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

October 31, 2017

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
Florida Power & Light Co.
Mail Stop: NT3/JW
15430 Endeavor Drive
Jupiter, FL 33478

SUBJECT: ST. LUCIE PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING TECHNICAL SPECIFICATION CHANGES RELATED TO THE REACTOR PROTECTION SYSTEM AND LIMITING CONDITION FOR OPERATION 3.0.5 (CAC NOS. MF9119 AND MF9120; EPID L-2017-LLA-0168)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 243 and 194 to Renewed Facility Operating License Nos. DPR-67 and NPF-16 for the St. Lucie Plant, Unit Nos. 1 and 2 (St. Lucie 1 and 2), respectively. These amendments consist of changes to the Technical Specifications (TSs) in response to Florida Power & and Light Company's application dated January 23, 2017, as supplemented by letter dated July 3, 2017.

The amendments modify the St. Lucie 1 and 2 TSs by limiting the MODE of applicability for the Reactor Protection System, Startup and Operating Rate of Change of Power - High, functional unit trip. Additionally, the proposed license amendments add new Limiting Condition for Operation (LCO) 3.0.5 and modifies LCO 3.0.1 and LCO 3.0.2, to provide for placing inoperable equipment under administrative control for the purpose of conducting testing required to demonstrate OPERABILITY.

A copy of the safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

for

Perry H. Buckberg, Senior Project Manager
Plant Licensing Branch II-2
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389

Enclosures:
1. Amendment No. 243 to DPR-67
2. Amendment No. 194 to NPF-16
3. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 243
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 January 23, 2017, as supplemented by letter dated July 3, 2017, 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.

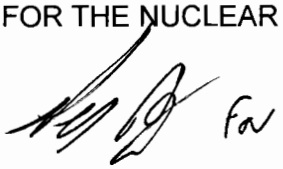
2. Accordingly, Renewed Facility Operating License No. DPR-67 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 3.B to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 243, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Undine Shoop, Chief
Plant Licensing Branch II-2
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of Issuance: October 31, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 243

ST. LUCIE PLANT UNIT NO. 1

RENEWED FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace Page 3 of Renewed Facility Operating License No. DPR-67 with the attached revised Page 3.

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

Remove Page	Insert Page
3/4 0-1	3/4 0-1
3/4 3-3	3/4 3-3
3/4 3-4	3/4 3-4

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. 243 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.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Limiting Conditions for Operation (LCO) shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2.

3.0.2 Upon discovery of a failure to meet an LCO, the Required ACTION(s) of the associated conditions shall be met, except as provided in LCO 3.0.5. If the LCO is met or is no longer applicable prior to expiration of the specified time interval(s), completion of the Required ACTION(s) is not required, unless otherwise stated.

3.0.3 When a Limiting Condition for Operation (LCO) is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place the unit in a MODE in which specification does not apply by placing it, as applicable in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the LCO. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODES 5 or 6.

3.0.4 When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate (exceptions to this Specification are stated in the individual Specifications); or

c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0.5 Equipment removed from service or declared inoperable to comply with ACTION(s) may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

TABLE 3.3-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
11. Wide Range Logarithmic Neutron Flux Monitor					
a. Startup and Operating -- Rate of Change of Power – High	4	2(d)	3	1**, 2 and *	2
b. Shutdown	4	0	2	3, 4, 5	3
12. Reactor Protection System Logic	4	2	4	1, 2*	4
13. Reactor Trip Breakers	4	2	4	1, 2*	4

TABLE 3.3-1 (Continued)

TABLE NOTATION

* With the protective system trip breakers in the closed position and the CEA drive system capable of CEA withdrawal.

** Mode 1 applicable only when Power Range Neutron Flux power ≤ 15% of RATED THERMAL POWER.

(a) Trip may be bypassed below 1% of RATED THERMAL POWER; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is ≥ 1% of RATED THERMAL POWER.

(b) Trip may be manually bypassed below 685 psig; bypass shall be automatically removed at or above 685 psig.

(c) Trip may be bypassed below 15% of RATED THERMAL POWER; bypass shall be automatically removed when Power Range Neutron Flux power is ≥ 15% of RATED THERMAL POWER.

