



**FPL**

May 12, 2008

L-2008-070  
10 CFR 50.54(f)

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

RE: Florida Power and Light Company  
St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389

Subject: Three Month Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems"

The Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," dated January 11, 2008, to request that each licensee evaluate the licensing basis, design, testing, and corrective action programs for the Emergency Core Cooling Systems (ECCS), Decay Heat Removal System, and Containment Spray System, to ensure that gas accumulation is maintained less than the amount that challenges operability of these systems, and that appropriate action is taken when conditions adverse to quality are identified.

In GL 2008-01 the NRC requested each licensee to submit a written response in accordance with 10 CFR 50.54(f) within nine months of the date of the GL to provide the following information:

- (a) A description of the results of evaluations that were performed pursuant to the requested actions of the GL. This description should provide sufficient information to demonstrate that you are or will be in compliance with the quality assurance criteria in Sections III, V, XI, XVI, and XVII of Appendix B to 10 CFR Part 50 and the licensing basis and operating license as those requirements apply to the subject systems of the GL;
- (b) A description of all corrective actions, including plant, programmatic, procedure, and licensing basis modifications that you determined were necessary to assure compliance with these regulations; and;
- (c) A statement regarding which corrective actions were completed, the schedule for completing the remaining corrective actions, and the basis for that schedule.

Additionally, the NRC requested that if a licensee cannot meet the requested response date then the licensee shall provide a response within three months of the date of this GL to describe the alternative course of action that it proposes to take, including the basis for the acceptability of the proposed alternative course of action. By letter L-2008-076 dated April 9, 2008, Florida Power

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and Light (FPL) documented the NRC's approval for a verbal request for a one month extension for the three-month response.

FPL hereby notifies the NRC that we do not anticipate being able to fully complete the requested evaluations within the proposed nine month period. Accordingly, the alternative course of action that St. Lucie Nuclear Plant Units 1 and 2 proposes to take, including the basis for the acceptability of the proposed alternative course of action, is described in the attachment to this letter.

This letter contains the following new commitments:

- FPL will provide an initial GL 2008-01 submittal by October 11, 2008, that includes the evaluation results for the completed licensing and design basis reviews, the operating and test procedure reviews, and the Unit 2 readily accessible GL piping section walkdowns and design reviews as well as the schedule for any corrective actions that may be required based on these evaluations.
- FPL will provide a complete Unit 1 GL 2008-01 submittal 90 days after the end of the fall 2008 refueling outage. This submittal will complete the design evaluation review as well as provide the schedule and basis for any corrective actions that may be required based on the detailed readily accessible and inaccessible GL piping section walkdowns performed.
- FPL will provide a complete Unit 2 GL 2008-01 submittal 90 days after the end of the spring 2009 refueling outage. This submittal will complete the design evaluation review as well as provide the schedule and basis for any corrective actions that may be required based on the detailed inaccessible GL piping section walkdowns performed during the outage.

Please contact Ken Frehafer at (772) 467-7748 if you have further questions regarding this matter.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on MAY 12, 2008

Very truly yours,

  
Gordon L. Johnston  
Site Vice President  
St. Lucie Nuclear Plant

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Attachment

This attachment provides the FPL St. Lucie extended three-month response requested in NRC Generic Letter (GL) 2008-01, which was dated January 11, 2008. This response discusses:

1. the required evaluations that will not be completed by October 11, 2008
2. the alternative course of action planned, and
3. the basis for the acceptability of the alternative course of action.

For the St. Lucie Nuclear Plant the GL subject functions correspond to the following plant systems/operating modes:

Emergency Core Cooling Systems: ECCS - High Pressure Safety Injection (HPSI) and Low Pressure Safety Injection (LPSI) pumps when operating in post-accident injection and sump recirculation modes.

Shutdown Cooling: SDC - LPSI pumps when operating in a normal closed loop shutdown cooling mode.

Containment Spray: CS - Containment Spray pumps when operating in post-accident during post-accident operation to reduce containment pressure and scrub fission products from the containment atmosphere.

St. Lucie expects to complete a significant amount of the requested actions, in particular those involving reviews of plant design, licensing basis documentation, and system operating and testing procedures. The review of licensing and design basis will also consider past gas accumulation events documented in the corrective action system. The results of these evaluations will be provided in an initial response to GL 2008-01 by October 11, 2008.

The design evaluations requested by the GL also require physical walkdowns of the subject GL Systems (e.g., ECCS, SDC, and CS) to confirm pertinent design details (locations of high point vents) and as-built configurations (pipe locations, elevations, and slope). Preliminary reviews indicate that St. Lucie should be able to perform the required walkdowns of the majority of the Unit 2 accessible piping sections within the nine month period. Therefore the October 11, 2008, initial GL 2008-01 response will also include the evaluation for the Unit 2 accessible piping (as defined below) design.

