



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

August 8, 2012

Mr. Mano Nazar
Executive Vice President and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: TURKEY POINT UNITS 3 AND 4 - ISSUANCE OF AMENDMENTS REGARDING
CHANGE TO DIRECT CURRENT SOURCES SURVEILLANCE
REQUIREMENTS (TAC NOS. ME6859 AND ME6860)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 252 to Renewed Facility Operating License No. DPR-31 and Amendment No. 248 to Renewed Facility Operating License No. DPR-41 for the Turkey Point Plant, Units Nos. 3 and 4, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated August 10, 2011, as supplemented by letters dated April 30 and June 19, 2012.

The amendments revise the TS Surveillance Requirements (SR) relating to direct current sources. Specifically, the changes modify SR 4.8.2.1 pertaining to periodic verification of battery connection resistances and battery bank capacity.

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,

A handwritten signature in black ink, reading "Farideh E. Saba".

Farideh E. Saba, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosures:

1. Amendment No. 252 to DPR-31
2. Amendment No. 248 to DPR-41
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. 50-250

TURKEY POINT PLANT, UNIT NO. 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 252
Renewed License No. DPR-31

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power and Light Company (the licensee) dated August 10, 2011, as supplemented by letters dated April 30 and June 19, 2012, 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.

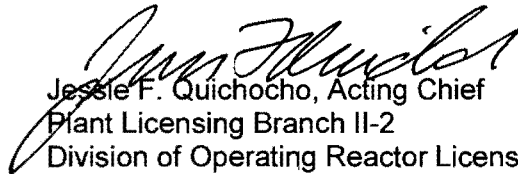
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-31 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 252 are hereby incorporated into this renewed license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Jesse F. Quichocho, Acting 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: August 8, 2012



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

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT UNIT NO. 4

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 248
Renewed License No. DPR-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power and Light Company (the licensee) dated August 10, 2011, as supplemented by letters dated April 30 and June 19, 2012, 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.

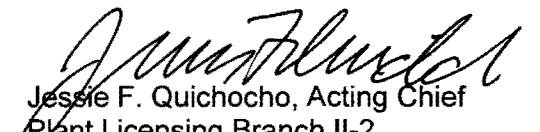
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-41 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 248 are hereby incorporated into this renewed license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

- I. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION


Jessie F. Quichocho, Acting 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: August 8, 2012

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 252 RENEWED FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 248 RENEWED FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Replace Page 3 of Renewed Operating License DPR-31 with the attached Page 3.

Replace Page 3 of Renewed Operating License DPR-41 with the attached Page 3.

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

Remove pages

3/4 8-14
3/4 8-15

Insert pages

3/4 8-14
3/4 8-15

- E. Pursuant to the Act and 10 CFR Parts 40 and 70 to receive, possess, and use at any time 100 milligrams each of any source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactively contaminated apparatus;
 - F. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Turkey Point Units Nos. 3 and 4.
3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 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

The applicant is authorized to operate the facility at reactor core power levels not in excess of 2644 megawatts (thermal).
 - B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 252 are hereby incorporated into this renewed license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
 - C. Final Safety Analysis Report

The licensee's Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on November 1, 2001, describes certain future inspection activities to be completed before the period of extended operation. The licensee shall complete these activities no later than July 19, 2012.

The Final Safety Analysis Report supplement as revised on November 1, 2001, described above, shall be included in the next scheduled update to the Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following the issuance of this renewed license. Until that update is complete, the licensee may make changes to the programs described in such supplement without prior Commission approval, provided that the licensee evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- E. Pursuant to the Act and 10 CFR Parts 40 and 70 to receive, possess, and use at any time 100 milligrams each of any source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactively contaminated apparatus;
 - F. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Turkey Point Units Nos. 3 and 4.
3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 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

The applicant is authorized to operate the facility at reactor core power levels not in excess of 2644 megawatts (thermal).
 - B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 248 are hereby incorporated into this renewed license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
 - C. Final Safety Analysis Report

The licensee's Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on November 1, 2001, describes certain future inspection activities to be completed before the period of extended operation. The licensee shall complete these activities no later than April 10, 2013.

