change in Risk Consistent with the Safety Goal Policy Statement

St. Lucie Unit 1 TS 6.8.4.r (TS 6.8.4.s for Unit 2) "Risk Informed Completion Time Program," states that the RICT "must be implemented in accordance with NEI 06-09, 'Risk-Informed TSs Initiative 4b: Risk-Managed Technical Specifications (RMTS) Guidelines,' Revision 0-A, November 2006."

The evaluation of PRA Technical Acceptability for the RICT Program was performed in the SE for the RICT Program (Reference [4]). The NRC staff finds that the proposed applications of the RICT to the TS related to the 120-V AC instrument buses does not affect the technical acceptability of the PRA and therefore does not change any of the conclusions from previous SE for the RICT Program.

In its issuance of license amendment Nos. 247 and 199, the NRC staff evaluated the licensee's proposed changes against the three-tiered approach in RG 1.177, Revision 1, for the licensee's evaluation of the risk associated with a proposed TS CT change. The analysis performed for the amendments related to the approval of the RICT Program reduced the applicable scope of information for this current LAR related to the 120-V AC instrument buses. Therefore, the NRC



staff evaluated the new information in this LAR that was directly applicable to the described change.

#### 3.2.2.4.1 Tier 1: PRA Acceptability, Insights, and Results

The first tier evaluates the impact of the proposed changes on plant operational risk. The Tier 1 review involves two aspects: (1) the technical acceptability of the PRA models and their application to the proposed changes, and (2) a review of the PRA results and insights described in the licensee's application.

The NRC Staff noted that the licensee closed out most of its facts and observations (F&Os) using the Appendix X process (Reference [12]). Additionally, the staff noted that the licensee received a number of implementation items related to PRA Technical Acceptability to complete prior to implementing its first RICT calculation. The licensee confirmed that the work associated with these implementation items was completed and requested the associated license conditions be deleted. Accordingly, the NRC staff finds that no further license conditions for the RICT Program require completion, therefore no specific implementation items related to the implementation of the RICT Program are necessary.

As concluded in license amendment Nos. 247 and 199, the licensee has previously incorporated NEI 06-09-A in the RICT Programs of TS 6.8.4.r (Unit 1) and TS 6.8.4.s (Unit 2), and therefore can calculate the RICT appropriately to assess and ensure any risk increases are small and in accordance with RG 1.174 and RG 1.177. Also, the estimate of the current total CDF and large early release frequency meets the RG 1.174, Revision 3 acceptance guidelines, therefore, the NRC staff finds that the licensee's RICT Program continues to be acceptable and consistent with NEI 06-09-A guidance.

Based on the above, the NRC staff also finds that the licensee has satisfied the guidance of RG 1.177, Revision 1 (Section 2.3.2), and RG 1.174, Revision 3 (Sections 2.3 and 2.5), and that the scope of the PRA model continues to remain acceptable for the RICT Program.

#### 3.2.2.4.2 Tier 2: Avoidance of Risk Significant Plant Configurations

As prescribed in RG 1.177, Revision 1, the second tier provides that a licensee should provide reasonable assurance that risk significant plant equipment outage configurations will not occur when specific plant equipment is taken out of service in accordance with the proposed TS change.

The RICT Program requirements and criteria are consistent with the principle of Tier 2 to avoid risk significant configurations, as reviewed and approved in license amendment Nos. 247 and 199. The change proposed in this LAR to add a RICT to the TS related to the 120-V AC instrument buses does not propose to change the RICT Program, as approved, with regard to RICT Program Tier 2 requirements, which therefore continues to be acceptable.

#### 3.2.2.4.3 Tier 3: Risk Informed Configuration Risk Management

The third tier provides that a licensee should develop a program that ensures that the risk impact of out of service equipment is appropriately evaluated prior to performing any maintenance activity.

