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

June 6, 2013

Mano Nazar
Executive Vice President and Chief Nuclear Officer
NextEra Energy
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR GENERATING, UNITS NOS. 3 AND 4 – STAFF ASSESSMENT OF RESPONSE TO RECOMMENDATION 9.3 OF THE NEAR-TERM TASK FORCE RELATED TO THE FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT ACCIDENT (TAC NOS. MF0039 AND MF0040)

Dear Mr. Nazar:

By letter dated March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued a Request for Information (RFI) pursuant to Section 50.54, paragraph (f) of Title 10 of the *Code of Federal Regulations*, hence referred to as the RFI. The NRC requested this information to support the evaluation of its recommendations for the Near-Term Task Force (NTTF) review of the accident at the Fukushima Dai-ichi nuclear facility. In Enclosure 5 of the RFI, the NRC requested information associated with NTTF Recommendation 9.3 for emergency preparedness. The NRC requested licensees to assess the current communications systems and equipment used during an emergency event to identify any enhancements that may be needed to ensure communications are maintained during a large-scale natural event. The NRC also requested licensees to describe interim actions until completion of the communication assessments and resulting actions, and to provide a schedule for implementing the results of the communication assessment. By letters dated May 10, 2012, June 11, 2012, and October 25, 2012, Florida Power & Light Company (the licensee) responded to the RFI for the Turkey Point Nuclear Generating Units 3 and 4 (TPN).

By letter dated January 23, 2013, the NRC requested information about eight generic technical issues associated with NTTF Recommendation 9.3 that it identified during its initial review of the RFI responses. By letter dated February 15, 2013, the licensee provided its response to this additional request.

The NRC staff reviewed the licensee's responses to the RFI letters associated with NTTF Recommendation 9.3 for communications for TPN, as documented in the enclosed safety assessment. The NRC staff determined that the licensee's assessment for communications is reasonable, and the existing systems, interim measures, and proposed enhancements will help to ensure that communications are maintained during a large-scale natural event. Furthermore, in coordination with NTTF Recommendation 4.2 (mitigating strategies), the NRC staff plans to follow up with the licensee to confirm the completion of communications systems upgrades.

If you have any questions, please contact Audrey Klett at (301) 415-0489.

Sincerely,

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

Enclosure:
Safety Assessment

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

SAFETY ASSESSMENT BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ASSESSMENT OF COMMUNICATIONS IN RESPONSE TO

REQUEST FOR INFORMATION DATED MARCH 12, 2012

FLORIDA POWER & LIGHT COMPANY

TURKEY POINT NUCLEAR GENERATING UNITS 3 AND 4

DOCKET NOS. 50-250; 50-251

1.0 INTRODUCTION

By letters dated May 10, 2012 (Reference 1), June 11, 2012 (Reference 2), October 25, 2012 (Reference 3), and February 15, 2013 (Reference 4), Florida Power & Light Company (FPL, the licensee) provided an assessment of the Turkey Point Nuclear Generating, Units 3 and 4 (TPN) communications capabilities in response to the U.S. Nuclear Regulatory Commission's (NRC's) March 12, 2012 (Reference 5), request for information (RFI) regarding the NRC's Near-Term Task Force (NTTF) Recommendation 9.3 on emergency preparedness communications. The NRC reviewed the licensee's information to determine if the licensee's assessment for communications was reasonable and if the existing systems, interim measures, and proposed enhancements will help to ensure that communications are maintained during a large-scale natural event.

1.1 Background

The accident at the Fukushima Dai-ichi nuclear facility reinforced the need for effective emergency preparedness, the objective of which is to ensure the capability to implement effective measures to mitigate the consequences of a radiological emergency. The accident at Fukushima highlighted the need to power communication equipment relied upon to coordinate event response activities during a prolonged station blackout. The NRC established its NTTF to review NRC processes and regulations and determine if the agency should make additional improvements to its regulatory system. The NTTF provided its recommendations to the Commission in a report dated July 12, 2011 (Reference 6). Recommendation 9.3 of this report proposed that facility emergency plans provide for a means to power equipment needed for onsite and offsite communications during a prolonged station blackout.