The Final Safety Analysis Report supplement as revised on November 1, 2001, described above, shall be included in the next scheduled update to the Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following the issuance of this renewed license. Until that update is complete, the licensee may make changes to the programs described in such supplement without prior Commission approval, provided that the licensee 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.C. SOURCES

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

- b. With one of the required battery banks inoperable, or with none of the full-capacity chargers associated with a battery bank OPERABLE, restore all battery banks to OPERABLE status and at least one charger associated with each battery bank to OPERABLE status within two hours* or be in at least HOT STANDBY within the next 12 hours and in COLD SHUTDOWN within the following 30 hours. This ACTION applies to both units simultaneously.

SURVEILLANCE REQUIREMENTS (Continued)

4.8.2.1 Each 125-volt battery bank and its associated full capacity charger(s) shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
- 1) The parameters in Table 4.8-2 meet the Category A limits, and
 - 2) The total battery terminal voltage is greater than or equal to 129 volts on float charge and the battery charger(s) output voltage is ≥ 129 volts, and
 - 3) If two battery chargers are connected to the battery bank, verify each battery charger is supplying a minimum of 10 amperes, or demonstrate that the battery charger supplying less than 10 amperes will accept and supply the D.C. bus load independent of its associated battery charger.
- b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 105 volts (108.6 volts for spare battery D-52), or battery overcharge with battery terminal voltage above 143 volts, by verifying that:
- 1) The parameters in Table 4.8-2 meet the Category B limits,
 - 2) The average electrolyte temperature of every sixth cell is above 60°F, and
 - 3) There is no visible corrosion at either terminals or connectors, or verify battery connection resistance is:

Battery 3B, 4A	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 29 ≤ 30 ≤ 125 ≤ 1958
Battery 3A, 4B, D-52	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 35 ≤ 40 ≤ 125 ≤ 2463

- c. At least once per 18 months by verifying that:
- 1) The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration,

D.C. SOURCES

SURVEILLANCE REQUIREMENTS (Continued)

- 2) The cell-to-cell and terminal connections are clean, tight, and coated with anticorrosion material,
- 3) Each 400 amp battery charger (associated with Battery Banks 3A and 4B) will supply at least 400 amperes at ≥ 129 volts for at least 8 hours, and each 300 amp battery charger (associated with Battery Banks 3B and 4A) will supply at least 300 amperes at ≥ 129 volts for at least 8 hours, and
- 4) Battery Connection resistance is:

Battery 3B, 4A	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 29 ≤ 30 ≤ 125 ≤ 1958
Battery 3A, 4B, D-52	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 35 ≤ 40 ≤ 125 ≤ 2463

- d. At least once per 18 months, during shutdown**, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test.
- e. At least once per 12 months, during shutdown**, by giving performance discharge tests of battery capacity to any battery that shows signs of degradation or has reached 85% [75% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% [7% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of rated capacity from its average on previous performance tests, or is below 90% [93% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of the manufacturer's rating.
- f. At least once per 60 months, during shutdown**, by verifying that the battery capacity is at least 80% [87% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of the manufacturer's rating when subjected to a performance discharge test. Once per 60-month interval this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1.d.

**Except that the spare battery bank D-52, and any other battery out of service when spare battery bank D-52 is in service may be tested with simulated loads during operation.



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-31 AND
AMENDMENT NO. 248 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-41
FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT, UNIT NOS. 3 AND 4
DOCKET NOS. 50-250 AND 50-251

1.0 INTRODUCTION

By application dated August 10, 2011 (Agencywide Documents Access and Management System Accession No. ML11227A006), as supplemented by letter dated April 30 and June 19, 2012 (ML12130A203 and ML12184A036), the Florida Power and Light (the licensee) proposed an amendment to the Technical Specifications (TSs) for Turkey Point Plant, Unit Nos. 3 and 4 (TPN). The requested changes would revise the TS Surveillance Requirements (SR) relating to direct current (DC) sources. Specifically, the proposed changes would modify SR 4.8.2.1 pertaining to periodic verification of battery connection resistances and battery bank capacity.

The supplements dated April 30 and June 19, 2012, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on October 18, 2011 (76 FR 64392).

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. 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. A requirement of 10 CFR 50.36(c)(3), "Technical Specifications," is that TSs include SRs, which 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 Criterion (GDC) 17, "Electric power systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 requires, in part, that nuclear power plants have onsite and offsite electric power systems to permit the functioning of structures, systems, and components that are important to safety.