Topical Report NEI 06-09-A addresses Tier 3 guidance by calling for assessment of the RICT to be based on the plant configuration of all SSCs that might impact the RICT, including safety-related and non-safety-related SSCs. If a risk-significant plant configuration exists, then NEI 06-09-A via the RICT Program in the TS would require the licensee to implement compensatory measures and RMAs. In the SE for the RICT Program (Reference [4]), the NRC staff previously determined that the RICT Program provides a methodology to assess and address risk-significant configurations.

The change proposed in this LAR to add a RICT to the TS related to the 120-V AC instrument buses does not propose to change the RICT Program, as approved, with regard to Tier 3 requirements, which therefore continues to be acceptable.

#### Key Principle 4 Conclusions

The licensee has demonstrated the technical acceptability and scope of its PRA models, and these PRA models can support implementation of the RICT Program for determining a RICT for an inoperable 120-V AC instrument bus. The risk metrics remain consistent with the approved methodology of NEI 06-09 A and the acceptance guidelines in RG 1.177 and RG 1.174. The NRC staff concludes that the addition of TS 3.8.2.1 Action b (Unit 1) and TS 3.8.3.1 Action b (Unit 2) to the RICT Program satisfies the fourth key safety principle of RG 1.177 and is, therefore, acceptable.

#### 3.2.2.5 Key Principle 5: Performance Measurement Strategies – Implementation and Monitoring Program

RG 1.174 and RG 1.177 establish the need for an implementation and monitoring program to ensure that extensions to TS CTs do not degrade operational safety over time and that no adverse degradation occurs due to unanticipated degradation or common-cause mechanisms. An implementation and monitoring program is intended to ensure that the impact of the proposed TS change continues to reflect the reliability and availability of SSCs impacted by the change. RG 1.174 states that monitoring performed in conformance with the Maintenance Rule, 10 CFR 50.65, can be used when the monitoring performed is sufficient for the SSCs affected by the risk-informed application. As discussed in License Amendment Nos. 247 and 199, the NRC staff concluded that the FPL RICT Program did not change the stated TS performance criteria (e.g., flow rate, response times, stroke times, setpoints, etc.). The current LAR also does not change the performance criteria.

The NRC staff previously concluded that the RICT Program satisfies the fifth key safety principle of RG 1.177, Revision 1, and RG 1.174. The change proposed in this license amendment to add a RICT to the TS related to the 120-V AC instrument buses does not propose to change the RICT Program, as approved, with regard to performance monitoring, which therefore continues to be acceptable.

#### 3.3 Risk-Informed Review Summary

The NRC staff finds that the licensee's proposed expansion of the RICT Program for the identified scope of Required Actions is consistent with the guidance of NEI 06-09-A. In addition, the NRC staff finds that the proposed expansion of the RICT Program continues to address the RG 1.177 principles on maintaining DID and safety margins to ensure that they are adequately maintained and includes adequate administrative controls as well as performance monitoring programs.

#### 4.0 CHANGES TO THE OPERATING LICENSE

In letter dated December 21, 2020, the licensee proposed the following changes (additions in **bold** and deletions in double-strikethrough) to the Unit 1 and 2 RFOLs:

##### Unit 1 – RFOL DPR-67

- J. FPL is authorized to implement the Risk Informed Completion Time Program as approved in License Amendments No. 247 and **252** subject to the following conditions:
- ~~1. FPL will complete the following prior to implementation of the Risk Informed Completion Time Program:~~
    - ~~a. The items listed in the table of implementation items in the enclosure to FPL letter L-2018-006, "Third Response to Request for Additional Information Regarding License Amendment Request to Adopt Risk Informed Completion Times TSTF-505, Revision 1, 'Provide Risk Info 1 med Extended Completion Times – RITSTF Initiative 4b', February 1, 2018, and~~
    - ~~b. The six implementation items listed in Attachment 1 to FPL letter L-2018-201, "Fourth Supplement to License Amendment Request to Adopt Risk Informed Completion Times TSTF-505, Revision 1, 'Provide Risk Informed Extended Completion Times – RITSTF Initiative 4b', November 9, 2018. Deleted~~
  2. The risk assessment approach and methods, shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant, and reflect the operating experience of the plant as specified in RG 1.200. Methods to assess the risk from extending the completion times must be PRA methods accepted as part of this license amendment, or other methods approved by the NRC for generic use. If the licensee wishes to change its methods, and the change is outside the bounds of this license condition, the licensee will seek prior NRC approval via a license amendment.