In Enclosure 5 of its letter dated March 12, 2012, the NRC requested the following information from addressees to support the evaluation of NTTF Recommendation 9.3 for emergency preparedness communications.

1. An assessment of the current communications systems and equipment used during an emergency event that identifies any enhancements that may be needed to ensure communications are maintained during a large-scale natural event. The assessment should assume that the potential onsite and offsite damage is a result of a large-scale natural event resulting in a loss of all alternating current (ac) power and that the large-scale natural event causes extensive damage to normal and emergency communications systems both onsite and in the area surrounding the site. The RFI letter also stated that the licensee's assessment should:

    - identify any planned or potential improvements to existing onsite communications systems and their required normal and/or backup power supplies;
    - identify any planned or potential improvements to existing offsite communications systems and their required normal and/or backup power supplies;
    - provide a description of any new communications system(s) or technologies that will be deployed based upon the aforementioned assumed conditions; and
    - provide a description of how the new and/or improved systems and power supplies will be able to provide for communications during a loss of all ac power.

2. A description of any interim actions that have been taken or are planned to be taken to enhance existing communications systems power supplies until the communications assessment and the resulting actions are complete.

3. An implementation schedule of the time needed to conduct and implement the results of the communications assessment.

By letter to the NRC dated May 10, 2012, the licensee estimated that it would provide its communications assessment and schedule for implementing the results of the assessment by October 31, 2012. The licensee also estimated that by June 11, 2012, it would describe its interim actions for enhancing existing communications systems until the assessment and resulting actions are complete. By letter to the NRC dated June 11, 2012, the licensee provided its description of these interim actions. By letter dated July 26, 2012 (Reference 7), the NRC acknowledged that the licensee provided the information requested and stated that it had no additional questions and its expectation that the remaining items to be submitted will be consistent with the schedule provided to the NRC in May 2012.

By letter dated October 25, 2012, the licensee provided the NRC its assessment of the current communications systems and equipment to be used during an emergency event. In this letter, the licensee also identified new regulatory commitments related to the planned communications improvements resulting from the assessment and an implementation schedule.

During its initial review of licensees' responses to the March 12, 2012, RFI, the NRC staff identified eight generic technical issues needing resolution to determine the licensee's communications capability regarding a multi-unit station blackout event. By letter dated January 23, 2013 (Reference 8), the NRC requested licensees to respond to these generic technical issues. By letter dated February 15, 2013, the licensee responded to the NRC's request and provided supplemental information to the TPN communications assessment.

2.0 REGULATORY EVALUATION

The NRC staff reviewed the licensee's responses to the March 12, 2012, and January 23, 2013, requests for information using the regulations and guidance described below.

2.1 Regulations

Section 50.47, "Emergency plans," to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, sets forth emergency plan requirements for nuclear power plant facilities.

Section 50.47(b) establishes the standards that the onsite and offsite emergency response plans must meet for NRC staff to make a positive finding that there is reasonable assurance that the licensee can and will take adequate protective measures in the event of a radiological emergency. Planning Standard (6) of this section requires that a licensee's emergency response plan contain provisions for communications among response organizations to emergency personnel and the public. Planning Standard (8) requires that the design should include adequate emergency facilities and equipment to support emergency response.

Section IV.D of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, requires that a licensee have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency. The design objective of the alert and notification system shall be to have the capability to complete the alerting and initiate notification of the public within the plume exposure pathway within approximately 15 minutes. This alerting and notification capability will include a backup method of public alerting and notification.

Section IV.E of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, states that adequate provisions will be made and described for emergency facilities including at least one onsite and one offsite communications system; and each system shall have a backup power source. These arrangements will include:

a. Provision for communications with contiguous State/local governments within the plume exposure pathway emergency planning zone.
b. Provision for communications with Federal emergency response organizations.
c. Provision for communications among the nuclear power reactor control room, the onsite technical support center, and the emergency operations facility; and among the nuclear facility, the principal State and local emergency operations centers, and the field assessment teams.
d. Provisions for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the nuclear power reactor control room, the onsite technical support center, and the emergency operations facility.

