



May 2, 2012

L-2012-199  
10 CFR 50.90

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Re: ST. LUCIE PLANT, UNITS 1 AND 2-DRAFT ENVIRONMENTAL ASSESSMENT  
AND DRAFT FINDING OF NO SIGNIFICANT IMPACT RELATED TO THE  
PROPOSED EXTENDED POWER UPRATE (TAC NOS. ME5091 AND ME5843)  
Docket ID: NRC-2011-0302  
Docket Nos. 50-335 and 50-389  
License Nos. DPR-67 and NPF-16

References:

- (1) Richard L. Anderson (FPL) to U.S. Nuclear Regulatory Commission (L-2010-259), "License Amendment Request for Extended Power Uprate," St. Lucie Unit 1, November 22, 2010, Accession No. ML103560419.
- (2) Richard L. Anderson (FPL) to U.S. Nuclear Regulatory Commission (L-2011-021), "License Amendment Request for Extended Power Uprate," St. Lucie Unit 2, February 25, 2011, Accession No. ML110730116.
- (3) Tracy J. Orf (NRC) to Mano Nazar (FPL), "ST. LUCIE PLANT, UNITS 1 AND 2-DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT RELATED TO THE PROPOSED EXTENDED POWER UPRATE (TAC NOS. ME5091 AND ME5843)," December 28, 2011.
- (4) Richard L. Anderson (FPL) to Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (L-2012-043), ST. LUCIE PLANT, UNITS 1 AND 2-DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT RELATED TO THE PROPOSED EXTENDED POWER UPRATE (TAC NOS. ME5091 AND ME5843), January 30, 2012 Accession No. ML12037A063.
- (5) Email from T. Orf (NRC) to C. Wasik (FPL), "St. Lucie 1/2 EPU environmental assessment question," April 18, 2012.

On November 22, 2010 [Reference 1] and February 25, 2011 [Reference 2], Florida Power & Light Company (FPL) submitted license amendment requests (LARs) to the Nuclear Regulatory Commission (NRC) requesting amendments to the St. Lucie Unit 1 and St. Lucie Unit 2 renewed operating licenses (DPR-67 and NPF-16), respectively, requesting authorization to increase licensed core thermal power and implement an Extended Power Uprate.

ADD  
NRR

By letter dated December 28, 2011 [Reference 3], the NRC Office of Nuclear Reactor Regulation forwarded to FPL, a copy of the "Draft Environmental Assessment and Draft Finding of No Significant Impact Related to the Proposed License Amendment to Increase the Maximum Reactor Power Level" for St. Unit 1 and Unit 2. The NRC also forwarded a copy of this draft document to the Office of the Federal Register for publication.

By letter dated January 30, 2012 [Reference 4], FPL provided comments on the NRC's Draft Environmental Assessment and Draft Finding of No Significant Impact. FPL comment number 2 in the Reference 4 letter discussed an increase in the number of EPU construction workers over the number of EPU construction workers identified in the NRC's Environmental Assessment.

By email from the NRC Project Manager dated April 18, 2012 [Reference 5], additional information was requested by NRC staff regarding FPL's comment number 2 in the Reference 4 letter. The request for additional information (RAI) identified six questions. The response to these six questions is provided in the attachment to this letter.

In accordance with 10 CFR 50.91(b)(1), a copy of this letter is being forwarded to the designated State of Florida official.

Should you have any questions regarding this submittal, please contact Mr. Christopher Wasik, St. Lucie Extended Power Uprate LAR Project Manager, at 772-467-7138.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed on *02-May-2012*

Sincerely,



Richard L. Anderson  
Site Vice President  
St. Lucie Plant

Attachment (1)

cc: Mr. William Passetti, Florida Department of Health, Bureau of Radiation Control

### **Response to NRC Request for Additional Information**

By letter dated January 30, 2012, FPL provided comments on the NRC's Draft Environmental Assessment and Draft Finding of No Significant Impact. FPL comment number 2 discussed an increase in the number of EPU construction workers over the number of EPU construction workers identified in the NRC's Environmental Assessment.

By email from the NRC Project Manager dated April 18, 2012, additional information was requested by NRC staff regarding FPL's comment number 2 in the January 30, 2012 FPL letter. The request for additional information (RAI) identified six questions. The NRC's questions and FPL's responses are provided below.

**In a comment submitted by FPL, the number of expected construction workers during the EPU was raised from a potential peak of 1,400 workers to a potential peak of 3,000 workers, with an estimated average number per outage of approximately 2,100. This new information raises a few questions in the areas of traffic, land use, and air quality. Please provide the NRC with the following information related to socioeconomic impacts:**

#### **Question 1**

**An estimate of the number of outages needed to implement the EPU, the expected length (days) of each EPU-related outage, and the average and peak numbers of workers expected at each individual outage.**

#### **Response**

The St. Lucie Unit 1 and 2 EPU project will be executed over four refueling outages (two outages per unit) plus a mid-cycle implementation outage for Unit 1. Three of the four refueling outages have been completed and the fourth (Unit 2) is scheduled for fall of 2012 with an approximate duration of 113 days. In addition to the completed EPU refueling outages, Unit 1 will require a short "mid-cycle" outage of approximately 10 days in the summer of 2012 to implement the final EPU changes.

