August 31, 2005

MEMORANDUM TO: Michael L. Marshall, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: David L. Solorio, Chief ***/RA/***
Balance of Plant Section
Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

SUBJECT: CLOSEOUT LETTER FOR BULLETIN 2003-01, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY SUMP RECIRCULATION AT PRESSURIZED-WATER REACTORS"

The Plant Systems Branch (SPLB) has reviewed and evaluated the information provided in responses to Bulletin 2003-01 by the licensee for St. Lucie, Unit 1 and Unit 2. SPLB has determined that the licensee's actions have been responsive to and meet the intent of Bulletin 2003-01. Attached to this letter is the proposed close-out letter for the above plants. If you have any questions, please contact Leon Whitney or Alan Wang. Please include Alan Wang and Leon Whitney on the distribution list.

Docket Nos: 50-335, 50-389

Attachment: As stated

CONTACTS: Leon Whitney, SPLB/DSSA
415-3081
Alan B. Wang, DLPM, PD IV
415-1445

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Florida Power and Light Company
St. Lucie Units 1 and 2
Post Office Box 14000
Juno Beach, FL 33408-0420

SUBJECT: St. LUCIE NUCLEAR PLANT, UNIT 1 AND UNIT 2 - RESPONSE TO NRC BULLETIN 2003-01, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY SUMP RECIRCULATION AT PRESSURIZED WATER REACTORS (TAC NOS. MB9554 AND MB9555)

Dear Mr. Stall:

This letter acknowledges receipt of your response dated August 8, 2003, to Nuclear Regulatory Commission (NRC) Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors," dated June 9, 2003, as well as acknowledging receipt of your response dated May 20, 2005 to our request for additional information (RAI) dated March 21, 2005. The NRC issued Bulletin 2003-01 to all pressurized-water reactor (PWR) licensees requesting that they provide a response, within 60 days of the date of Bulletin 2003-01, that contains either the information requested in following Option 1 or Option 2 stated in Bulletin 2003-01:

Option 1: State that the emergency core cooling system (ECCS) and containment spray system (CSS) recirculation functions have been analyzed with respect to the potentially adverse post-accident debris blockage effects identified in the Discussion section, and are in compliance with all existing applicable regulatory requirements.

Option 2: Describe any interim compensatory measures that have been implemented or that will be implemented to reduce the risk which may be associated with potentially degraded or nonconforming ECCS and CSS recirculation functions until an evaluation to determine compliance is complete. If any of the interim compensatory measures listed in the Discussion section will not be implemented, provide a justification. Additionally, for any planned interim measures that will not be in place prior to your response to this bulletin, submit an implementation schedule and provide the basis for concluding that their implementation is not practical until a later date.

You provided an Option 2 response.

Bulletin 2003-01 discussed six categories of interim compensatory measures (ICMs):

ATTACHMENT

(1) operator training on indications of and responses to sump clogging; (2) procedural modifications if appropriate, that would delay the switchover to containment sump recirculation (e.g., shutting down redundant pumps that are not necessary to provide required flows to cool the containment and reactor core, and operating the CSS intermittently); (3) ensuring that alternative water sources are available to refill the RWST or to otherwise provide inventory to inject into the reactor core and spray into the containment atmosphere; (4) more aggressive containment cleaning and increased foreign material controls; (5) ensuring containment drainage paths are unblocked; and (6) ensuring sump screens are free of adverse gaps and breaches.

You stated in your bulletin response of August 8, 2003, that you have implemented the following measures, or these measures are already in place:

(1) Emergency Operating Proceures (EOPs) which monitor high pressure safety injection (HPSI) pump flow during recirculatiion to ensure core cooling and that damage to the pumps does not occur - ICM category #1;

(2) A functional recovery procedure (FR) for the monitoring and restoration of critical plant safety functions (transitioned into from the EOPs upon events such as loss of sump recirculation during a loss-of-coolant accident (LOCA) - ICM category #1;

(3) Initial operator training on root causes of, identification of and response actions to degraded pump performance, with periodic simulator-based pump degradation challenges - ICM category #1;

(4) An Operations Information brief emphasizing the importance of monitoring ECCS and CSS pump performance during accident recirculation - ICM category #1;