According to the TPN Updated Final Safety Analysis Report (UFSAR) Section 8.1.1, TPN Units 3 and 4 were designed prior to the implementation of 10 CFR Part 50, Appendix A, GDC for Nuclear Power Plants, and utilized the criteria of 1967 proposed GDC 39, "Emergency Power for Engineered Safety Features," in the design of the site electric power systems. Subsequently, the proposed GDC 39 was implemented in 1971 as GDC 17 and established more specific requirements than previously identified. The licensee performed an evaluation of the site electrical system design in 1982 and concluded that TPN complies with the requirements of GDC 17.

GDC 18, "Inspection and Testing of Electric Power Systems," requires, in part, that electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing of important areas and features, such as wiring, insulation, connections, and switchboards, to assess the continuity of the systems and the condition of their components.

According to the TPN UFSAR Section 8.2.2.1.2.1, as required by GDC 18, the design of the electric power distribution system at TPN permits the appropriate periodic inspection and testing of important areas and features.

Regulatory Guide (RG) 1.129, Revision 2, "Maintenance, Testing, and Replacement of Vented Lead-Acid Storage Batteries for Nuclear Power Plants," was used by the NRC staff for guidance during its review of the application, even though TPN is not currently committed to this RG.

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 8.3.2, "DC Power Systems (Onsite)," was used by the NRC staff to determine whether the DC onsite power system satisfies the requirements of GDC 17 and 18, and will perform its intended functions during all plant operating, accident, and station blackout (SBO) conditions.

According to Section 8.2.2.3 of the TPN UFSAR, the DC power system contains five safety related 125 volt (V) batteries and four DC distribution panels. Two battery banks are associated with each unit - one 1800 Ampere-Hour (AH) and one 1200 AH (nominal AH for 8 hours at 77 degrees Fahrenheit). Each 1800 AH battery bank has two safety-related full capacity 400 Ampere (A) solid-state battery chargers associated with it, while each 1200 AH has two safety-related full capacity 300 A solid-state battery chargers associated with it. According to the TPN TSs, only one safety-related battery charger associated with each battery is required to be operable. A spare battery bank is normally isolated from the vital DC buses and maintained in a fully charged condition by a 400 A nonsafety-related battery charger. The spare battery bank with a 1945 AH capacity is an equivalent source for any of the four station batteries during maintenance or testing, and allows continuous operation of the TPN units without entering into a TS Limiting Condition for Operation while performing these functions.

In the license amendment request (LAR), the licensee stated that each safety-related battery is sized to provide power to its loads for 2 hours during a design basis accident concurrent with a Loss of Offsite Power, without the battery terminal voltage falling below 105 V for batteries 3D03, 4D03 and 4D24; below 105.59 V for battery 3D24; and below 108.6 V for battery D52. The licensee also stated that each battery (which is a power source to the auxiliary feedwater system pumps) provides power for at least 2 hours during a loss of all offsite and onsite alternating current (AC) power to assure operation of one auxiliary feedwater system pump train. This is a

post Three Mile Island accident commitment. This commitment is similar to the requirements for mitigating the consequence of an SBO (10 CFR 50.63); however, the SBO requirement provides assurance that power is supplied to the emergency buses and assumes recovery of an AC power source.

TPN TS SR 4.8.2.1.d requires that the licensee perform a service discharge test on each 125 V battery bank every 18 months. The purpose of this test is to verify the battery capacity is adequate to supply and maintain in OPERABLE status of all the actual and simulated emergency loads for the design duty cycle. The licensee noted that the duty cycle length is 30 minutes and is based on the availability of an alternate AC source from the adjacent unit emergency diesel generator to manually load a charger within 30 minutes during an SBO event. According to TPN UFSAR Section 8.2.2.3, the safety-related battery chargers have been sized to recharge a partially discharged battery within 24 hours while carrying the battery's normal load.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes to SR 4.8.2.1.b and SR 4.8.2.1.c (Battery Connection Resistances)

The licensee proposed revising SR 4.8.2.1.b.2 and SR 4.8.2.1.c.3, by lowering the micro-ohm limits for battery connection resistance consistent with that used to calculate the acceptable voltage at equipment powered by the safety-related batteries.

Currently, SR 4.8.2.1.b.2 states: There is no visible corrosion at either terminals or connectors, or the connection resistance is less than 150×10^{-6} ohm.

