

November 13, 2002

LICENSEE: Florida Power and Light

FACILITY: Saint Lucie Unit 1

SUBJECT: SUMMARY OF CONFERENCE CALLS WITH FLORIDA POWER AND LIGHT  
REGARDING REACTOR VESSEL HEAD INSPECTION RESULTS  
(TAC NO. MB5917)

During October 10-14, 2002, the Nuclear Regulatory Commission (NRC) staff participated in several conference calls with the Florida Power and Light (FPL) to discuss the ongoing reactor vessel head penetration (RVHP) inspection activities at the Saint Lucie Plant Unit 1 (STL1). The following summary highlights the interactions between the licensee and the NRC staff.

#### **OCTOBER 10, 2002, OUTAGE CONFERENCE CALLS**

On October 10, 2002, the NRC staff participated in a conference call with FPL to discuss the status of ongoing RVHP inspection activities at STL1. The licensee indicated that they were conducting ultrasonic testing (UT), and bare metal visual testing (BMV) in accordance with their response to NRC Bulletin 2002-02, "Reactor Pressure Vessel Head Penetration Nozzle Inspection Programs." FPL indicated that between 80-90 percent of the testing had been complete and at the time of the call had found no boric acid leakage or vessel head wastage. The NRC staff asked several questions which are attached to this summary. The licensee indicated that the reply to these questions would be addressed in FPL's 30-day post-outage response for Saint Lucie Unit 1 to Bulletin 2002-02.

The licensee identified three issues with the ongoing STL1 RPVH inspections. These issues concerned encountering an impediment to BMV due to debris, lift-off of the probe during UT, and interference due to bent guide sleeves on two control element drive mechanism (CEDM) nozzles. The licensee briefly discussed these issues and the contingencies planned if the issues could not be resolved.

FPL supplied written information in support of these conference calls which was comprehensive and is attached to this summary. At the conclusion of this conference call, a follow-up call was scheduled for October 12, 2002, to discuss the inspection results once additional testing had been completed.

#### **OCTOBER 12, 2002, OUTAGE CONFERENCE CALLS**

On October 12, 2002, the NRC staff participated in a conference call with FPL to discuss the ongoing RPVH inspection activities at STL1. FPL indicated that they had completed UT on 67 of 69 CEDMs. At the time of the call, the licensee had completed more of the inspections and several CEDM nozzles were identified with anomalous results due to either probe lift-off, debris, or guide sleeve interference. The licensee discussed their plan with the staff to resolve the anomalous results. FPL indicated that a UT scan using a rotating probe would be performed on

nozzles with bent guide sleeves after removal of the guide sleeve. The licensee indicated that one nozzle which was missing some UT data due to obstructions would be analyzed to determine the acceptability of continued operation without completion of the testing, and that debris identified on four out of eight in-core instruments would be cleaned on top of the reactor vessel head and visually re-inspected. In addition the licensee indicated that an analysis of the debris was conducted, which revealed that the debris was composed mainly of paint flakes as well as asbestos.

Given the licensee's position concerning the missing UT data, the NRC staff indicated it would discuss the issue internally and discuss the results of those internal discussions with the licensee. This discussion was held later in the day. The staff indicated that there were no additional questions concerning the test results presented to date. However, the staff requested that the licensee provide an update upon completion of the testing. In addition the staff requested that the licensee include any exceptions to complete coverage and FPL's disposition of those exceptions, as well as a flaw analysis of the one nozzle identified by the licensee to have an obstruction which precluded satisfactory testing, in FPL's 30-day post-outage response to Bulletin 2002-02 for STL1. FPL indicated agreement with the NRC staff's request.

FPL supplied written information in support of this conference call which was comprehensive and is attached to this summary. The staff indicated their intention to contact the licensee with a status of the staff's review of the updated test results.