(d) Trip may be bypassed below 10^{-4}% and above 15% of RATED THERMAL POWER; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is ≥ 10^{-4}% and Power Range Neutron Flux power ≤ 15% of RATED THERMAL POWER.

(e) Deleted.

(f) There shall be at least two decades of overlap between the Wide Range Logarithmic Neutron Flux Monitoring Channels and the Power Range Neutron Flux Monitoring Channels.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in either the bypassed or tripped condition within 1 hour. For the purposes of testing and maintenance, the inoperable channel may be bypassed for up to 48 hours from time of initial loss of OPERABILITY; however, the inoperable channel shall then be either restored to OPERABLE status or placed in the tripped condition.

UNITED STATES
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WASHINGTON, D.C. 20555-0001

FLORIDA POWER AND 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. 194
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 (FPL, the licensee), dated January 23, 2017, as supplemented by letter dated July 3, 2017, 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 to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 194, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

for

Undine Shoop, Chief
Plant Licensing Branch II-2
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of Issuance: October 31, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 194

ST. LUCIE PLANT UNIT NO. 2

RENEWED FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace Page 3 of Renewed Facility Operating License No. NPF-16 with the attached revised Page 3.

Replace the following page of Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page	Insert Page
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3/4 3-3	3/4 3-3

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 CFR 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. 194 are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Limiting Conditions for Operation (LCO) shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2.

3.0.2 Upon discovery of a failure to meet an LCO, the Required ACTION(s) of the associated conditions shall be met, except as provided in LCO 3.0.5. If the LCO is met or is no longer applicable prior to expiration of the specified time interval(s), completion of the Required ACTION(s) is not required, unless otherwise stated.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within 1 hour, action shall be initiated to place the unit in a MODE in which specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODE 5 or 6.

3.0.4 When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate (exceptions to this Specification are stated in the individual Specifications); or

c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0.5 Equipment removed from service or declared inoperable to comply with ACTION(s) may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

TABLE 3.3-1

REACTOR PROTECTIVE INSTRUMENTATION

	FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1.	Manual Reactor Trip	4 4	2 2	4 4	1, 2 3*, 4*, 5*	1 5
2.	Variable Power Level – High	4	2(a)(d)	3	1, 2	2
3.	Pressurizer Pressure – High	4	2	3	1, 2	2
4.	Thermal Margin/Low Pressure	4	2(a)(d)	3	1, 2	2
5.	Containment Pressure – High	4	2	3	1, 2	2
6.	Steam Generator Pressure – Low	4/SG	2/SG(b)	3/SG	1, 2	2
7.	Steam Generator Pressure Difference – High	4	2(a)(d)	3	1, 2	2
8.	Steam Generator Level – Low	4/SG	2/SG	3/SG	1, 2	2
9.	Local Power Density – High	4	2(c)(d)	3	1	2
10.	Loss of Component Cooling Water to Reactor Coolant Pumps	4	2	3	1, 2	2
11.	Reactor Protection System Logic	4	2	3	1, 2 3*, 4*, 5*	2 5
12.	Reactor Trip Breakers	4	2(f)	4	1, 2 3*, 4*, 5*	4 5
13.	Wide Range Logarithmic Neutron Flux Monitor					
	a. Startup and Operating – Rate of Change of Power – High	4	2(e)(g)	3	1**, 2	2
	b. Shutdown	4	0	2	3, 4, 5	3
14.	Reactor Coolant Flow – Low	4/SG	2/SG(a)(d)	3/SG	1, 2	2
15.	Loss of Load (Turbine Hydraulic Fluid Pressure – Low)	4	2(c)	3	1	2

TABLE 3.3-1 (Continued)

TABLE NOTATION

* With the protective system trip breakers in the closed position, the CEA drive system capable of CEA withdrawal, and fuel in the reactor vessel.

** Mode 1 applicable only when Power Range Neutron Flux power ≤ 15% of RATED THERMAL POWER.

(a) Trip may be manually bypassed below 0.5% of RATED THERMAL POWER in conjunction with (d) below; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is greater than or equal to 0.5% of RATED THERMAL POWER.

(b) Trip may be manually bypassed below 705 psig; bypass shall be automatically removed at or above 705 psig.

