



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

April 22, 2011

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

SUBJECT: ST. LUCIE UNITS 1 AND 2 - EXEMPTION FROM THE REQUIREMENTS OF  
10 CFR PART 26 WORK HOUR CONTROLS DURING PERIODS  
IMMEDIATELY PRIOR AND SUBSEQUENT TO SEVERE WIND CONDITIONS  
(TAC ME2946 AND ME2947)

Dear Mr. Nazar:

The Commission has approved the enclosed exemption from specific requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 26, for St. Lucie, Units 1 and 2. This action is in response to your application dated October 16, 2009, as supplemented by letters dated March 11, September 16, December 10, and December 22, 2010.

Pursuant to 10 CFR 26.9, Florida Power and Light Co. requested an exemption from the requirements of 10 CFR 26.205(c) and (d) during declarations of severe weather conditions, such as tropical storm and hurricane force winds, at the St. Lucie site. The exemption request applies to individuals who perform duties identified in 10 CFR 26.4(a)(1) through (a)(5) who are sequestered on-site during the severe wind event, as travel to and from the site during severe wind conditions may be hazardous or simply not possible.

A copy of the exemption is enclosed. The exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in black ink, appearing to read "Tracy J. Orf".

Tracy J. Orf, Project Manager,  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389

Enclosure:  
Exemption

cc w/encl: Distribution via Listserv

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
FLORIDA POWER AND LIGHT COMPANY  
ST. LUCIE, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-335 AND 50-389  
EXEMPTION

1.0 BACKGROUND

Florida Power & Light Company, et al. (FPL, the licensee), is the holder of Facility Operating License Nos. DPR-67 and NPF-16, which authorize operation of St. Lucie, Unit Nos. 1 and 2 (St. Lucie 1 and 2). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC) now or hereafter in effect. The facility consists of two pressurized-water reactors located on Hutchinson Island in St. Lucie County, Florida.

2.0 REQUEST/ACTION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 26, Subpart I, Managing Fatigue, requires that an individual's work hours be scheduled consistent with the objective of preventing impairment from fatigue as found in 10 CFR 26.205(c). Section 26.205(d) of 10 CFR provides the actual work hour controls—which include a maximum of 16 work hours in any 24-hour period, 26 work hours in any 48-hour period, and 72 work hours in any 7-day period. This section also provides the minimum break times between work periods and limits for the minimum number of days off an individual must be given. The licensee has requested an exemption from 10 CFR 26.205(c) and (d) for meeting work hour controls during preparation for severe weather conditions involving tropical storm or hurricane force winds.

The requested exemption applies to individuals who perform duties identified in 10 CFR 26.4(a)(1) through (a)(5) who are sequestered onsite during a severe wind event, as travel to and from the site during severe wind conditions may be hazardous or not possible. According to the National Weather Service, a sustained wind speed of 40 miles per hour (mph) makes travel unsafe for the common traveler. The exemption request states that because of the unpredictable nature and potential speed of a storm, a need to activate the storm crew could occur on short notice and without the ability to meet work hour controls. The exemption request also states that although the plant may not meet the criteria for declaring an emergency based on the NRC-approved emergency action levels, emergency preparedness would require the implementation of the site emergency plan.

The exemption does not apply to discretionary maintenance activities. Suspension of work hour controls is for storm preparation activities, and those activities deemed critical for plant and public safety.

Section 26.207(d) of 10 CFR states that licensees need not meet the requirements of 26.205(c) and (d) during declared emergencies, as defined in the licensee's emergency plan. A confirmed hurricane warning, defined by the National Hurricane Center (NHC) as when sustained winds of 74 mph are expected somewhere within the specified coastal area, is an entry condition for a declared emergency under the St. Lucie emergency plan. Therefore, this exemption is not needed, and does not apply, during the period of a St. Lucie declared emergency for severe winds. Although work hours, breaks, and days off are calculated as usual during a licensee-declared plant emergency, licensees are unconstrained in the number of hours that they may allow individuals to work performing covered duties or the timing and duration of breaks they must require them to take.

The entry condition for this exemption occurs when there is a confirmed tropical storm watch or warning or when there is a confirmed hurricane watch or warning and the St. Lucie Hurricane Response Coordinator (a senior management official at St. Lucie) indicates that site preparations should be commenced per the severe weather preparation procedure. As defined by the National Hurricane Center (NHC), a tropical storm watch is declared when sustained winds of at least 39 mph are expected somewhere within the specified coastal area. Therefore, entry conditions for the exemption may precede the declaration of an emergency due to a confirmed hurricane warning.

The exit condition for the exemption is when the Hurricane Response Coordinator determines that conditions and available personnel are sufficient to safely meet the requirements of 10 CFR 26.205 (c) and (d). Therefore, exit conditions for this exemption request can possibly come well after the exit of a declared emergency. After high wind conditions pass, damage to the plant and surrounding area might preclude sufficient numbers of individuals from immediately returning to the site. Additionally, mandatory civil evacuations could also delay the return of sufficient relief personnel. When the Hurricane Response Coordinator determines that conditions permit sufficient personnel to be available following a severe wind event, full compliance with 10 CFR 26.205(c) and (d) is again required.