The proposed revision to SR 4.8.2.1.b.3¹ would state: There is no visible corrosion at either terminals or connectors, or verify battery connection resistance is:

Battery 3B, 4A	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 29 ≤ 30 ≤ 125 ≤1958
Battery 3A, 4B, D-52	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 35 ≤ 40 ≤ 125 ≤2463

1. The licensee, by letter dated June 19, 2012, rearranged items in SR 4.8.2.1.b from the TSs in the original application dated August 10, 2011. This did not change the NRC staff evaluation and conclusion.

Currently, SR 4.8.2.1.c.3 states: The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohm.

The proposed revision to SR 4.8.2.1.c.4² would state: Battery connection resistance is:

Battery 3B, 4A	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 29 ≤ 30 ≤ 125 ≤ 1958
Battery 3A, 4B, D-52	Connection inter-cell / termination inter-cell (brace locations) transition cables or total battery connections	Limit (Micro-Ohms) ≤ 35 ≤ 40 ≤ 125 ≤ 2463

The licensee requested these changes since the resistances currently specified in the TS SRs do not, by themselves, ensure that the batteries will be maintained in a condition such that they are able to perform their safety function; the total battery resistance (based on the existing TS SR limit of ≤ 150 micro-ohms for cell-to-cell and terminal battery connections) could exceed the value of total battery resistance used in the load and voltage calculations. According to the licensee, the proposed TS SR battery cell connection resistance values are based on past battery measurements for clean, tight battery cell connections plus a small margin (5 to 7 micro-ohms, approximately 20 percent). The margin is consistent with the recommendations provided in the Institute of Electrical and Electronics Engineers (IEEE) Standard 450-2002, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," which is endorsed by RG 1.129, Revision 2. IEEE Standard 450-2002 requires any increase in connection resistance greater than 20 percent to be disassembled, cleaned, reassembled, and retested. The licensee derived the proposed TS SR total battery connection limit from the summation of the individual battery inter-cell and transition connection resistance values for the respective battery, and is enveloped by the battery load and voltage calculations.

In its April 30, 2012, response to an NRC staff request for additional information, the licensee provided the actual measured battery connection resistance values from recent surveillances, based on clean, just torque connections. The staff verified that the actual measured battery inter-cell connection resistance values from recent surveillances are less than those proposed in the TSs. The licensee also confirmed that proposed TS values of battery inter-cell resistances are adequately considered in the load and voltage calculations.

In its April 30, 2012, response to another NRC staff request for additional information as to how the total battery connection resistance is considered in the load and voltage calculations, the licensee stated that the battery vendor (GNB) performance data (fan curves) accounted for the

2. The licensee, by letter dated June 19, 2012, rearranged items in SR 4.8.2.1.c from the TSs in the original application dated August 10, 2011. This did not change the NRC staff evaluation and conclusion.

inter-cell connector resistance. The licensee also stated that the calculation conservatively assumed that the vendor inter-cell connector resistances are equivalent to the baseline resistance value for new, clean, just torque connections established in TPN battery Procedures 0-SME-003.3 and 003.15.

Based on its review of the LAR and additional information provided by the licensee, the staff finds that the proposed battery connection resistances in SRs 4.8.2.1.b.3 and 4.8.2.1.c.4 provide reasonable assurance that the TPN safety-related batteries will be maintained in a condition such that they are able to perform their safety function; and therefore, are acceptable.

3.2 Proposed Changes to SR 4.8.2.1.e and SR 4.8.2.1.f (Battery Capacities)

The licensee proposed revising SRs 4.8.2.1.e and 4.8.2.1.f for the 18-month and 60-month battery performance discharge tests to reflect appropriate design values from the battery calculation/design for Batteries 4B and D52 (Spare) (when used in place of Battery 4B). In addition, the licensee proposed revising the surveillance interval for SR 4.8.2.1.e by increasing the testing frequency from 18 months to 12 months for safety-related batteries showing signs of degradation or have reached 85 percent (75 percent for Batteries 4B and D52 (Spare) when used in place of Battery 4B) of service life expected for the application.

Specifically, the proposed revision to SRs 4.8.2.1.e and 4.8.2.1.f would state as follows (changes from current TSs are indicated within the brackets):

- e. At least once per [12] months, during shutdown, by giving performance discharge tests of battery capacity to any battery that shows signs of degradation or has reached 85% [75% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% [7% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of rated capacity from its average on previous performance tests, or is below 90% [93% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of the manufacturer's rating.
- f. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% [87% for Batteries 4B and D52 (Spare) when used in place of Battery 4B] of the manufacturer's rating when subjected to a performance discharge test. Once per 60-month interval this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1.d.