(c) Trip may be bypassed below 15% of RATED THERMAL POWER; bypass shall be automatically removed when Power Range Neutron Flux power is greater than or equal to 15% of RATED THERMAL POWER.

(d) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.

(e) Trip may be bypassed below 10^{-4}% and above 15% of RATED THERMAL POWER; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is $\geq 10^{-4}$% and Power Range Neutron Flux power $\leq$ 15% of RATED THERMAL POWER.

(f) Each channel shall be comprised of two trip breakers; actual trip logic shall be one-out-of-two taken twice.

(g) There shall be at least two decades of overlap between the Wide Range Logarithmic Neutron Flux Monitoring Channels and the Power Range Neutron Flux Monitoring Channels.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 243 AND 194

TO RENEWED FACILITY OPERATING LICENSE NOS. DPR-67 AND NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By application dated January 23, 2017 (Reference 1), as supplemented by letter dated July 3, 2017 (Reference 2), Florida Power & Light Company (the licensee) submitted to the U.S. Nuclear Regulatory Commission (NRC, the Commission) a license amendment request (LAR) for the St. Lucie Plant, Unit Nos. 1 and 2 (St. Lucie 1 and 2).

On March 28, 2017, the Nuclear Regulatory Commission staff published a proposed no significant hazards consideration (NSHC) determination in the *Federal Register* (82 FR 15383) for the proposed amendment. Subsequently, by letter dated July 3, 2017, the licensee provided additional information that expanded the scope of the amendment request as originally noticed in the *Federal Register*. Accordingly, the NRC published a second proposed NSHC determination in the *Federal Register* on September 12, 2017 (82 FR 42849), which superseded the original notice in its entirety.

The proposed amendments would revise Technical Specifications (TSs) to limit the MODE 1 applicability for the Reactor Protection System (RPS) Power Rate-of-Change Trip Functions to less than or equal to 15 percent (≤ 15%) of rated thermal power. In addition, the licensee proposed to add new Limiting Condition for Operation (LCO) 3.0.5 and to relatedly modify LCO 3.0.1 and LCO 3.0.2, to provide for placing inoperable equipment under administrative control for the purpose of conducting testing required to demonstrate OPERABILITY.

2.0 REGULATORY EVALUATION

2.1 Systems Descriptions

The St. Lucie 1 and 2 RPS is designed to assure adequate protection of the fuel, fuel cladding, and reactor coolant pressure boundary during moderate frequency events and infrequent events. The system also provides assistance in limiting conditions for certain limiting faults. The RPS consists of four independent and redundant channels to monitor each of the selected plant parameters. The RPS's redundant channels are designed to ensure that no single failure will either cause or prevent a protective system actuation and that no protective channel feeds a control channel. The operability requirements for the RPS channels are specified in

Table 3.3-1, "Reactor Protective Instrumentation," of the St. Lucie 1 and 2 TSs. A part of the RPS, the power rate-of-change trip function is designed to protect the core during startup operations, and it is used as a backup to the implemented administrative startup rate limit. The power rate-of-change is monitored at startup by four redundant and wide-range startup neutron flux monitoring channels. The power rate-of-change trip will initiate an automatic trip whenever the rate-of-change of neutron flux power exceeds a preset value as measured by any two wide-range channels. When the power rate-of-change is greater than the set rate, a Control Element Assembly withdraw prohibit will also be operative and an alarm will be actuated in the control room. A pre-trip alarm will be generated from each channel prior to the rate-of change of power exceeding the trip set point limit.

St. Lucie 1 and 2 TSs Section 3/4, "Limiting Condition for Operation and Surveillance Requirements," establishes general requirements applicable to all TSs unless otherwise stated. In general, these requirements state the relationships between testing, equipment operability, and operational modes.

2.2 Requested Changes

The licensee requested a St. Lucie 1 and 2 TS change that would limit the MODE 1 applicability for the RPS Power Rate-of-Change Trip Functions to ≤ 15% of rated thermal power.

In addition, the licensee proposed to add a new Limiting Conditions of Operation (LCO) 3.0.5 and to relatedly modify LCO 3.0.1 and LCO 3.0.2, to provide for placing inoperable equipment under administrative control for the purpose of conducting testing required to demonstrate OPERABILITY. The proposed changes are summarized below.

