PMLevyCOLPEm Resource

From: Brian Anderson
Sent: Friday, April 17, 2009 11:26 AM
To: robert.kitchen@pgnmail.com; david.waters@pgnmail.com; tillie.wilkins@pgnmail.com; PMLevyCOLPEm Resource
Subject: DRAFT RAIs - 2157, 2159, 2160 - SRP sections 2.4.1, 2.4.3, 2.4.4 - Levy County Units 1 and 2 Combined License Application
Attachments: LNP Draft RAI 2157 - 2.4.1.doc; LNP Draft RAI 2159 - 2.4.3.doc; LNP Draft RAI 2160 - 2.4.4.doc

Importance: High

Attached are three draft RAIs related to SRP sections 2.4.1, 2.4.3, and 2.4.4 for the Levy County Units 1 and 2 Combined License Application. Please let me know if you would like to schedule a conference call to discuss these RAIs.

Thank you,
Brian

Brian Anderson
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Hearing Identifier: Levy_County_COL_Public
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Subject: DRAFT RAIs - 2157, 2159, 2160 - SRP sections 2.4.1, 2.4.3, 2.4.4 - Levy County Units 1 and 2 Combined License Application
Sent Date: 4/17/2009 11:25:37 AM
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Files	**Size**	**Date & Time**
MESSAGE	420	4/17/2009 11:25:39 AM
LNP Draft RAI 2157 - 2.4.1.doc	29690	
LNP Draft RAI 2159 - 2.4.3.doc	33274	
LNP Draft RAI 2160 - 2.4.4.doc	30202	

Options
Priority: High
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information No. 2157
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 02.04.01 - Hydrologic Description
Application Section: FSAR Section 2.4

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.01-***

To meet the requirements of GDC 2, 10 CFR 52.17 and 10 CFR Part 100, the applicant should describe the process followed to determine the conceptual models of the interface of the plant with the hydrosphere and those of the hydrologic causal mechanisms to ensure that the most conservative of plausible conceptual models has been identified.

02.04.01-***

To meet the requirements of GDC 2, 10 CFR 52.17 and 10 CFR Part 100, the applicant should include a complete description of all spatial and temporal datasets used in support of its conclusions regarding safety of the plant. Data and descriptions should be sufficiently detailed to allow the staff to review the applicant's conclusions regarding the safety of the plant and to determine of the design bases of safety-related SSC. Please provide input and output files associated with the HEC-HMS and HEC-RAS model simulations performed for the FSAR.

02.04.01-***

To meet the requirements of GDC 2, 10 CFR 52.17 and 10 CFR Part 100, the applicant should include a complete description of all spatial and temporal datasets used by PEF in support of its conclusions regarding safety of the plant. Data and descriptions should be sufficiently detailed to allow the staff to review the applicant's conclusions regarding the safety of the plant and to determine of the design bases of safety-related SSC. Please provide clarification regarding the use of the term MSL in the FSAR and clearly state the units of measurements and the contour interval on all the pertinent figures in the FSAR.

DRAFT

Request for Additional Information No. 2159
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 02.04.03 - Probable Maximum Flood (PMF) on Streams and Rivers
Application Section: FSAR Section 2.4

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.03-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, estimates of the following characteristics are needed, and should be based on conservative assumptions of hydrometeorologic characteristics in the drainage area: (a) the area of the watershed used to estimate flooding in streams and rivers, (b) the total depth of PMP and the PMP hyetograph, (c) the maximum PMF water surface elevation in streams and rivers with coincident wind-waves, and (d) hydraulic characteristics that describe dynamic effects of PMF on SSC important to safety. Please describe the process followed to determine the conceptual models for floods in streams and rivers and in site drainage system to ensure that the design basis flood is based on the most conservative of plausible conceptual models.

02.04.03-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, the applicant should include information concerning design basis flooding at the plant site, including consideration of appropriate combinations of individual flooding mechanisms in addition to the most severe effects from individual mechanisms themselves. Please clarify the combined events criterion used to identify the design basis flood at the LNP site and to explicitly state the value of the design basis flood in the FSAR including a description of any adjustment made for long-term sea level rise.

02.04.03-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, estimates of the following characteristics are needed, and should be based on conservative assumptions of hydrometeorologic characteristics in the drainage area: (a) the area of the watershed used to estimate flooding in streams and rivers, (b) the total depth of PMP and the PMP hyetograph, (c) the maximum PMF water surface elevation in streams and rivers with coincident wind-waves, and (d) hydraulic characteristics that describe dynamic effects of PMF on SSC important to safety. Please justify (1) the use of unit hydrograph method for estimating the runoff from precipitation falling on the surface of Lake Rousseau and (2) the appropriateness of Snyder's unit hydrograph under PMP conditions given the assumption of linearity in the unit hydrograph approach of runoff generation.

DRAFT

02.04.03-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, estimates of the following characteristics are needed, and should be based on conservative assumptions of hydrometeorologic characteristics in the drainage area: (a) the area of the watershed used to estimate flooding in streams and rivers, (b) the total depth of PMP and the PMP hyetograph, (c) the maximum PMF water surface elevation in streams and rivers with coincident wind-waves, and (d) hydraulic characteristics that describe dynamic effects of PMF on SSC important to safety. Please clarify the estimation of baseflow used in the determination of the PMF discharge.

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Request for Additional Information No. 2160
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 02.04.04 - Potential Dam Failures
Application Section: FSAR Section 2.4

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.04-***

To meet the requirements of GDC 2, 10 CFR 52.17, 10 CFR Part 100, and 10 CFR 100.23(d), an appropriate configuration of the cascade of dam failures and its potential to produce the largest flood adjacent to the plant site is needed. Flood waves produced by postulated dam failure scenarios should be routed to the proposed plant site to conservatively estimate the most severe floodwater surface elevation that may affect SSC important to safety. Please describe the process followed to determine the conceptual models for flood waves from severe breaching of upstream dams, domino-type or cascading failures of dams, dynamic effects on safety-related SSCs, loss of safety-related water supplies, sediment deposition and erosion, and failure of on-site water control or storage structures to ensure that the most conservative of plausible conceptual models has been identified.

02.04.04-***

To meet the requirements of GDC 2, 10 CFR 52.17, 10 CFR Part 100, and 10 CFR 100.23(d), an appropriate configuration of the cascade of dam failures and its potential to produce the largest flood adjacent to the plant site is needed. Please clarify the description of all existing and proposed water retaining and water control structures both upstream and downstream relative to the LNP site location and justify why failure of these may not affect flood elevations near the LNP site.

02.04.04-***

To meet the requirements of GDC 2, 10 CFR 52.17, 10 CFR Part 100, and 10 CFR 100.23(d), an appropriate configuration of the cascade of dam failures and its potential to produce the largest flood adjacent to the plant site is needed. Flood waves produced by postulated dam failure scenarios should be routed to the proposed plant site to conservatively estimate the most severe floodwater surface elevation that may affect SSC important to safety. Please clarify the steady flow methodology for analysis of the dam break-induced flood and to justify why the estimated flood water surface elevations are conservative.

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