



Serial: NPD-NRC-2009-137
July 6, 2009

10CFR52.79

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

**LEVY NUCLEAR POWER PLANT, UNITS 1 AND 2
DOCKET NOS. 52-029 AND 52-030
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 053 RELATED TO
CIRCULATING WATER SYSTEM**

Reference: Letter from Sujata Goetz (NRC) to Garry Miller (PEF), dated June 4, 2009,
"Request for Additional Information Letter No. 053 Related to SRP Section
10.04.05 for the Levy County Nuclear Plant, Units 1 and 2 Combined License
Application"

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits our response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in the referenced letter.

A response to the NRC request is addressed in the enclosure. The enclosure also identifies a change that will be made in a future revision of the Levy Nuclear Power Plant Units 1 and 2 application.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (919) 546-6107.

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

Executed on July 6, 2009.

Sincerely,

A handwritten signature in black ink, appearing to read "Garry D. Miller".

Garry D. Miller
General Manager
Nuclear Plant Development

Enclosure

cc : U.S. NRC Region II, Regional Administrator
Mr. Brian C. Anderson, U.S. NRC Project Manager

DO94
NRC

bc : John Elnitsky, VP-Nuclear Plant Development
Robert Kitchen, Manager-Nuclear Plant Licensing
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John Archer (WorleyParsons)
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**Levy Nuclear Power Plant Units 1 and 2
Response to NRC Request for Additional Information Letter No. 053 Related to
SRP Section 10.04.05 for the Combined License Application, dated June 4, 2009**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
10.04.05-1	L-0425	Response enclosed – see following pages

NRC Letter No.: LNP-RAI-LTR-053

NRC Letter Date: June 4, 2009

NRC Review of Final Safety Analysis Report

NRC RAI #: LNP RAI 10.4.5-1

Text of NRC RAI:

In the Levy combined license (COL) application, FSAR Section 10.4.5.2.2, "Component Description," the applicant provided site-specific design information regarding its circulating water system (CWS) major components, including its cooling tower. Also in FSAR section 10.4.5.3, "System Operation" the applicant states that "The mechanical draft cooling tower is positioned so that its collapse would have no potential to damage structures, systems or components required for safe shutdown of the plant. However, the staff could not find further details on how the cooling tower failure will have no effect on the nearby safety related systems, equipment and/or structure of the plant.

As described in the Standard Review Plan (SRP), Section 10.4.5, "Circulating Water System," SRP Acceptance Criteria, the requirements of General Design Criteria (GDC) 4 are met when the CWS design includes provisions to accommodate the effects of discharging water that may result from a failure of a component or piping in the CWS. Therefore, in order to meet this GDC 4 criteria and for the NRC staff to complete its evaluation of the Levy County CWS, the staff requests that the applicant provide additional information to ensure that failure of the tower will not affect the safety-related systems or equipment that are located in the proximity of the cooling tower.

PGN RAI ID # L-0425

PGN Response to NRC RAI:

The mechanical draft cooling towers at LNP 1 and 2 are less than 300 feet tall to comply with Levy County Zoning Ordinance. The closest seismic category I (safety-related) structure to the cooling tower on each unit is the Auxiliary Building. This structure is approximately 700 feet (FSAR Figure 1.1-201) from the cooling tower (the seismic classification of the structures is provided in FSAR table 3.2-2R). The closest seismic category II structure to the cooling tower on each unit is the Annex Building. This structure is also greater than 700 feet from the cooling tower. Per DCD Subsections 3.2.1.1.1 and 3.2.1.1.2, no safety-related systems or components are located in seismic category II structures. In the unlikely event the tower collapsed in the direction of these structures, it would not affect either the seismic category I or the seismic category II structures.

Water from the circulating water system is discharged over the tower fill and falls to the cooling tower basin where the water is stored in the basin below grade to supply a suction water supply for the circulating water pumps. The top of the basin is located above grade to provide a freeboard volume above the basin water level. Collapse of the mechanical draft cooling towers has the potential to rupture the circulating water, blowdown and raw water piping associated with the tower. Per DCD Subsection 3.4.1.1.1, failure of the cooling tower or the circulating

water system piping under the yard could result in a potential flood source. However, as stated above, the cooling tower is located approximately 700 feet from the closest safety related structure and water from the cooling tower basin or the circulating water system would be carried by site grading and drainage system away from safety-related structures. The consequences of the failure of the circulating water piping in the yard and associated with the cooling tower is bounded by the circulating water piping in the turbine building described in DCD Subsections 3.4.1.1.1, 3.4.1.2.2.3 and 10.4.5.2.3. The circulating water system piping rupture bounds the rupture of the raw water system piping and the blowdown water line.

In summary, no safety-related structures, systems or components are located within 700 feet of the cooling towers and rupture of the circulating water piping due to failure of the cooling tower will not affect any safety-related systems or components.

Associated LNP COL Application Revisions:

The following change will be made to the LNP FSAR in a future amendment:

Add the following paragraph to FSAR Subsection 10.4.5.2.2 after the last paragraph under **“Cooling Tower”**:

Water from the circulating water system is discharged over the tower fill and falls to the cooling tower basin where the water is stored in the basin below grade to supply a suction water supply for the circulating water pumps. The top of the basin is located above grade to provide a freeboard volume above the basin water level. Collapse of the mechanical draft cooling towers has the potential to rupture the circulating water, blowdown and raw water piping associated with the tower. Per DCD Subsection 3.4.1.1.1, failure of the cooling tower or the circulating water system piping under the yard could result in a potential flood source. However, the cooling tower is located approximately 700 feet from the closest safety related structure and water from the cooling tower basin or the circulating water system would be carried by site grading and drainage system away from safety-related structures. The consequences of the failure of the circulating water piping in the yard and associated with the cooling tower is bounded by the circulating water piping in the turbine building described in DCD Subsections 3.4.1.1.1, 3.4.1.2.2.3 and 10.4.5.2.3. The circulating water system piping rupture bounds the rupture of the raw water system piping and the blowdown water line.

Attachments/Enclosures to Response to NRC:

None.