LCO 3.0.1

LCO 3.0.1 currently states:

> Compliance with the Limiting Conditions for Operation (LCO) contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

The licensee's proposed revision is:

> Limiting Conditions of Operation (LCO) shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2.

LCO 3.0.2

LCO 3.0.2 currently states:

> Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation (LCO) and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

The licensee's proposed revision is:

Upon discovery of a failure to meet an LCO, the Required ACTION(s) of the associated conditions shall be met, except as provided in LCO 3.0.5. If the LCO is met or is no longer applicable prior to expiration of the specified time intervals, completion of the Required ACTION(s) is not required, unless otherwise stated.

LCO 3.0.5

The licensee's proposed new LCO 3.0.5 is:

Equipment removed from service or declared inoperable to comply with ACTION(s) may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

2.3 Regulatory Requirements and Guidance

The NRC staff identified the following regulatory requirements and guidance that are applicable to the proposed amendments:

- Section 182a of the Atomic Energy Act (the "Act") requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The TSs ensure the operational capability of structures, systems, and components that are required to protect the health and safety of the public. The Commission's regulatory requirements related to the content of the TSs are contained in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36. This regulation requires that the TSs include items in the following categories: (1) Safety limits, limiting safety system settings, and limiting control settings (50.36(c)(1)); (2) Limiting conditions for operation (50.36(c)(2)); (3) Surveillance requirements (50.36(c)(3)); (4) Design features (50.36(c)(4)); and (5) Administrative controls (50.36(c)(5)).

  - 10 CFR 50.36(c)(1)(ii)(A) states, in part, "Where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting must be so chosen that automatic protective action will correct the abnormal situation before a safety limit is exceeded. If, during operation, it is determined that the automatic safety system does not function as required, the licensee shall take appropriate action, which may include shutting down the reactor."

  - 10 CFR 50.36(c)(2)(ii) states:

    A technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:

    (A) *Criterion 1.* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

(B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

(C) *Criterion 3.* A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

(D) *Criterion 4.* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

- 10 CFR 50.36(c)(3) states, in part, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

- General Design Criteria (GDC) in 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants."

  - Criterion 13, "Instrumentation and Control," states, "Instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges."

  - Criterion 21, "Protection System Reliability and Testability," states in part, "Redundancy and independence designed into the protection system shall be sufficient to assure that (1) no single failure results in loss of the protection function and (2) removal from service of any component or channel does not result in loss of the required minimum redundancy unless the acceptable reliability of operation of the protection system can be otherwise demonstrated."

  - Criterion 22, "Protection System Independence," states, "The protection system shall be designed to assure that the effects of natural phenomena, and of normal operating, maintenance, testing, and postulated accident conditions on redundant channels do not result in loss of the protection function, or shall be demonstrated to be acceptable on some other defined basis. Design techniques, such as functional diversity or diversity in component design and principles of operation, shall be used to the extent practical to prevent loss of the protection function."

  - Section 3.1 of the St. Lucie Unit 1 Updated Final Safety Analysis Report (UFSAR), "Conformance with the General Design Criteria," and of the St. Lucie Unit 2 UFSAR, "Conformance with the NRC General Design Criteria" state under Criterion 22, "Four independent measurement channels complete with sensors,

sensor power supplies, signal conditioning units and bistable trip units are provided for each protective parameter monitored by the protection systems. The measurement channels are provided with a high degree of independence by separate connections of the channel sensors to the process systems. Power to the channels is provided by independent emergency power supply buses."

Because the St. Lucie 1 construction permit was issued prior to the publication of 10 CFR Part 50, Appendix A, the St Lucie 1 design approval for the construction phase was based on the proposed GDC published by the Atomic Energy Commission in the *Federal Register* (32 FR 10213) on July 11, 1967. Section 1.3.2, "Comparison of Preliminary and Final Design," and Chapter 3, "Design Criteria - Structures, Components, Equipment and Systems," of the St. Lucie 1 UFSAR describe the St. Lucie 1 GDC. The St. Lucie 1 UFSAR descriptions of GDC 13, 21, and 22 reflect design requirements equivalent to those specified in the GDC. Therefore, St. Lucie 1 conforms to the same design standards as St. Lucie 2, which was designed and constructed in compliance with the GDC, as relevant to the evaluation of this LAR.