Regulatory Guide 5.73, Fatigue Management for Nuclear Power Plant Personnel, endorses the Nuclear Energy Institute (NEI) report NEI 06-11, revision 1, "Managing Personnel Fatigue at Nuclear Power Plants," with certain clarifications, additions and exceptions.

The NRC staff has endorsed this guidance for use during declared emergencies. After exiting the emergency, the licensee is immediately subject to the scheduling requirements of 10 CFR 26.205(c) and the work hour/rest break/minimum day off requirements of 10 CFR 26.205(d). As required by 26.205(b)(3), all time worked during the emergency must be tracked

to ensure that individuals are not fatigued when work hour controls are reinstated. The staff has previously determined that NEI 06-11, Revision 1, Section 7.5 "Reset from Deviations" is an acceptable method for resuming work hour controls after a Plant Emergency exception.

STP Nuclear Operating Company, the licensee for South Texas Project Units 1 and 2 has been granted a similar exemption from severe wind conditions, which can be found in the *Federal Register* dated July 12, 2010 (75 FR 39707). The NRC staff granted a similar exemption to FPL for Turkey Point, Units 3 and 4. The exemption can be found in the *Federal Register* dated January 6, 2011 (76 FR 802).

The effects of Hurricane Andrew on the Turkey Point site were used to identify lessons learned to consider when evaluating this request. The following sources were reviewed:

- NUREG-1474, "Effect of Hurricane Andrew on the Turkey Point Nuclear Generating Station from August 20-30, 1992."
- NRC Information Notice 93-53, "Effect of Hurricane Andrew on Turkey Point Nuclear Generating Station and Lessons Learned."
- NRC Information Notice 93-53, Supplement 1, "Effect of Hurricane Andrew on Turkey Point Nuclear Generating Station and Lessons Learned."
- NUREG-0933, "Resolution of Generic Safety Issues," Issue 178: Effect of Hurricane Andrew on Turkey Point (Rev 2).

Hurricane Andrew was a Category 5 hurricane that struck the Turkey Point site on August 24, 1992. On September 10, 1992, the NRC and the Institute of Nuclear Power Operations jointly sponsored a team to review the damage of Hurricane Andrew on the nuclear units and the utility's actions to prepare for the storm and recover from it and compile lessons learned that might benefit other nuclear utilities. Lessons learned from Hurricane Andrew, NUREG-1474, include having all units shutdown and on residual heat removal when a storm

strikes so that a loss of offsite power will not jeopardize core cooling. The licensee exemption request for St. Lucie and the licensee's site procedures related to severe winds were compared to the actions and lessons learned documented in NUREG-1474, including an indication that detailed methodical preparations should be made prior to the onset of hurricane force winds, and are consistent with the lessons learned.

The licensee's site procedures provide that if a hurricane warning is in effect and the storm is projected to reach the site as a Category 1 or 2 hurricane, then shutdown of the units to hot standby (mode 3) is commenced at least two (2) hours before the projected onset of sustained hurricane force winds at the site. Both units will remain offline for the duration of the hurricane force winds (or restoration of reliable offsite power). If the storm is projected to reach the site as a category 3, 4, or 5 hurricane prior to landfall, specific shutdown conditions are established at least two (2) hours before the projected onset of sustained hurricane force winds at the site. Because severe weather preparations will likely commence prior to the shutdown of the units, this exemption will allow sufficient personnel onsite to ensure that the facility is properly secured for severe weather. The NRC staff has reviewed the FPL exemption request for the St. Lucie site and agrees that preparing the site for the onset of severe wind conditions such as hurricanes, including sequestering enough essential personnel to provide for shift relief, is prudent to ensure plant and personnel safety.

The licensee plans to sequester sufficient individuals to staff two 12-hour shifts of workers consisting of personnel from operations, maintenance, health physics, chemistry, engineering, and security to maintain the safe and secure operation of the facility. The St. Lucie hurricane plan provides for bunking facilities that provide an accommodation for restorative rest for the off crew. A 12-hour break provides each individual with an opportunity for restorative rest. Although, the accommodations and potentially stressful circumstances may not be ideal

for restorative rest, the NRC finds that these actions are consistent with the practice of fatigue management when limited personnel are available during severe weather conditions.

In summary, by letter dated October 16, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092990394), and pursuant to Title 10 of the *Code of Federal Regulations* (CFR), Section 26.9, FPL requested an exemption from the requirements of 10 CFR 26.205(c), "Work hours scheduling," and (d), "Work hour controls," during declarations of severe weather conditions such as tropical storm and hurricane force winds at the St. Lucie site. Supplemental responses and responses to requests for additional information are dated March 11, 2010 (ADAMS Accession No. ML100750658), September 16, 2010 (ADAMS Accession No. ML102640111), December 10, 2010 (ADAMS Accession No. ML103560079), and December 22, 2010 (ADAMS Accession No. ML103630360).