Performance of non-intrusive examinations such as ultrasonic testing (UT) is suggested to monitor the presence and quantification of suspected gas in subject piping. In some cases the UT of the piping will require removable insulation panels. Portions of the subject GL piping systems are inaccessible during power operation due to radiation environments, some are insulated, and some may require the erection of scaffolding to obtain adequate access for the requested detailed inspections and walkdowns. In some cases, while the piping may be accessible as defined above, some inspections, walkdowns and general work would not be possible during power operations due to risks to other nearby equipment during scaffolding erection and disassembly (e.g., instrument racks with sensitive equipment). Other piping sections are in close proximity to another system's piping or electrical distribution cabinets that

would constitute a personnel safety concern due to the temperature of that nearby piping or electrical hazards, respectively, during power plant operation.

The next refueling outage for Unit 1 begins in October 2008 and the next Unit 2 refueling outage begins in March 2009. FPL will perform detailed walkdowns of the inaccessible GL piping sections during the Unit 1 fall 2008 and Unit 2 spring 2009 outages and take requisite corrective actions as needed (e.g., installation of additional vent valves). Additionally, Unit 1 will complete the detailed walkdowns of readily accessible GL piping sections during the fall 2008 outage.

Therefore, St Lucie anticipates providing an initial submittal, based on the completed document reviews and completed Unit 2 accessible piping section walk downs by the requested 9 month due date of October 11, 2008. This submittal will include actions to complete full detailed walkdowns of the remaining GL piping scope and any other required modifications, by the Unit 1 fall 2008 and Unit 2 spring 2009 outages. This work approach will additionally allow the station to integrate information and criteria currently in development by industry working groups within our response and subsequent action commitments.

Each Unit will provide a second submittal to document closure of outstanding items that were not complete at the time of the first submittal and provide schedules and basis for any additional corrective actions that may be required. Unit 1 will document closure of the GL 2008-01 requested information within 90 days of the end of the fall 2008 outage, and likewise Unit 2 will document closure of the GL 2008-01 requested information within 90 days of the end of the fall 2009 outage.

Delaying the completion of the inaccessible GL piping section walkdowns is acceptable for the following reasons. Inaccessible GL piping sections constitute only a portion of the overall scope of the GL. As the suction piping for the ECCS/CS systems is considered accessible, the inaccessible portions are limited to the ECCS/CS pump discharge piping sections (particularly those within containment) and portions of the SDC system (particularly those within containment). These systems are routinely tested in accordance with Technical Specification and In-service Testing (IST) programs. Full flow is achieved within the delays assumed by the accident analyses, and obvious equipment issues associated with accumulated gas voiding (insufficient pump head or flow, etc.) have not been noted during these tests. These online tests and routine evolutions during plant shutdowns (decay heat removal) and refuel outages (SDC injection to the vessel for refuel cavity flood-up) cover most of the design basis alignments of these systems for the discharge piping and consistently demonstrate their operability. St. Lucie routinely vents these lines to ensure pump operability with respect to void formation and gas binding. Therefore, there is reasonable assurance that the inaccessible portions of the systems are free from significant gas accumulations.

St. Lucie anticipates augmenting Technical Specifications and/or Bases to address ECCS, SDC and CS system criteria with respect to industry initiatives for defining system requirements with respect to being functionally full of water. While the required Technical specification changes should be defined, the actual change will not be complete by the initial response to the GL.

St. Lucie has confidence that the St. Lucie ECCS, SDC, and CS systems can fulfill their required functions, based upon our years of operating and testing experience. This is further borne out based on corrective actions implemented post previous gas accumulation events. With the implementation of these corrective actions St Lucie has not experienced repeat gas intrusion events on the same system portions. These corrective actions have included the addition of vent valves, better procedural guidance for venting, maintenance to address leakage of key boundary valves, and improvements in SI accumulator level monitoring. St. Lucie will complete as much of the requested GL actions within the requested nine month period as is practical, based upon accessibility of the subject systems, and the development of consistently applied methodologies for testing, measuring, and evaluating acceptance limits for gas voiding in such systems by industry and/or regulation.

Based upon the above, St. Lucie concludes that completing each unit's GL 2008-01 design reviews and providing schedules and bases for any additional corrective actions outside the requested nine month period but within 90 days of the end of the fall 2008 (Unit 1) and spring 2009 (Unit 2) refueling outages is an acceptable alternative course of action.