



**FPL**

May 9, 2008  
L- 2008-105  
10 CFR 50.54(f)

ATTN: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

RE: Florida Power & Light Company  
Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251

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

- References:
1. NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," dated January 11, 2008.
  2. FPL Letter L-2008-076, "Extension Request Regarding the Three Month Response to NRC Generic Letter 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,'" dated April 9, 2008.

The Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2008-01 (Reference 1) to request that each licensee evaluate the licensing basis, design, testing, and corrective action programs for the Emergency Core Cooling System (ECCS), Residual Heat Removal (RHR) system, and Containment Spray (CS) 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.

The NRC, in GL 2008-01, requested each licensee to submit a written response in accordance with 10 CFR 50.54(f) within 9 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, the licensee “shall provide a response within 3-months of the date of this GL.” In the 3-month response, the licensee was requested 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.

On April 3, 2008, by telephone call with the NRC's Division of Safety Systems, Florida Power & Light (FPL) requested a one month extension for the Turkey Point 3-month response. During the call, the NRC agreed to the one month extension. A confirmatory letter was issued to the NRC on April 9, 2008 (Reference 2) to formally document the verbal agreement. Accordingly, the due date for the Turkey Point 3-month response was extended to May 11, 2008.

The attachment to this letter contains the Turkey Point 3-month response to the Requested Information in NRC GL 2008-01.

This letter contains the following new commitments:

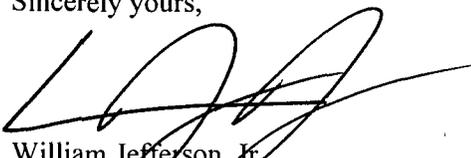
- FPL will provide an initial submittal by October 11, 2008 that includes the evaluation results for the completed licensing and design basis reviews, the operating and test procedure reviews, and the completed walkdown information for accessible areas, as well as the schedule for any corrective actions that may be required based on these evaluations.
- FPL will provide a complete GL 2008-01 submittal 90 days after the end of the Unit 3 Spring 2009 refueling outage. This submittal will complete the design evaluation review based on the completed walkdowns of inaccessible area piping, completed evaluation results, and schedule for any additional corrective actions based on the completed evaluations for Unit 3.
- FPL will provide a complete GL 2008-01 submittal 90 days after the end of the Unit 4 Fall 2009 refueling outage. This submittal will complete the design evaluation review based on the completed walkdowns of inaccessible area piping, completed evaluation results, and schedule for any additional corrective actions based on the completed evaluations for Unit 4.

If you have any questions regarding this matter, please contact Ms. Olga Hanek, Acting Licensing Manager, at (305) 246-6607.

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

Executed on May 9, 2008

Sincerely yours,



William Jefferson, Jr.  
Site Vice President  
Turkey Point Nuclear Plant

Attachment: NRC Generic Letter 2008-01 Requested Information for Turkey Point's 3-Month Response

cc: NRC Regional Administrator, Region II  
USNRC Project Manager, Turkey Point Nuclear Plant  
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant

**NRC Generic Letter 2008-01**  
**Requested Information for Turkey Point's 3-Month Response**

This attachment provides the FPL Turkey Point extended 3-month response to Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," which was dated January 11, 2008. This response discusses: (1) the required evaluations that will not be complete by October 11, 2008 (9 months from the date of GL 2008-01); (2) the alternative course of action planned; and (3) the basis for the acceptability of the alternative course of action.

**Requested Evaluations that Will Not be Complete by October 11, 2008**

The evaluations requested by GL 2008-01 require physical walkdowns of the Unit 3 and 4 Emergency Core Cooling System (ECCS), Residual Heat Removal (RHR), and Containment Spray (CS) systems to confirm pertinent design details (locations of high point vents) and as-built configurations (pipe locations, elevations, and slope). In addition, performance of non-intrusive examinations such as ultrasonic testing (UT) is suggested to monitor the presence and quantification of suspected gas in subject piping.

**Alternative Actions:**

The Turkey Point Nuclear Plant hereby notifies the NRC that we do not anticipate being able to fully complete the requested evaluations within the proposed 9 month period and offers the following proposed alternative course of action and supporting justifications of the acceptability of the alternative course of action.