For the recently completed Unit 1 outage, the average number of EPU workers was 750, with a peak of 1703 workers. This number of EPU workers is consistent with the total number of outage workers as estimated in FPL's letter dated January 30, 2012 (Reference 4 to this letter).

For the planned Unit 1 mid-cycle outage, FPL expects to require little to no additional staff. The average number of EPU workers expected during the upcoming Unit 2 outage is 1058, with a peak of 1439 EPU workers expected. Thus, the total number of expected outage workers for the upcoming Unit 2 outage would be bounded by the total number of workers from the recent Unit 1 outage.

Per discussion with staff on April 25, 2012, additional historical outage information is not required for this response.

## **Question 2**

**A description of how FPL handles traffic conditions during shift changes on South Ocean Drive (1A) during normal refueling outages (including outages for major component replacements in the past) and whether anything will be done to accommodate the heavier than normal outage traffic conditions during the EPU related outage(s).**

### **Response**

FPL has three normal and one overflow parking lots with individual entry/exit points. One of these four lots is reserved for FPL employees. During normal refueling outages, no specific changes are employed to the parking lots or entry/exit points except that a parking attendant is used in the lot reserved for FPL employees to redirect contractors and vendors.

FPL will typically attempt to stagger shift start and stop times to minimize any impact of oncoming or off going shift changes. During major component replacement outages in the past, FPL established satellite parking lots and used busses to transport workers from the lots to the site. In addition, FPL employed sheriff's officers staged on the south and north ends of the site to monitor and control traffic on State Road A1A. FPL is using a similar approach during the EPU outages. Busses are being used to transport workers from satellite parking lots to the site and sheriff's officers are being staged on the south and north ends of the site to monitor and control traffic on State Road A1A, to accommodate the heavier than normal outage traffic conditions during the EPU - related outage(s).

## **Question 3**

**Provide a copy of the transportation analysis that FPL's comment claims supports a no-significant-impacts finding.**

### **Response**

The analysis that was performed by FPL to assess the traffic impacts that would result from a projected increase in the number of workers reporting to the St. Lucie site during the EPU and determination of no significant impact is provided in the table below. FPL's transportation analysis used the same analytical techniques and calculations that were provided in Section 4.6.2 of the St. Lucie Uprate Project Site Certification Application (SCA), except, the Level of Service (LOS) values cited are from the Florida Department of Transportation (FDOT) Quality/Level of Service Handbook, 2009 rather than the values from 2007. The 2009 Handbook LOS D values are slightly higher than those provided in the SCA.

FPL St. Lucie EPU Traffic Calculations

	Site 940116	Site 940719	Average	Average	LOS	LOS D
2007 Baseline	5,212	4,497	4,855	4,855	B	22,200
2012 Projected	5,811	5,014	5,413	5,413	B	22,200
2012 w/Uprates	6,978	6,181	6,580	6,580	B	22,200
	1,167	1,167	1,167	1,167		
Workers	1,400					
1.2 per vehicle	1,167					
Vehicles per day (with 50% North and 50% South)						
	Site 940116	Site 940719	Average	Average	LOS	LOS D
2007 Baseline	5,212	4,497	4,855	4,855	B	22,200
2012 Projected	5,811	5,014	5,413	5,413	B	22,200
2012 w/Uprates	8,311	7,514	7,913	7,913	C or Better	22,200
	2,500	2,500	2,500	2,500		
Workers	3,000					
1.2 per vehicle	2,500					
Vehicles per day (with 50% North and 50% South)						
LOS based on 2009 FDOT Quality/Level of Service Handbook						
Note: LOS C is >7,800 and <=/ to 15,600						
LOS D is >15,600 and <=/ 22,200						

**Question 4**

**Descriptions of any onsite land use changes, including additional or expanded parking areas that may be needed to accommodate the expanded EPU-related construction workforce.**

**Response**

During the EPU related refueling outages, FPL added two additional overflow parking areas/facilities as well as safe walk pathways, additional lighting and signage. Area 1 is located at the south end of the owner controlled area, north of the intake canal and just west of the current "overflow" lot. Area 1 is a vacant area that was prepared by grading and adding parking stops. Area 2 is located on the south side of the intake canal on the access road to the west property and recreation areas. Area 2 required some minor grubbing, grading and set-up to accommodate overflow parking. New lighting, safe walkways and signage were also required as well as establishing a shuttle bus service for transportation to the plant.