- NUREG-1432, Revision 4.0, "Standard Technical Specifications for Combustion Engineering Plants" (Reference 3). In general there are two classes of changes to TSs: (1) Changes needed to reflect modifications to the design basis (TSs are derived from the design basis); and (2) voluntary changes to take advantage of the evolution in policy and guidance as to the required content and preferred format of TSs. The staff used the accumulation of generically approved guidance in NUREG-1432, Revision 4 to evaluate the proposed TS changes.

- Regulatory Guide (RG) 1.75, Revision 3, "Criteria for Independence of Electrical Safety Systems" describes a method acceptable to the NRC staff for meeting physical independence of the circuits and electrical equipment that comprise or are associated with safety systems. This RG provides a method that complies with the requirements of the agency's regulatory concerning about physical independence of the circuits and electrical equipment that comprise or are associated with safety system.

- Institute of Electrical and Electronics Engineers (IEEE) Standard 279-1971, "Single Failure Criterion," states in part, "Any single failure within the protection system shall not prevent proper protective action at the system level when required. 'Single failure' includes such events as the shorting or open-circuiting of interconnecting signal or power cables. It also includes single credible malfunctions or events that cause a number of consequential component, module, or channel failure."

3.0 TECHNICAL EVALUATION

3.1 Reactor Protection System Power Rate-of-Change MODE 1 Applicability

In the original submittal dated January 23, 2017, the licensee requested to revise the limit for the power rate-of-change trip to ≤ 15% of RATED THERMAL POWER in MODE 1. The current limit is established in Table 3.3-1 of the St. Lucie 1 and 2 TSs. Table 3.3-1 includes a "Wide Range Logarithmic Neutron Flux" Functional Unit (FU) that is divided into two units; "Startup and Operating Rate of Change of Power-High," and "Shutdown." The "Startup and Operating Rate of Change of Power-High" FU appears in Table 3.3-1 as FU 11a for St. Lucie 1 and FU 13a for St. Lucie 2. To limit the FU 11a and 13a MODE 1 applicabilities to ≤ 15% of RATED THERMAL POWER, the licensee proposed changes to Unit 1 and Unit 2 TS Table 3.3-1 and the

corresponding Table Notations.

Specifically, FU 11a and FU 13a would both include a new MODE 1 applicable footnote that states:

> MODE 1 applicable only when Power Range Neutron Flux power is ≤ 15% of RATED THERMAL POWER.

The proposed footnote effectively describes the applicability such that the MODE 1 trip conditions pertaining to rate-of-change do not apply when the neutron flux power is greater than 15%. This footnote provides clarification as FU 11a and FU 13a both refer to Table Notations that state:

> Trip may be bypassed below 10^{-4}% and above 15% of RATED THERMAL POWER; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is ≥10^{-4}% and Power Range Neutron Flux power ≤15% of RATED THERMAL POWER.

Limiting the MODE 1 applicability to ≤ 15% RATED THERMAL POWER would not change the process in which applicable TS required Action(s) are applied in the event of an inoperable power rate-of-change trip channel with power range neutron flux power less than 15%. The inoperable trip channel would be placed in the bypass or trip position within the timeframes specified in TS Table 3.3-1, Action 2. Conversely, the power rate-of-change channels are automatically placed in bypass when the power is above 15% of RATED THERMAL POWER.

The NRC staff determines that the proposed change to limit Mode 1 applicability for the power rate-of-change trip to ≤ 15% of RATED THERMAL POWER neither physically changes any plant systems, structures, or components, nor modifies any plant procedure or methodology for this phase of plant operation. The licensee will continue to meet the criteria of GDC 13, GDC 21, and GDC 22, physical independence methods in RG 1.75, and protection system requirements in IEEE 279-1971 because there are no proposed changes in instrumentation design, protection system reliability, protection system independence, or electrical independence criteria. The proposed changes also meet the requirements of the criteria of the 10 CFR 50.36(c)(2)(ii). Therefore, the proposed changes are acceptable.