#### **OCTOBER 14, 2002, OUTAGE CONFERENCE CALL**

The staff contacted FPL to briefly discuss the staff's review of a summary of the results for the RPVH testing. At the conclusion of the conference call on October 14, 2002, the licensee indicated that they would submit an update upon completion of testing. After review, the staff informed the licensee that the staff had no more questions on the information provided at this time. In accordance with Bulletin 2002-02, the staff will perform a more comprehensive review of the test results and FPL's disposition of the anomalous results as a result of debris, obstructions or interference upon receiving FPL's 30-day post-outage response. FPL indicated that a completed copy of a draft matrix of the results provided for the staff's review would be submitted along with the 30-day post-outage response.

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Brendan T. Moroney, Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-335

Attachments: 1. Request for Additional Information  
2. Handout dated October 10, 2002

3. Handout dated October 12, 2002

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Mr. J. A. Stall  
Florida Power and Light Company

cc:

Senior Resident Inspector  
St. Lucie Plant  
U.S. Nuclear Regulatory Commission  
P.O. Box 6090  
Jensen Beach, Florida 34957

Craig Fugate, Director  
Division of Emergency Preparedness  
Department of Community Affairs  
2740 Centerview Drive  
Tallahassee, Florida 32399-2100

M. S. Ross, Attorney  
Florida Power & Light Company  
P.O. Box 14000  
Juno Beach, FL 33408-0420

Mr. Douglas Anderson  
County Administrator  
St. Lucie County  
2300 Virginia Avenue  
Fort Pierce, Florida 34982

Mr. William A. Passetti, Chief  
Department of Health  
Bureau of Radiation Control  
2020 Capital Circle, SE, Bin #C21  
Tallahassee, Florida 32399-1741

Mr. Donald E. Jernigan, Site Vice President  
St. Lucie Nuclear Plant  
6351 South Ocean Drive  
Jensen Beach, Florida 34957

## **ST. LUCIE PLANT**

Mr. R. E. Rose  
Plant General Manager  
St. Lucie Nuclear Plant  
6351 South Ocean Drive  
Jensen Beach, Florida 34957

Mr. Kelly Korth  
Licensing Manager  
St. Lucie Nuclear Plant  
6351 South Ocean Drive  
Jensen Beach, Florida 34957

Mr. William Jefferson  
Vice President, Nuclear Operations Support  
Florida Power & Light Company  
P.O. Box 14000  
Juno Beach, FL 33408-0420

Mr. Rajiv S. Kundalkar  
Vice President - Nuclear Engineering  
Florida Power & Light Company  
P.O. Box 14000  
Juno Beach, FL 33408-0420

Mr. J. Kammel  
Radiological Emergency  
Planning Administrator  
Department of Public Safety  
6000 SE. Tower Drive  
Stuart, Florida 34997

REQUEST FOR ADDITIONAL INFORMATION

REACTOR PRESSURE VESSEL (RPV) HEAD AND VESSEL HEAD PENETRATION (VHP)

INSPECTIONS RELATIVE TO RECENT INSPECTION FINDINGS

SAINT LUCIE UNIT 1, DOCKET NUMBER 50-335

- 1) As a result of recent inspection findings, the NRC has concerns about the combination and scope of inspection methods used during RPV head and VHP nozzle inspections implemented in response to Bulletin 2002-02. The concern is that through-weld cracks in the J-groove welds may provide the conditions that could lead to circumferential cracking in the nozzle base material at or above the J-groove weld with no visual indications of leakage deposits on the RPV head.

North Anna Unit 2 has identified circumferential cracks in nozzles examined with UT and indications were identified on the J-groove weld of a high percentage of the penetrations. According to the licensee for North Anna, there were no visual indications of boric acid deposits on the surface of the RPV head at all of these nozzles. This finding, if verified, indicates that cracks in the J-groove welds may provide the conditions that could lead to circumferential cracking in the nozzle base material at or above the J-groove weld with no visual indications of leakage deposits on the surface of the RPV head.

Considering the discussion above, include a written discussion of whether the findings at North Anna Unit 2 alter your justification for continued reliance on visual examinations and the decision not to directly examine the J-groove welds.

- 2) Provide your RPV and VHP heat data for Saint Lucie Unit 1.
- 3) Provide a copy of the Condition Reports generated as a result of issues with the bare metal, ultrasonic, or visual testing conducted in accordance with Bulletin 2002-02.