Turkey Point will complete a significant amount of the requested actions within the requested 9 months, which are, in particular, those actions involving reviews of plant design, licensing basis documentation, and system operating and testing procedures. However, the evaluations requested by the GL also require physical walkdowns of the subject ECCS, RHR, and CS systems to confirm pertinent design details (locations of high point vents) and as-built configurations (pipe locations, elevations, and slope). In addition, performance of non-intrusive examinations such as UT is suggested to monitor for the suspected presence and accumulation of gas in the subject system piping. Portions of the subject piping are inaccessible during power operation due to being in radiation environments, and some portions are insulated or may require the erection of scaffolding to obtain adequate access for the requested detailed inspections.

Turkey Point has performed preliminary walkdowns of Unit 4 during the recently completed refueling outage to scope the scaffolding and insulation removal activities required for the detailed inspection walkdowns. The detailed inspection walkdowns will be performed during the next refueling outage for Unit 4, which is scheduled in the Fall of 2009. These walkdowns will confirm the acceptability of the installed piping, and implement any corrective actions necessary to maintain operability of the ECCS, RHR, and CS systems (e.g., install additional vent valves).

Turkey Point proposes a three-part submittal, comprised of an initial 9-month submittal and two subsequent final submittals, one for Unit 3 and one for Unit 4. Based on the industry and regulatory information available to date, there appears to be adequate time to complete licensing and design basis reviews, perform drawing and document reviews, review venting and filling procedures, and plan supporting procedural and license basis changes by the October 11, 2008 due date for a 9-month submittal. It is anticipated that an initial submittal, based on the completed document reviews and walkdowns of the accessible areas, can be provided by the requested 9 month due date of October 11, 2008.

A final Unit 3 submittal will be provided documenting the results of the detailed walkdowns of the remaining Unit 3 piping and the closure of any outstanding Unit 3 items that were not complete at the time of the first submittal. The Unit 3 submittal will be provided within 90 days of completion of the Unit 3 Spring 2009 refueling outage.

A final Unit 4 submittal will be provided documenting the results of the detailed walkdowns of the remaining Unit 4 piping and the closure of any outstanding Unit 4 items that were not complete at the time of the first submittal. The Unit 4 submittal will be provided within 90 days of completion of the Unit 4 Fall 2009 refueling outage.

#### Basis for Alternative Actions:

Portions of the subject GL system piping are inaccessible during power operation due to radiation environments, some are insulated (including asbestos insulation), and some may require the erection of scaffolding to obtain adequate access for the requested detailed inspections.

In some cases, while the piping may be accessible, the inspections and general work would not be prudent during power operations due to risks of adversely affecting other nearby equipment during scaffolding erection and disassembly (e.g., instrument racks with sensitive equipment). Some piping sections could be in close proximity to other hot system piping (burn hazard) or electrical distribution cabinets (electrical hazard), creating personnel safety concerns during power plant operation.

Even areas that, based on reviews of existing drawings, appear to be accessible have been found to be inaccessible during certain periods of refueling outages due to elevated contamination levels (in the vicinity of steam generators while eddy current testing is in progress), or locked high radiation areas (adjacent to fuel transfer paths during fuel movement).

Typically, emergent scope is included in an outage when the safety and system reliability of the emergent work is commensurate with the late addition to the outage. As noted below, because the design is considered to be sound relative to gas accumulation as borne out by the event free experience in the recent past, forcing emergent work into the recently completed Unit 4 Spring 2008 refueling outage was not justified.

The preliminary walkdowns of Unit 4 during the Spring 2008 refueling outage found no obvious issues that would bring into question the operability of the subject systems. If, during the Unit 3 Spring 2009 refueling outage, obvious issues of concern are identified, appropriate corrective actions will be taken as needed (e.g. installation of additional vent valves) to ensure continued operability of the subject systems.