##### Unit 2 – RFOL NPF-16

- O. FPL is authorized to implement the Risk Informed Completion Time Program as approved in License Amendments No. 199 and **207** subject to the following conditions:
- ~~1. FPL will complete the following prior to implementation of the Risk Informed Completion Time Program:~~
    - ~~c. The items listed in the table of implementation items in the enclosure to FPL letter L-2018-006, "Third Response to Request for Additional Information Regarding License Amendment Request to Adopt Risk Informed Completion Times TSTF-505, Revision 1, 'Provide Risk~~

~~Info 1 mod Extended Completion Times – RITSTF Initiative 4b',"  
February 1, 2018, and~~

d. ~~The four implementation items listed in Attachment 1 to FPL letter L-  
2018-201, "Fourth Supplement to License Amendment Request to  
Adopt Risk Informed Completion Times TSTF 505, Revision 1, 'Provide  
Risk Informed Extended Completion Times – RITSTF Initiative 4b',"  
November 9, 2018. Deleted~~

2. The risk assessment approach and methods, shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant, and reflect the operating experience of the plant as specified in RG 1.200. Methods to assess the risk from extending the completion times must be PRA methods accepted as part of this license amendment, or other methods approved by the NRC for generic use. If the licensee wishes to change its methods, and the change is outside the bounds of this license condition, the licensee will seek prior NRC approval via a license amendment.

The NRC staff notes that the revision to the first listed condition specifying activities to be completed prior to implementing the RICT Program is acceptable for removal since the work was completed as stated in the LAR. Therefore, the NRC staff concludes that changes to the RFOLs are acceptable for this LAR.

## 5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Florida official was notified of the proposed issuance of the amendment on December 1, 2021. The State of Florida official had no comments.

## 6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes the requirements with respect to installation or use of a facility's components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration in the *Federal Register* on August 20, 2021 (86 FR 20526), and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

## 8.0 REFERENCES

- [1] Florida Power & Light, Letter from Daniel D. DeBoer, St. Lucie Nuclear Plant, Units 1 and 2, License Amendment to Allow Risk Informed Completion Times (RICT) for the 120-Volt AC Instrument Bus Requirements,” December 21, 2020 (ADAMS Accession No. ML20356A162).
- [2] Florida Power & Light, Letter from Daniel D. DeBoer, St Lucie Nuclear Plant, Units 1 and 2, Response to Request for Additional Information for St. Lucie License Amendment Request to Allow Risk Informed Completion Times (RICT) for the 120-Volt AC Instrument Bus Requirements, May 12, 2021 (ADAMS Accession No. ML21133A002).
- [3] Topical Report NEI 06-09, Revision 0-A “Risk Informed Technical Specifications Initiative 4b: Risk Managed Technical Specifications (RMTS),” October 2012 (ADAMS Accession No. ML122860402).
- [4] U.S. Nuclear Regulatory Commission, St. Lucie Plant, Unit Nos. 1 and 2 - Issuance of Amendment Nos. 247 and 199 Regarding Adoption of Risk-Informed Completion Time in Technical Specifications (CAC Nos. MF5372 and MF5373; EPID L-2014-LLA-0001), July 2, 2019 (ADAMS Accession No. ML19113A099).
- [5] TSTF-505, Revision 2, “TSTF Comments on Draft Safety Evaluation for Traveler TSTF-505, ‘Provide Risk-Informed Extended Completion Times’ and Submittal of TSTF-505, Revision 2,” July 2, 2018 (ADAMS Package Accession No. ML18183A493).
- [6] U.S. Nuclear Regulatory Commission, “Final Revised Model Safety Evaluation of Traveler TSTF-505, Revision 2, “Provide Risk Informed Extended Completion Times - RITSTF Initiative 4B,” November 21, 2018 (ADAMS Accession No. ML18269A041).
- [7] Regulatory Guide 1.200, Revision 2, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment for Risk-Informed Activities,” March 2009 (ADAMS Accession No. ML090410014).
- [8] Regulatory Guide 1.174, Revision 3, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” January 2018 (ADAMS Accession No. ML17317A256).
- [9] Regulatory Guide 1.177, Revision 1, “An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications,” May 2011 (ADAMS Accession No. ML100910008).
- [10] NUREG-0800, Chapter 19, Section 19.2, “Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance,” June 2007, (ADAMS Accession No. ML071700658).
- [11] U.S Nuclear Regulatory Commission, “Final Safety Evaluation For Nuclear Energy Institute (NEI) Topical Report (TR) NEI 06-09, ‘Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines,’” May 17, 2007 (ADAMS Accession No. ML071200238).
- [12] U.S. NRC letter to Nuclear Energy Institute, “U.S. Nuclear Regulatory Commission Acceptance on Nuclear Energy Institute Appendix X to Guidance 05-04, 07-12, and 12-13, Close-Out of Facts and Observations (F&Os),” May 3, 2017 (ADAMS Accession No. ML17079A427).