3.2 Add new LCO 3.0.5 and Modify LCO 3.0.1 and LCO 3.0.2

3.2.1 Changes to LCO 3.0.1

In the original submittal dated January 23, 2017, the licensee proposed a new St. Lucie 1 and 2 TS LCO 3.0.5 and proposed related changes to LCO 3.0.2. However, in the supplement dated July 3, 2017, in response to the NRC's staff request for additional information dated June 1, 2017 (Reference 4), the licensee proposed changes to LCO 3.0.1. The licensee proposed changes to LCO 3.0.1 to be consistent with NUREG-1432 and to avoid redundant premises in TS Section 3.0 that would result from having equivalent statements in current TS LCO 3.0.1 and proposed TS LCO 3.0.2.

The NRC staff finds the July 3, 2017, proposed revision to TS LCO 3.0.1 acceptable since it adds clarity to this TS usage rule and it continues to establish an applicability statement within each individual specification as the requirement for when the LCO is required to be met.

3.2.2 Changes to LCO 3.0.2

In the supplement dated July 3, 2017, the licensee revised their January 23, 2017, proposed changes to LCO 3.0.2 consistent with NUREG-1432 and to avoid redundant premises in TS Section 3.0 that would have resulted from having equivalent statements in current TS LCO 3.0.1 and the original proposed changes to TS LCO 3.0.2.

The NRC staff finds the proposed revision to TS LCO 3.0.2 acceptable since it adds clarity to this TS usage rule and it continues to establish that upon discovery of a failure to meet an LCO, the associated actions shall be met. Proposed LCO 3.0.2 also continues to establish that completion of the required actions within the specified time interval constitutes compliance with a specification and completion of the required actions is not required when an LCO is met within the specified time interval, unless otherwise specified.

3.2.3 Changes to LCO 3.0.5

The licensee is proposing to add LCO 3.0.5 to St. Lucie 1 and 2 TSs. LCO 3.0.5 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with actions. The sole purpose of this specification is to provide an exception to LCO 3.0.2 (e.g., to not comply with the applicable required action(s)) to allow the performance of required testing to demonstrate either the operability of the equipment being returned to service or the operability of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the actions is limited to the time absolutely necessary to perform the required testing to demonstrate operability. This specification does not provide time to perform any other preventive or corrective maintenance.

The NRC staff finds the addition of LCO 3.0.5 acceptable since it provides a safe means for restoration of equipment that is inoperable or removed from service due to TS requirements to allow testing of that or other equipment.

3.2.4 Technical Conclusion

Based on the evaluation above, the NRC staff finds that the new LCO 3.0.5 and modified LCO 3.0.1 and LCO 3.0.2 are acceptable and continue to meet 10 CFR 50.36(c)(2). The proposed changes add clarity in TS usage rules and remove potential redundant premises in TS Section 3.0. In addition, the proposed changes provide a safe means for restoration of equipment that is inoperable or removed from service due to TS requirements to allow testing of that or other equipment.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The NRC's regulation in 10 CFR 50.92(c) states that the NRC may make a final determination, under the procedures in 10 CFR 50.91, that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

An evaluation of the issue of no significant hazards consideration is presented below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   Limiting the MODE 1 applicability for RPS functional unit, Startup and Operating Rate of Change of Power - High, to Power Range Neutron Flux Power ≤15% of RATED THERMAL POWER, is an administrative change in nature and does not alter the manner in which the functional unit is operated or maintained. The proposed changes do not represent any physical change to plant [structures, systems, and components (SSC(s))], or to procedures established for plant operation. The subject RPS functional unit is not an event initiator nor is it credited in the mitigation of any event or credited in the [probabilistic risk assessment (PRA)]. As such, the initial conditions associated with accidents previously evaluated and plant systems credited for mitigating the consequences of accidents previously evaluated remain unchanged.

   The proposed addition of new LCO 3.0.5 to the St. Lucie Unit 1 and Unit 2 TS and related modification to [LCO 3.0.1 and] LCO 3.0.2 is consistent with the guidance provided in NUREG-1432, Volume 1 [ADAMS Accession No. ML12102A165] (Reference 6.1 [of the amendment request]) and thereby has been previously evaluated by the Commission with a determination that the proposed change does not involve a significant hazards consideration.