### 3.0 DISCUSSION

Pursuant to 10 CFR 26.9, the Commission may, upon application of any interested person or on its own initiative, grant such exemptions from the requirements of 10 CFR Part 26 as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

#### Authorized by Law

As stated above, this exemption would allow the licensee to sequester the storm crew on site when conditions are met and suspend work hour controls for the stated reasons. As stated above, 10 CFR 26.9 allows the NRC to grant exemptions from the requirements of 10 CFR 26.205(c) and (d). The NRC staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

Will Not Endanger Life or Property

The underlying purposes of 10 CFR 26.205(c) and (d) are to prevent impairment from fatigue due to duration, frequency, or sequencing of successive shifts. Based on the above evaluation, no new accident precursors are created by the licensee maintaining the additional staff on site necessary to respond to a plant emergency during a severe storm to ensure that the plant maintains a safe and secure status; therefore, the probability of postulated accidents is not increased. Even though the licensee will utilize whatever staff resources may be necessary during severe weather preparation and storm crew activation, opportunities for restorative sleep will be maintained. Also, the consequences of postulated accidents are not increased because there is no change in the types of accidents previously evaluated. Therefore, the exemption will not endanger life or property.

Will Not Endanger the Common Defense and Security

The proposed exemption would allow the licensee to utilize whatever staff resources may be necessary to respond to a plant emergency and ensure that the plant maintains a safe and secure status. The licensee will provide sufficient numbers of management and supervision over the storm crew or the resources utilized during the plant emergency to provide additional oversight for monitoring the effects of fatigue to ensure that the safety and security of the facility are maintained. Also, during the plant emergency, opportunities for restorative sleep will be maintained. Therefore, the common defense and security is not impacted by this exemption.

Otherwise in the Public Interest

The proposed exemption would increase the availability of the licensee staff. The exemption would allow licensee staff to remain at or return to the site and perform additional duties to ensure the plant is in a safe configuration during the emergency. Therefore, granting this exemption is otherwise in the public interest.



4.0 CONCLUSION

Accordingly, the Commission has determined that, pursuant to 10 CFR 26.9, the exemption is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest. Therefore, the Commission hereby grants Florida Power & Light Company an exemption from the requirements of 10 CFR 26.205(c) and (d) under the conditions specified above for St. Lucie 1 and 2.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (75 FR 73134).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 22nd day of April 2011.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'R. Nelson', with a long horizontal flourish extending to the right.

Robert A. Nelson, Acting Director  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

April 22, 2011

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

**SUBJECT: ST. LUCIE UNITS 1 AND 2 - EXEMPTION FROM THE REQUIREMENTS OF  
10 CFR PART 26 WORK HOUR CONTROLS DURING PERIODS  
IMMEDIATELY PRIOR AND SUBSEQUENT TO SEVERE WIND CONDITIONS  
(TAC ME2946 AND ME2947)**

Dear Mr. Nazar:

The Commission has approved the enclosed exemption from specific requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 26, for St. Lucie, Units 1 and 2. This action is in response to your application dated October 16, 2009, as supplemented by letters dated March 11, September 16, December 10, and December 22, 2010.

Pursuant to 10 CFR 26.9, Florida Power and Light Co. requested an exemption from the requirements of 10 CFR 26.205(c) and (d) during declarations of severe weather conditions, such as tropical storm and hurricane force winds, at the St. Lucie site. The exemption request applies to individuals who perform duties identified in 10 CFR 26.4(a)(1) through (a)(5) who are sequestered on-site during the severe wind event, as travel to and from the site during severe wind conditions may be hazardous or simply not possible.

A copy of the exemption is enclosed. The exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

*/RA/*

Tracy J. Orf, Project Manager,  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389

Enclosure:  
Exemption

cc w/encl: Distribution via Listserv

**DISTRIBUTION:**

PUBLIC  
LPL2-2 r/f  
RidsNrrDoriLpl2-2  
RidsNrrPMSStLucie  
MBoggi, NRR

RidsNrrLABClayton  
RidsAcrsAcnw\_MailCTR  
RidsOgcRp  
RidsNrrDoriDpr

RidsRgn2MailCenter  
RidsNrrDirshpb  
CErlanger, NSIR  
NSanfilippo, EDO

**ADAMS Accession Nos. PKG ML110280335 Letter ML110280338 Exemption ML110280344**

**\*By Memo**

OFFICE	LPL2-2/PM	LPL2-2/LA	IHPB/BC*	NSIR/ISCPB/BC*	OGC/NLO	LPL2-2/BC	DORL/D
NAME	TOrf	BClayton	UShoop	CErlanger	LSubin	DBroaddus	JGitter (RNelson for)
DATE	04/08/11	04/08/11	02/09/11	02/15/11	04/21/11	04/15/11	04/22/11

OFFICIAL RECORD COPY