- [13] National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition.
- [14] NUMARC 93-01, Revision 4F, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," April 27, 2018 (ADAMS Accession No. ML18120A069).
- [15] Nuclear Energy Institute, "Appendix X to NEI 05-04/07-12/12-06 "Close Out of F&Os Process," June 6, 2016 (ADAMS Accession No. ML16158A035).
- [16] NRC, NUREG-1432, Vol. 1, Rev. 5, "Standard Technical Specifications Combustion Engineering Plants: Specifications," September 30, 2021 (ADAMS Accession No. ML21258A421).
- [17] Florida Power & Light, Letter from Daniel D. DeBoer, St. Lucie Nuclear Plant, Units 1 and 2, Supplement to License Amendment to Allow Risk Informed Completion Times (RICT) for the 120-Volt AC Instrument Bus Requirements," January 13, 2022 (ADAMS Accession No. ML22013B158).

Principal Contributors: J. Evans, NRR  
M. Biro, NRR  
V. Goel, NRR  
K. West, NRR

Date: January 14, 2022

SUBJECT: ST. LUCIE NUCLEAR PLANT, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENT NOS. 252 AND 207 TO ALLOW RISK-INFORMED COMPLETION TIMES (RICT) FOR THE 120-VOLT ALTERNATING CURRENT (AC) INSTRUMENT BUS REQUIREMENTS (EPID L-2020-LLA-0283) DATED JANUARY 14, 2022

**DISTRIBUTION:**

PUBLIC  
 PM File Copy  
 RidsACRS\_MailCTR Resource  
 RidsNrrDorlLpl2-2 Resource  
 RidsNrrPMSt.Lucie Resource  
 RidsNrrLARButler Resource  
 RidsRgn2MailCenter Resource  
 RidsNrrDssStsb Resource  
 RidsNrrDraApla Resource  
 RidsNrrDexEeeb  
 JEvans, NRR  
 KWest, NRR  
 MBiro, NRR  
 VGoel, NRR

**ADAMS Accession No.: ML21342A209**

**\*By Memo**

OFFICE	NRR/DORL/LPL2-2/PM	NRR/DORL/LPL2-2/LA	NRR/DRA/APLA/BC*	NRR/DEX/EEEE/BC(A)*
NAME	MMahoney	RButler	RPascarelli	SRay
DATE	12/6/2021	12/15/2021	10/27/2021	07/16/2021
OFFICE	NRR/DSS/STSB/BC	OGC – NLO	NRR/DORL/LPL2-2/BC	NRR/DORL/LPL2-2/PM
NAME	VCusumano	RWeisman	DWrona	MMahoney
DATE	12/01/2021	01/07/2022	01/14/2022	01/14/2022

**OFFICIAL RECORD COPY**