2.2 Guidance

Nuclear Energy Institute (NEI) 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities," Revision 0 (Reference 9) presents a methodology for licensees to analyze their ability to perform critical communications during and after a large-scale natural event. By letter dated May 15, 2012 (Reference 10), the NRC staff

determined that Revision 0 to NEI 12-01 (hence referred to as NEI 12-01) is an acceptable method for licensees to use in responding to NRC's letter dated March 12, 2012. The staff reviewed the licensee's analyses using the assumptions and guidance in NEI 12-01, Sections 2.2, 2.4 and 4, which provide a discussion on the assumptions and criteria to use for a communications assessment.

3.0 TECHNICAL EVALUATION

The NRC reviewed the licensee's information provided in its letters dated June 11, 2012, October 25, 2012, and February 15, 2013, to determine if the licensee's communications assessment was reasonable and if the existing systems, interim measures, and proposed enhancements will help to ensure that communications are maintained during large-scale natural event.

The licensee's communications assessment included a discussion of required communications links, primary and back-up communication methods, and identified improvements. The licensee's communications assessment assumed that a large-scale natural event causes a loss of all ac power and extensive damage to normal and emergency communications systems that are onsite and in the area surrounding the site (i.e., within 25 miles of the site, which is consistent with NEI 12-01). The following safety assessment describes the staff's review of the licensee's (1) existing systems and equipment, (2) taken and planned interim actions until the communications assessment and resulting actions are complete, and (3) identified enhancements to the communications systems and equipment.

3.1 Communication Areas Reviewed

3.1.1 Communication Links

Turkey Point Nuclear Plant, Units 3 and 4, currently has communications capabilities with or among the following communication links: offsite response organizations (OROs), the NRC, field and offsite monitoring teams, in-plant and offsite licensee emergency response organization staff, and licensee emergency response facilities. The licensee's communications assessment documents the determination that after a seismic, high wind, or flooding event, certain existing communications system equipment, such as satellite phones, radios, wireless onsite telephones, and private branch exchange phones, would be available after implementation of planned enhancements for the aforementioned communication links. The licensee determined this by evaluating the location of the equipment to the criteria in NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide." The concept of FLEX is also incorporated into Section 2.4 of NEI 12-01. The licensee stated that the building where the private branch exchange and onsite wireless telephone systems are located is built in accordance with the South Florida Building code (i.e., with no seismic design requirements). However, because this is in addition to seismically-protected radios and satellite phones, the staff considers that any enhancements made to the system would help to ensure communications in the event of a large-scale natural event.

As an interim measure prior to the implementation of all planned enhancements, the licensee purchased additional supplies of satellite phones and generators for the site. The licensee also plans on using existing site communications (including radios) and powering them using

portable generators procured for FLEX. Temporary site instructions will be in place by October 31, 2013, to help ensure the availability of the interim measures by providing for the charging of the satellite phones and radio batteries. The portable generators are stored in protective areas, and further evaluations of the fixed installation of the satellite phones and equipment storage will be finalized by October 31, 2013.

The licensee plans on enhancing communication systems for each communication link outlined in Section 4 of NEI 12-01. Satellite phones will be used as one of the methods for maintaining each communication link, with the exception of onsite and in-plant response teams. Onsite and in-plant response teams will use combinations of radios and the onsite wireless telephone system. The licensee plans to enhance the onsite wireless telephone and private branch exchange phone systems by enhancing the flooding protection at the location of the equipment and installing an additional battery backup for the onsite wireless telephone system. The licensee plans to enhance the satellite telephones by staging the phones, extra batteries, and chargers in protected areas and by installing base stations. The licensee plans to enhance radios by storing the radios and portable generators for charging batteries in protected areas. NEI 12-01 assumptions allow for the offsite radio repeater and associated generator to be available. The licensee also confirmed that communications with OROs will be maintained using existing satellite phones, and they are beyond the assumed area affected by a large-scale natural event. The licensee will put these enhancements in place with licensee-approved procedures by August 31, 2014.