   Therefore, facility operation in accordance with the proposed license amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   Limiting the MODE 1 applicability for the RPS functional unit, Startup and Operating Rate of Change of Power - High, to Power Range Neutron Flux Power ≤ 15% of RATED THERMAL POWER, is an administrative change in nature and does not involve the addition of any plant equipment, methodology or analyses. The proposed changes do not alter the design, configuration, or method of operation of the subject RPS functional unit or of any other SSC. More specifically, the proposed changes neither alter the power rate-of-change trip function nor its ability to bypass and reset as required. The subject RPS functional unit remains capable of performing its design function.

   The proposed addition of new LCO 3.0.5 to the St. Lucie Unit 1 and Unit 2 TS and related modification to [LCO 3.0.1 and] LCO 3.0.2 is consistent with the guidance provided in NUREG-1432, Volume 1 (Reference 6.1 [of

the amendment request]) and thereby has been previously evaluated by the Commission with a determination that the proposed change does not involve a significant hazards consideration.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Limiting the MODE 1 applicability for RPS functional unit, Startup and Operating Rate of Change of Power - High, to Power Range Neutron Flux Power ≤ 15% of RATED THERMAL POWER is an administrative change in nature. The proposed changes neither involve changes to any safety analyses assumptions, safety limits, or limiting safety system settings nor do they adversely impact plant operating margins or the reliability of equipment credited in safety analyses.

The proposed addition of new LCO 3.0.5 to the St. Lucie Unit 1 and Unit 2 TS and related modification to [LCO 3.0.1 and] LCO 3.0.2 is consistent with the guidance provided in NUREG-1432, Volume 1 (Reference 6.1 [of the amendment request]) and thereby has been previously evaluated by the Commission with a determination that the proposed change does not involve a significant hazards consideration.

Therefore, operation of the facility in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.

Based on the above evaluation, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has made a final determination that no significant hazards consideration is involved for the proposed amendment and that the amendment should be issued as allowed by the criteria contained in 10 CFR 50.91.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, on September 14, 2017, the NRC staff notified the State of Florida official (Ms. Cynthia Becker, M.P.H., Chief of the Bureau of Radiation Control, Bureau of Radiation Control, Florida Department of Health) of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 previously issued a proposed finding that the amendments involve NSHC, and there has been no public comment on this finding published in the *Federal Register* on September 12, 2017 (82 FR 42849). Accordingly, the amendment meets 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 amendment.

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. Summers, Thomas, Florida Power & Light Company, letter to U.S. Nuclear Regulatory Commission, "St. Lucie Units 1 and 2, Docket Nos. 50-335 and 50-389, Renewed Facility Operating Licenses DPR-67 and NPF-16, License Amendment Request to Revise the Technical Specifications (TS) for the Reactor Protection System (RPS) Power Rate-of-Change Instrumentation and Add New TS 3.0.5," January 23, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17025A399).

2. DeBoer, Dan, Florida Power & Light Company, letter to U.S. Nuclear Regulatory Commission, "St. Lucie Units 1 and 2, Docket Nos. 50-335 and 50-389, Renewed Facility Operating Licenses DPR-67 and NPF-16, Response to Request for Additional Information Regarding License Amendment Request to Revise the Technical Specifications (TS) for the Reactor Protection System (RPS) Power Rate-of-Change Instrumentation and Add New TS 3.0.5," July 3, 2017 (ADAMS Accession No. ML17184A176).

3. U.S. Nuclear Regulatory Commission, NUREG-1432, Vol. 1, Revision 4.0, "Standard Technical Specifications, Combustion Engineering Plants"; NUREG-1432, Vol. 2, Bases (ADAMS Accession Nos. ML12102A165 and ML12102A169).

4. Buckberg, Perry, NRC, E-mail to Frehafer, Ken, Florida Power & Light Company, "Request for Additional Information - St. Lucie RPS and TS LCO LAR - MF9119/MF9120" June 1, 2017 (ADAMS Accession No. ML17152A184).

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Date:

SUBJECT: ST. LUCIE PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING TECHNICAL SPECIFICATION CHANGES RELATED TO THE REACTOR PROTECTION SYSTEM AND LIMITING CONDITION FOR OPERATION 3.0.5 (CAC NOS. MF9119 AND MF9120; EPID L-2017-LLA-0168) DATED OCTOBER 31, 2017

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