#### Basis for Acceptability of Alternate Schedule

Turkey Point has experienced gas binding of the ECCS High Head Safety Injection (HHSI) pumps, although none since August 2000. There have been no gas binding events affecting either the RHR or CS system pumps. Heightened sensitivity to the potential for gas binding these pumps and the numerous enhancements that have been implemented in response to lessons learned from plant experience and industry initiatives are credited, in part, for this positive trend. The past gas intrusion events at Turkey Point and the issuance of NRC and Institute of Nuclear Power Operations (INPO) operating experience (OE) reports, such as IN 86-80, SER 11-97, SEN 179, OE 10463, SOER 97-01, OE 10463, and SER 2-05, prompted Turkey Point to conduct extensive plant walkdowns, as well as procedure, drawing, and operating history reviews to identify potential gas intrusion vulnerabilities and pathways, and to add high point venting capability at key locations. These walkdown and review activities resulted in several modifications and programmatic enhancements. Examples of system improvements for the detection and prevention of gas accumulations, which could cause cavitation and gas binding of the ECCS, RHR, and CS pumps (as well as piping waterhammer) are as follows:

- addition of improved barriers (check valves) to prevent back leakage through the ECCS Safety Injection (SI) Accumulator fill lines,
- addition of ECCS high point vents,
- enhancements to improve leak tightness of identified ECCS gas intrusion barrier motor-operated valves (MOVs),
- enhancements to the ECCS and RHR monthly (Technical Specification (TS) required) venting procedures to incorporate NRC and INPO lessons learned information,
- addition of CS system procedural requirements and direction for venting the CS pumps and affected piping following maintenance and testing,
- establishment of SI gas intrusion barrier valve leakage testing on a per refueling cycle basis, and
- establishment of initial and continuing training intended to maintain a heightened state of awareness regarding the potential for gas intrusion to preclude any future gas binding events.

The subject ECCS, RHR, and CS systems are routinely tested in accordance with TS and In-service Testing (IST) program requirements. Full flow is achieved within the delays assumed by the accident analyses, and obvious equipment issues, such as accumulated gas voiding (insufficient pump head or flow, etc.) would be noted during testing. The on-line tests and routine evolutions conducted during plant shutdowns (e.g., decay heat removal) and refueling outages (e.g., RHR injection to the vessel for refuel cavity flood-up, SI Accumulator makeup)

cover most of the design basis alignments of the suction and discharge piping for these systems, and consistently demonstrate their operability. As indicated above, leakage testing is performed every refueling outage on the SI gas intrusion barrier valves to verify leak tightness and detect valve degradation. The ECCS and RHR system piping is verified to be full of water at least once per 31 days in accordance with TS 4.5.2.b.1 by venting the pump casings and accessible discharge piping. Periodically venting the ECCS and RHR pumps and associated discharge piping not only provides assurance that these systems will perform properly if needed, but also serves as a means of detecting gas intrusion and potential accumulation. The specified 31-day surveillance frequency takes into consideration the gradual nature of gas intrusion in the ECCS and RHR system piping and the procedural controls governing operation of these systems. The CS pumps and piping are vented following any maintenance and testing activities that could cause gas intrusion (e.g., IST activities).

Turkey Point has confidence that the plant's ECCS, RHR, and CS systems can fulfill their required functions, based upon our more than 35 years of operating and testing experience. Moreover, many of the actions taken (e.g., walkdowns, drawing reviews) in response to the previous NRC and INPO initiatives concerning gas intrusion events are applicable to those requested in GL 2008-01. It is anticipated that Turkey Point will complete a significant portion of the requested GL actions within the specified 9 month period. However, the actual amount is dependent upon in-plant accessibility of the subject systems and the development of consistently applied methodologies for the testing, measuring, and evaluating acceptance limits for gas voiding consistent with industry and/or regulatory guidance.

Turkey Point believes that the bases for acceptability given above provide sufficient justification for completing the walkdowns of the inaccessible area piping and subsequent evaluations and corrective actions outside the specified 9 month period. These activities will be completed during the first available refueling outages to support a final Unit 3 submittal within 90 days following the end of the Unit 3 Spring 2009 outage and a final Unit 4 submittal within 90 days following the end of the Unit 4 Fall 2009 outage. Turkey Point considers this proposed schedule to be commensurate with the safety significance of the subject gas accumulation concern, and therefore, acceptable as an alternative course of action.