The NRC staff reviewed the licensee's expected communications links described in its communications assessment. The NRC staff considered whether it is reasonable that each communication link can be maintained after the implementation of all planned enhancements, in accordance with NEI 12-01. The satellite telephones are expected to help maintain offsite communications by functioning without the offsite infrastructure postulated to be damaged by a large-scale natural event. The radios will help ensure communications in areas of the plant because of future system enhancements to power supplies and the expected survivability of existing systems. Enhancements made to help the survivability of the onsite wireless telephone and private branch exchange phone systems will help provide for their use in the event of a large-scale natural event. The NRC staff concludes that because the licensee's assessment for the availability of communications systems is reasonable, and planned enhancements are to be made for communications areas to help ensure reliability, the licensee's interim measures and proposed enhancements will help ensure that communications are maintained consistent with the assumptions in NEI 12-01.

3.1.2 Equipment Location

The licensee analyzed the survivability of its existing equipment for large-scale natural events by using the South Florida Building Code, FLEX criteria, or defining structures as meeting Seismic Class 1 standards (i.e., safe-shutdown earthquake). This was accomplished by analyzing equipment locations to be protected against seismic, wind, and flooding. These criteria were also used to determine ancillary equipment storage locations, such as those for the generators and battery chargers, that will be used to support the interim measures and planned enhancements. The licensee also modified the onsite wireless telephone and private branch exchange phone communications systems to help provide for further measures of survivability given a large-scale natural event. The relocation of equipment for its protection will be

completed by August 2014, with the satellite phones being located in protective areas by October 2013.

The NRC staff reviewed the licensee's submittal and verified that the licensee has considered the equipment location and protection guidance contained in NEI 12-01. The NRC staff also verified that equipment discussed in Section 3.1.1 of this safety assessment has been analyzed to be available to maintain communication links after a large-scale natural event or would be stored in a reasonably protected area from seismic, flooding, and high wind events, as discussed in NEI 12-01. The NRC staff also ensured that ancillary equipment, such as batteries and fuel supplies, would also be protected from seismic, flooding, and high wind events.

Based on this review, the staff considers the licensee's analysis of communications assessment equipment survivability and proposed enhancements for equipment location to be consistent with NEI 12-01. This determination of equipment protection supports the conclusion that these measures will help ensure communications equipment availability for a large-scale natural event.

3.1.3 Equipment Power and Fuel

The licensee analyzed the availability of its communications system power supplies following the loss of all ac power. The licensee proposed a combination of batteries and new generators to power site communications equipment, including the satellite phones, radio systems, the onsite wireless telephone, and private branch exchange phone systems. The licensee procured extra batteries for this equipment. The site strategies will result in: (1) each satellite phone having an adequate battery supply for operations and to allow for charging; (2) radios having an adequate battery supply for operations and to allow for charging; (3) an enhanced battery backup for the onsite wireless telephone and the ability to power the private branch exchange phone system with a generator; and (4) large amounts of fuel for the generators. It is expected that this equipment has power to support communications for a minimum of 24 hours, based on assumptions for impeded site access. The licensee plans to complete these enhancements to the communication system power supplies and to have approved procedures by August 31, 2014. Generators will be staged with instructions for their use by October 2013.

The NRC staff reviewed the licensee's assessment of its communications equipment power supplies. The NRC staff finds it reasonable that power for the existing equipment and proposed enhancement equipment, as described in Section 3.1.1 of this safety assessment, would remain available for a 24-hour duration based on the availability of extra batteries, generator fuel, and planned procedures for charging strategies. The licensee's proposed enhancement is in accordance with NEI 12-01.

Based on this review, the staff considers the licensee's analysis of equipment power and proposed enhancements for equipment power to be consistent with NRC endorsed guidance NEI 12-01. This determination of available equipment power, support the conclusion that these measures will help ensure communications equipment functionality for a large-scale natural event.

