



**FPL**

**DEC 20 2007**

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
11555 Rockville Pike  
Rockville, Maryland 20852

L-2007-194

Re: Florida Power and Light Company  
St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Turkey Point Unit 3  
Docket Nos. 50-250

Response to Questions Regarding Request for Extension of Completion Date of the St. Lucie Unit 1, St. Lucie Unit 2 and Turkey Point Unit 3 Generic Letter 2004-02 Actions

By Florida Power & Light Company (FPL) letter L-2007-155 dated December 7, 2007, FPL requested an extension of the completion date of St. Lucie Unit 1, St. Lucie Unit 2, and Turkey Point Unit 3 Generic Letter 2004-02 Actions.

On December 12, 2007, FPL was informed by the NRC NRR Project Manager, via e-mail, of two questions regarding FPL Letter L-2007-155, "Request for Extension of Completion Date of the St. Lucie Unit 1, St. Lucie Unit 2, and Turkey Point Unit 3 Generic Letter 2004-02 Actions."

On December 13, 2007, FPL Engineering representatives provided a verbal response to NRC staff members during a telephone conversation. The purpose of this letter is to provide the St. Lucie Unit 1, St. Lucie Unit 2, and Turkey Point Unit 3 written response to the NRC staff's questions in the attached enclosure.

As previously discussed, the testing schedules are provided by the vendors. These dates could be impacted by delays involving other licensee testing scheduled prior to FPL testing.

Please contact Rajiv S. Kundalkar at (561) 694-4848 if you have any further questions regarding this extension request.

Sincerely yours,

J. A. Stall  
Senior Vice President, Nuclear and  
Chief Nuclear Officer

Enclosure (1)

cc: Regional Administrator, Region II  
USNRC Project Manger, Turkey Point and St. Lucie  
Senior Resident Inspector, USNRC, Turkey Point  
Senior Resident Inspector, USNRC, St. Lucie

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ENCLOSURE  
RESPONSE TO NRC QUESTIONS  
REGARDING FPL EXTENSION REQUEST OF GL 2004-02 ACTIONS

FPL responses to the two NRC staff reviewer questions received via e-mail from the St. Lucie/Turkey Point NRC NRR Project Manager on December 12, 2007, regarding FPL Letter L-2007-155, dated December 7, 2007, "Request for Extension of Completion Date of the St. Lucie Unit 1, St. Lucie Unit 2, and Turkey Point Unit 3 Generic Letter 2004-02 Actions", are as follows:

1. **[Provide] the details of how the chemical effects test results are "applied" to the debris-only head loss test results to determine total head loss across the screen.**

Response Regarding St. Lucie Unit 1:

General Electric performed debris only testing utilizing a test sector. The sector tests simulated plant debris loads and strainer approach velocities to validate the design. The results of this testing are documented in the hydraulic sizing report.

As described in Attachment 2 of our December 7, 2007, extension request, a purchase order has been issued for performing a 30-day integrated chemical effects test. As described in Attachment 1 of our December 7, 2007, extension request, the purchase order is with Alion Science and Technology. Alion Science and Technology is conducting a 30 day integrated chemical effects test at VUEZ for St. Lucie Unit 1. This integrated approach includes the performance of a 30 day debris head loss experiment within a simulated containment environment. This 30 day debris head loss experiment will be similar to the integrated chemical effects testing (ICET) program but will include a sump screen with the scaled plant specific debris loads to monitor head loss increases over the 30 day mission time. The head loss from the VUEZ 30 day testing will be compared to the debris only head loss results from the GE sector test. It should be noted that St. Lucie Unit 1 does not have a thick debris bed. If it can be demonstrated that the head loss results from the 30 day test are conservative with respect to the GE sector debris head loss only tests, the VUEZ flat plate combined chemical and debris head loss results may be directly applied to determine the final head loss for the replacement screen. FPL recognizes the NRC concerns regarding the debris bed formation in the VUEZ loop and will participate in the resolution of this concern.

Response Regarding St. Lucie Unit 2:

As described in Attachment 3 of our December 7, 2007, extension request, FPL plans to test St. Lucie Unit 2 in an integrated, large flume test. This test will measure the head loss across the screen for non-chemical debris as well as the chemical debris effects (utilizing the chemical effects methodology of the WCAP 16530-NP). Since this test includes non-chemical debris and chemicals, the measured head loss will represent the total debris head loss for the screen at the referenced conditions. The testing will be performed by Performance Contracting, Inc., (PCI), in association with AREVA NP Inc., and Alden Research Laboratories.

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Response Regarding Turkey Point Unit 3:

General Electric performed debris only testing utilizing a test module. The tests simulated plant debris loads and strainer approach velocities to validate the design. The results of this testing are documented in the hydraulic sizing report.

As described in Attachment 4 of our December 7, 2007 extension request, a purchase order has been issued for performing a 30-day integrated chemical effects test. As described in Attachment 1 of our December 7, 2007, extension request, the purchase order is with Alion Science and Technology. Alion Science and Technology is conducting a 30 day integrated chemical effects test at VUEZ for Turkey Point Unit 3. This integrated approach includes the performance of a 30 day debris head loss experiment within a simulated containment environment. This 30 day debris head loss experiment will be similar to the ICET program but will include a sump screen with the scaled plant specific debris loads to monitor head loss increases over the 30 day mission time. The head loss from the VUEZ 30 day testing will be compared to the debris only head loss results from the GE module test. It should be noted that Turkey Point Unit 3 does not have a thick debris bed. If it can be demonstrated that the head loss results from the 30 day test are conservative with respect to the GE module debris head loss only tests, the VUEZ flat plate combined chemical and debris head loss results may be directly applied to determine the final head loss for the replacement screen. FPL recognizes the NRC concerns regarding the debris bed formation in the VUEZ loop and will participate in the resolution of this concern.

**2. What screen head loss documentation will exist on June 30, 2008 to show that GL 2004-02 corrective actions have been completed?**

Response Regarding St. Lucie Unit 1:

As described in our response to Question 1, FPL has contracted with Alion Science and Technology to perform two 30 day tests for St. Lucie Unit 1. The first test is ongoing and scheduled to be completed on December 19, 2007. The second test is currently scheduled to start on January 20, 2008 and be completed by the end of February, 2008. A test report is expected within 4 weeks of completing the test. As described in Table 2 of our December 7, 2007, extension request, FPL will evaluate the test results, update the affected calculations (document the results in the applicable design document), and submit an updated supplemental response to the NRC by June 30, 2008.

Response Regarding St. Lucie Unit 2:

As described in Table 2 of our December 7, 2007, extension request, PCI is expected to complete testing for St. Lucie Unit 2 by May, 2008. A formal test report is expected within 6 weeks of completing the test; which is June 13, 2008. Note that the preliminary head loss results should be understood shortly after the test completion date of May 2, 2008 (but without QA sign off). As described in Table 2 of our December 7, 2007 extension request, FPL will evaluate the test results, update the affected calculations (document the results in

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the applicable design document), and submit an updated supplemental response to the NRC by June 30, 2008.

Response Regarding Turkey Point Unit 3:

As described in our response to Question 1, FPL has contracted with Alion Science and Technology to perform two 30-day tests for Turkey Point Unit 3. The first test is ongoing and is scheduled to be completed on December 19, 2007. If needed, a second test is currently scheduled to start on January 20, 2008 and be complete by the end of February, 2008. A test report is expected within 4 weeks of completing the test. As described in Table 2 of our December 7, 2007, extension request, FPL will evaluate the test results, update the affected calculations (document the results in the applicable design document), and submit an updated supplemental response to the NRC by June 30, 2008.