In the background section of LAR, the licensee provided the following justification for the above proposed changes:

During the engineering review of the safety-related battery sizing calculation, it was identified that Battery 4D03/4B and Battery D52/Spare (when used in place of Battery 4B) are sized with an aging factor 115% which is less than the IEEE standard 20 years (Aging Factor 125%). Thus, the 85% of service life value in TS SR 4.8.2.1.e and the battery discharge capacity value of at least 80% of

manufacturer's rating in TS SR 4.8.2.1.f [for batteries 4B and D52 (Spare)] are considered non-conservative.

Based on the above, the licensee has proposed revising SRs 4.8.2.1.e and 4.8.2.1.f to reflect the 115 percent aging factor that results in an expected service life of 18.6 years for Battery 4D03/4B and Battery D52 (Spare). In the LAR, the licensee stated that Batteries 4B and D52 (Spare) are presently greater than 100 percent of manufacturer rating capacity, which is well above the required design basis loading capacity. The other safety-related batteries are sized with an Aging Factor of 125 percent, which reflects an expected service life of 20 years. In addition, the licensee proposed reducing the testing frequency for TS SR 4.8.2.1.e from 18 months to 12 months for all safety-related batteries. This would provide for more frequent testing of a battery showing signs of degradation or that has reached 85 percent (75 percent for Batteries 4B and D53 (Spare) when used in place of Battery 4B) of service life expected for the application consistent with RG 1.129, Revision 2.

In its April 30, 2012, response to an NRC staff request for additional information, the licensee provided the battery vendor's (GNB) typical expected battery life curve, which confirmed that a 100 percent battery capacity is expected over the initial 14 years. The curve also confirmed that with an Aging factor of 115 percent, the battery can perform its specified design function throughout its expected service life of 18.6 years.

The NRC staff finds that the proposed changes to the TS SRs reflect the appropriate battery service life and battery capacity given the design of the TPN safety-related batteries. Furthermore, the staff finds that the proposed changes will ensure that the batteries can perform their specified design functions throughout their expected service lives.

3.3 Technical Conclusion

Based on the above evaluation, the NRC staff finds the proposed changes to the TPN TSs provide reasonable assurance of the continued availability of the required electrical power to shut down the reactor and to maintain the reactor in a safe condition after an anticipated operational occurrence or a postulated design-basis accident. Furthermore, the staff concludes that the proposed TS changes are in accordance with 10 CFR 50.36, continue to meet the requirements of GDC 17 and 18, and meet the intent of RG 1.129, Revision 2. Therefore, the NRC staff finds the proposed changes acceptable.

4.0 STATE CONSULTATION

Based upon a letter dated May 2, 2003, from Michael N. Stephens of the Florida Department of Health, Bureau of Radiation Control, to Brenda L. Mozafari, Senior Project Manager, U.S. Nuclear Regulatory Commission, the State of Florida does not desire notification of issuance of license amendments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. 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 has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (76 FR 64392). Accordingly, these 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.

6.0 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.

Principal Contributor: Vijay K. Goel

Date: August 8, 2012

August 8, 2012

Mr. Mano Nazar
Executive Vice President and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: TURKEY POINT UNITS 3 AND 4 - ISSUANCE OF AMENDMENTS REGARDING
CHANGE TO DIRECT CURRENT SOURCES SURVEILLANCE
REQUIREMENTS (TAC NOS. ME6859 AND ME6860)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 252 to Renewed Facility Operating License No. DPR-31 and Amendment No. 248 to Renewed Facility Operating License No. DPR-41 for the Turkey Point Plant, Units Nos. 3 and 4, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated August 10, 2011, as supplemented by letters dated April 30 and June 19, 2012.

The amendments revise the TS Surveillance Requirements (SR) relating to direct current sources. Specifically, the changes modify SR 4.8.2.1 pertaining to periodic verification of battery connection resistances and battery bank capacity.

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,

/RA/

Farideh E. Saba, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosures:

1. Amendment No. 252 to DPR-31
2. Amendment No. 248 to DPR-41
3. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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