3.1.4 Procedures and Training

The licensee confirmed that there are sufficient reserves of equipment to minimize the need of multi-use equipment for different communication functions. Required new or modified procedures for new communications equipment maintenance will be developed in accordance with site procedure AD-AA-100-1004, "Preparation, Revision, Review and Approval of Site Specific Procedures." The licensee will have temporary instructions for charging the satellite phone and radio batteries. The final procedures are expected by August 31, 2014. Existing maintenance procedures for ensuring equipment availability and reliability will be modified for new equipment by August 31, 2014. Licensee staff will be periodically trained on equipment location and use in accordance with site procedure 0-EPIP-20201, "Maintaining Emergency Preparedness."

Existing site procedures use radios or security personnel to notify plant employees of an event if the public address system is inoperable. The licensee has procedures in place for emergency response organization staff self-activation in the event of major disturbances in the power grid. These site procedures provide for the activation of the offsite emergency response organization and notification of plant staff.

The NRC staff reviewed the licensee's planned quality assurance and maintenance of the equipment and licensee staff training on the use of this equipment. The NRC staff determined that the licensee's submittal is in accordance with NEI 12-01.

Based on this review, the staff considers the licensee's planned equipment use procedures and licensee staff training to be consistent with NEI 12-01. This determination of equipment availability and functionality supports the conclusion that these measures will help ensure communications equipment functionality for a large-scale natural event.

3.2 Regulatory Commitments

In its submittal dated October 25, 2012, the licensee provided regulatory commitments to (1) complete modifications to implement necessary improvements involving non-power block structures and/or emergency response facilities by October 31, 2013, (2) complete modifications to implement necessary improvements involving power block structures and/or onsite emergency response facilities by October 31, 2013, and (3) implement actions and modifications related to the proposed improvements including the indicated staging of equipment contained in Section 5.0 of its submittal by August 31, 2014.

4.0 CONCLUSION

The NRC staff reviewed the licensee's assessment for communications with or among: offsite response organizations, NRC, licensee emergency response facilities, field and offsite monitoring teams, and on-site and in-plant response teams. The NRC staff determined that the licensee's assessment of existing equipment, proposed enhancements, and interim actions was in accordance with NEI 12-01. The staff concludes that the licensee's assessment for communications is reasonable, and the licensee's interim measures and proposed enhancements will help ensure that communications are maintained. Furthermore, in coordination with NTTF Recommendation 4.2 (mitigating strategies), the NRC staff plans to

follow up with the licensee to confirm that upgrades to the site's communications systems have been completed.

5.0 REFERENCES

1. FPL letter, "60-Day Response to NRC Letter, 'Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident,' dated March 12, 2012," dated May 10, 2012, Agencywide Document Access and Management System (ADAMS) Accession No. ML12144A158

2. FPL letter, Emergency Preparedness Information Requested by NRC Letter, 'Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident,' dated March 12, 2012," dated June 11, 2012, ADAMS Accession No. ML12174A198

3. FPL letter, "Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 9.3, Emergency Preparedness," dated October 25, 2012, Agencywide Document Access and Management System (ADAMS) Accession No. ML12300A425

4. FPL letter, "Response to Follow-up Technical Issues on NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 9.3, Emergency Preparedness," dated February 15, 2013, Agencywide Document Access and Management System (ADAMS) Accession No. ML13064A359

5. NRC letter, "Request for Information Pursuant to Title 10 of the Code of *Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012, ADAMS Accession No. ML12053A340

6. NRC SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," dated July 12, 2011, ADAMS Accession No. ML111861807

7. NRC letter, "Status of 90-Day Response to Request for Information Regarding Recommendation 9.3 of the Near-Term Task Force Related to the Fukushima Dai-ichi Nuclear Power Plant Accident," dated July 26, 2012, ADAMS Accession No. ML12200A106

8. NRC letter, "Follow-up Letter on Technical Issues for Resolution Regarding Licensee Communication Submittals Associated with Near-Term Task Force Recommendation 9.3 (TAC No. ME7951)," dated January 23, 2013, ADAMS Accession No. ML13010A162

9. NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities," Revision 0, dated May 2012, ADAMS Accession No. ML12125A412

If you have any questions, please contact Audrey Klett at (301) 415-0489.

Sincerely,

/RA/

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Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

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Safety Assessment

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