The additional parking facilities are located on previously disturbed areas of the plant site (e.g., existing dirt lot, recreation fields and areas immediately adjacent to the access road). Prior to preparing the additional parking, FPL performed a survey of the area in accordance with the Site Conditions of Certification to identify potential impacts to threatened or endangered wildlife. EPU worked with plant Environmental Department personnel to ensure that any ecological and cultural resources were protected during the noted grubbing and grading activities. Permitting was not required. Best management practices have been employed to reduce fugitive emissions created by increased traffic in the unpaved overflow parking areas. Unpaved areas are routinely sprayed by a water truck to limit airborne dust created by traffic.

### **Question 5**

**A conformity assessment of the potential air quality effects from both the expected average of 2,100 commuting workers and the potential peak force of 3,000 workers.**

### **Response**

The projected increase in the number of construction workers that will be reporting to the St. Lucie plant during the EPU will be from 1,400 to 3,000 at the peak, with an increase in the average from 1,000 to 2,100. The increase will not change the conclusion provided in Section 4.5 of the St. Lucie Uprate Project Site Certification Analysis that the project will not cause significant impacts to air quality in the vicinity of the St. Lucie plant.

Based on the traffic study performed for the project, the expected occupancy rate is 1.2 workers per vehicle or 20 percent of the workers carpool. As a result, 917 additional construction vehicles are estimated with a peak increase of 1,333. These workers would travel along State Road A1A traveling both north and south to the site.

The vehicles driven by construction workers will be traveling along State Road A1A to and from the St. Lucie plant. For vehicles, emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOCs) are the primary air pollutants. NO<sub>x</sub> and VOCs are precursors of ozone; however, the potential impacts to air quality from ozone formation are not expected to be significant, nor exceed ambient air quality standards (AAQS) in the vicinity of the roadways or the St. Lucie plant site. The estimated emissions of NO<sub>x</sub> and VOCs would be less than 1000 grams/mile/day for the peak construction workers and average less than 650 grams/mile/day. This level of air emissions would be negligible in the regional formation of ozone.

For CO, the estimated emissions would be less than 9,500 grams/mile/day for the peak construction workers and average less than 6,500 grams/mile/day. The AAQS for CO are 40,000 micrograms per cubic meter (ug/m<sup>3</sup>) for a 1-hour average and 10,000 ug/m<sup>3</sup> for an 8-hour average (both standards not to be exceeded more than once per year). The direction of travel is primarily perpendicular to the primary wind direction. As a result any emissions will be dispersed laterally during travel. Using the average wind speed representative in the area the maximum increase in 1-hour CO concentration would be less than 100 ug/m<sup>3</sup> that is well less than AAQS. Given the short-term nature of the construction activities and limitation of worker travel, air emissions from construction activities and travel will cause very minor impacts to air quality in the vicinity of the St. Lucie plant boundary and along State Road A1A.

Vehicular traffic from the construction workers will result in emissions of particulate matter (PM) due to vehicles entering and leaving the St. Lucie plant. The entrance roads and the primary parking areas are paved, which minimizes dust emissions from vehicles entering the St. Lucie plant. Since much of the area used for construction parking and laydown is paved or over grass, fugitive emissions will be minimized. Paving and having grassed areas for parking is recognized as reasonable precautions by Florida Department of Environmental Protection (FDEP) Rule 62-296.320(4)(c) Florida Administrative Code in minimizing fugitive PM emissions. Even if all the additional construction workers travel and park in unpaved grassed areas, the annual PM emissions would be about 4 tons/year for the average increase in workers. The FDEP, for which its regulations are approved by EPA, recognizes in Rule 62-210.300(3)(b) F.A.C. that air emissions of less than 5 tons/year of PM do not require a permit and are considered insignificant. As a result, the estimated fugitive PM emissions from the additional workers are not expected to significantly affect air quality.

#### **Question 6**

**A determination whether this level of increase in outage-related traffic would not trigger air quality violations under the Clean Air Act.**

#### **Response**

The temporary increase of air emissions resulting from outage related traffic will have a minimal impact on air quality and will not trigger air quality violations under the Clean Air Act. This is demonstrated by air monitoring data available in Palm Beach County located approximately 40 miles south of the St. Lucie plant. Palm Beach County has very similar meteorological conditions but is highly urbanized with a 2010 population of about 1.3 million [Florida Statistical Abstracts (FSA), 2011, University of Florida, Bureau of Economic and Business Research]. Air monitoring stations within the highly urbanized Palm Beach County demonstrate that the air quality in the County complies with the Ambient Air Quality Standards (AAQS) promulgated by EPA under the Clean Air Act and adopted by FDEP. This includes the air pollutant ozone for which vehicle emissions are precursors. In contrast, St. Lucie County is far less urbanized with a population of less than 0.3 million (FSA, 2011). In addition, there is an FDEP ozone monitoring station located approximately 3.3 miles northwest of the St. Lucie plant. Air quality observed at this St. Lucie County station is well less than the ozone AAQS.