(5) EOP enhancements by November 10, 2003, to provide operators with more specific indications of sump blockage in the control room - ICM category #1;

(6) Informational training on Bulletin 2003-01 to the technical support staff to be completed by the fourth quarter of CY 2003 - ICM category #1;

(7) A Training Bulletin to the Engineering staff on Bulletin 2003-01 issues - ICM category #1;

(8) Cooldown and depressurization of the reactor coolant system (RCS) to cold shutdown conditions during medium and small break LOCAs before the refueling water tank (RWT) is drained to the switchover level - ICM category #2;

(9) An interim compensatory action to administratively control RWT level just below the high level alarm rather than simply above the Technical Specifications minimum limit - ICM category #2;

(10) Enhancements to the EOPs to initiate RWT refill upon switchover to sump recirculation by November 10, 2003 - ICM category #3;

(11) Detailed containment cleanliness procedures for unit restart readiness and for containment entries at power utilizing the latest industry guidance (including plant management

and operating staff team walkdowns, deficiency reports and corrective actions, formal logs of non-permanent equipment, material or tools under the Foreign Material Exclusion (FME) Program, with formal evaluation of those items to remain in containment, and controls for the surface preparation, procurement, application, surveillance, and maintenance activities for Service Level 1 protective coatings used inside the containment, with logs for and prior to restart inspection of unqualified coatings remaining in containment - ICM category #4;

(12) Numerous openings in the internal shield walls separating the reactor vessel and RCS piping from the outer containment leading to the sump, which will accommodate local blockage of some radial flowpaths while screening larger debris - ICM category #5;

(13) Engineering walkdowns of recirculation flowpaths during the 2004 refueling outages using NEI 02-01, Section 5.2.4.2 to identify issues - ICM category #5; and

(14) A detailed containment sump inspection procedure and inspection technique sheet to satisfy the requirements of the relevant Technical Specifications requiring visual inspections of the containment sumps at least once per 18 months for verification that the screens show no evidence of structural distress or corrosion - ICM category #6.

You also stated in your response that you would not be implementing the following ICM premptive operator actions to stop pumps or throttle flow solely for the purpose of delaying switchover to containment sump recirculation unless such action is incorporated in CEN-152 Emergency Procedure Guidelines (EPGs) through formal Owner's Group procedure maintenance programs.

In your May 20, 2005, response to a March 21, 2005, RAI you discussed the following considerations and actions:

(1) Licensed Operator Continuing Training including both simulator and classroom sessions conducted in late 2003, covering recent industry events dealing with containment sump clogging and the types of foreign materials that can adversely affect sump screen performance, pump failure modes and indications, and operator diagnoses and responses to recirculation sump failures - ICM category #1;

(2) Procedural enhancements to 1/2-EOP-03, Loss of Coolant Accident, which directs RWT makeup during recirculation from a variety of water sources, and additional monitoring of ECCS and CSS pump performance and associated contingency actions - ICM category #1;

(3) Your plans to implement CEN-152, Revision 5.3 (WCAP-16204, "Evaluation of Potential ERG and EPG Changes to Address NRC Bulletin 2003-01 Recommendations (PA-SEE-0085)" Volume III) by the Fall 2005 SL1-20 refueling outage, with any deviations evaluated and documented in the Plant Specific Technical Guidance (PSTG) documentation - ICM category #1.

The NRC staff has considered your Option 2 response for compensatory measures that were or were to have been implemented to reduce the interim risk associated with potentially degraded or nonconforming ECCS and CSS recirculation functions. Based on your response, the NRC staff considers your actions to be responsive to and meet the intent of Bulletin 2003-01. Please retain any records of your actions in response to Bulletin 2003-01, as the NRC staff may conduct subsequent inspection activities regarding this issue.

Should you have any questions, please contact me at 301-415-[xxxx] or the lead PM for this issue, Alan Wang at 301-415-1445.

Sincerely,

[Name], Project Manager, Section [1 or 2]
Project Directorate [I, II, III, or IV]
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

cc: See next page [Plant Mailing List]

ADD TO DISTRIBUTION: AWang, RArchitzel, DSolorio, MKowal, LWhitney