

PMLevyCOLPEm Resource

From: Wilkins, Tillie [tillie.wilkins@pgnmail.com]
Sent: Monday, December 07, 2009 11:08 AM
To: Bruner, Douglas; Anderson, Brian
Cc: Snead, Paul
Subject: Supplemental Response to Levy Hydrology RAI 4.1.1-1
Attachments: NPD-NRC-2009-235 - Final Response to NRC.pdf

Our supplemental response to Levy Hydrology RAI 4.1.1-1 is attached. Please note that the Tech Memo is not attached to this message due to its large size.

Tillie Wilkins

Nuclear Plant Development Licensing

Progress Energy

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

**LEVY NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 52-029 AND 52-030
RESPONSE TO SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION REGARDING
THE ENVIRONMENTAL REVIEW – HYDROLOGY 4.1.1-1**

- References:
1. Letter from Douglas Bruner (NRC) to James Scarola (Progress Energy), dated June 23, 2009, "Supplemental Request for Additional Information Regarding the Environmental Review of the Combined License Application for the Levy Nuclear Power Plant, Units 1 and 2"
 2. Letter from Garry D. Miller (PEF) to U. S. Nuclear Regulatory Commission, dated August 12, 2009, "Response to Supplemental Request for Additional Information Regarding the Environmental Review – Hydrology 4.1.1-1", Serial: NPD-NRC-2009-182
 3. Letter from Garry D. Miller (PEF) to U. S. Nuclear Regulatory Commission, dated October 9, 2009, "Response to Supplemental Request for Additional Information Regarding the Environmental Review – Hydrology 4.1.1-1", Serial: NPD-NRC-2009-213

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits a supplemental response to the Nuclear Regulatory Commission's (NRC) supplemental request for additional information pertaining to Hydrology Request for Additional Information (RAI) 4.1.1-1 provided in Reference 1. A supplemental response to the NRC request is addressed in the enclosure.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (727) 820-4481.

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

Executed on December 2, 2009.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Elnitsky', written over a large, stylized flourish.

John Elnitsky
Vice President
Nuclear Plant Development

Enclosure/Attachment

Progress Energy Florida, Inc.
P.O. Box 14042
St. Petersburg, FL 33733

cc : Mr. Douglas Bruner, U.S. NRC Environmental Project Manager (w/3 copies of attachment)
U.S. NRC Region II, Regional Administrator (without attachment)
Mr. Brian C. Anderson, U.S. NRC Project Manager (without attachment)
Mr. Gordon A. Hambrick III, US Army Corps of Engineers (w/1 copy of attachment)

**Levy Nuclear Power Plant Units 1 and 2
Response to NRC Supplemental Request for Additional Information Letter
Regarding the Environmental Review, dated June 23, 2009**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
General-1	L-0507	July 17, 2009; Serial: NPD-NRC-2009-150
5.3.2.1-2	L-0503	July 29, 2009; Serial: NPD-NRC-2009-167
4.1.1-1	L-0504, L-0559 & L-0676	August 12, 2009; Serial: NPD-NRC-2009-182, October 9, 2009; Serial: NPD-NRC-2009-213 & supplemental response enclosed – see following pages
USACE-12	L-0506	July 22, 2009; NPD-NRC-2009-146
USACE-13	L-0505	July 22, 2009; NPD-NRC-2009-146

<u>Attachment</u>	<u>Associated NRC RAI #</u>	<u>Pages Included</u>
Tech Memo TMEM-106 Rev. 2	4.1.1-1	159

NRC Letter No.: ER-NRC

NRC Letter Date: June 23, 2009

NRC Review of Environmental Report

NRC RAI #: 04.01.01-1

Text of NRC RAI:

In an October 30, 2009 Conference Call held with NRC, clarifications were requested to previously submitted RAI's. The supplemental information for these clarifications is presented below:

1. The Floodplain Evaluation Bounding Analysis (Rev. 1) was revised to address Historic Basin Storage (HBS) by modifying Tables 4 and 5, and by revising Table 6. No clarifying discussion or definition of HBS is provided in the Bounding Analysis text; however, limited discussion is provided under Item 1 of PEF's 10/9/09 RAI supplemental response (page 4). Justify why the relevance of HBS to the issue of floodplain encroachment and compensation is not discussed in the Rev. 1 Bounding Analysis text. It seems that the HBS is estimated by subtracting the average ground elevation from the bottom of floodplain storage with a minimum of 0.5 ft. However, this rule does not agree with several HBS values reported in Table 4 of Rev 1. Provide a clear definition of HBS, supplemented by illustrations.
2. The FLUCCS compensation table provided under Item 2 of PEF's 10/9/09 RAI supplemental response (page 4), and Table 6 (Volume of Estimates for Potential Compensation Locations) provided on page 24 of the Rev. 1 Bounding Analysis both identify about 322 acres of potential floodplain compensation area available to offset floodplain encroachment. This area is less than half of the 707 acres of potential floodplain compensation area that was identified for the Rev. 0 Bounding Analysis (also page 24). However, Figure 7 identifying the location of the compensation areas is exactly the same for the Rev. 0 and Rev. 1 Bounding Analyses (both located on page 25 of their respective versions). Does Figure 7 of the Rev. 1 Bounding Analysis accurately portray the location of the potential floodplain compensation areas identified under Item 2 of PEF's 10/9/09 RAI supplemental response and Table 6 of the Rev. 1 Bounding Analysis?
3. Isolated floodplain units J1, K1, L1, P1, Q1, R1, S1, V1, B2, and C2 are excluded from the estimation of floodplain encroachment volume provided in the Rev. 1 Bounding Analysis. Based upon NRC staff conversations with FDEP and SWFWMD personnel, this exclusion appears to be in error, at least for estimation of HBS. Justify why it is not necessary to compensate for the loss of HBS incurred from the fill of isolated floodplain units. Have all upland HBS losses been adequately accounted and compensated for in the Rev. 1 Bounding Analysis?
4. The Rev. 1 Bounding Analysis states that 6 inches (0.5 feet) was assumed to be the minimum depth of fill for both floodplain units (page 5, first paragraph) and HBS units (footnote to Table 4, page 14). However, Table 5 (page 19) appears to show 3 instances where "Depth of Fill in Floodplains" was less than 0.5 feet. If these represent errors, provide revised estimates for Floodplain Fill Volume and HBS Volume. It also appears that the column 7 from Table 4 was brought into Table 5 as column 7. However, these two columns do not match in the two tables. Please explain.

5. Explain how "Bottom of Value Used" was calculated for each compensation area in Table 6 of the Rev. 1 Bounding Analysis (page 24).
6. Referencing Section 4.0 (Compensation Results) of the Rev. 1 Bounding Analysis, it is stated that 257.9 acre-feet of compensating storage is needed to offset encroachment (page 23). Why is compensation for HBS encroachment (another 62.2 ac-ft) not included in this estimate? At a minimum, would not 320.1 ac-ft (257.9 + 62.2) of compensating storage be required? And compensation requirements could be higher, depending upon issues associated with revisions to account for minimum depths of fill and HBS within isolated floodplain units, as described previously.
7. The Rev 1. Bounding Analysis does not demonstrate that "there is sufficient upland area on-site to provide cup-for-cup floodplain compensation" (page 23). Table 6 (page 24) identifies 316.4 ac-ft of estimated volume available for compensation. As noted above, a minimum of 320.1 ac-ft of compensation storage would likely be required, and this could be higher. No surplus compensation is available should site surveys of these candidate areas determine that some of these upland habitats are not low quality, or that threatened or endangered species are present (e.g., gopher tortoise).

PGN RAI ID #: L-0676

PGN Response to NRC RAI:

Item 1: The available volume of stormwater storage below the seasonal high groundwater (SHGW) was discussed during a September 17, 2009 NRC conference call and the HBS analysis was subsequently added to the RAI response. As a result, only the tables were updated in 338884-TMEM-106, Rev. 1. However, for 338884-TMEM-106, Rev. 2, which is included as an attachment to this RAI, the text was revised to clarify the floodplain and HBS discussion. The clarification includes the following points:

- HBS and floodplain volumes are defined in various ways by the Southwest Florida Water Management District (SWFWMD) depending on the landscape. With respect to the LNP site, the SWFWMD's definition of HBS is the volume of water storage below the natural landscape elevation (varies across the site) where stormwater runoff occurs by sheet flow from storage areas.
- The purpose of the bounding analysis was to demonstrate that there is enough land area to provide on-site floodplain compensation, if needed. The SWFWMD has two different compensation requirements: (1) floodplain compensation that is only accounted for above the SHGW elevation, and (2) HBS compensation to maintain recharge volumes from natural stormwater retention and recharge. Only the portions of fill above SHGW, whether floodplain or HBS, are cumulative for the purposes of providing compensation.
- The SWFWMD allows the use of the permanent pool of the stormwater ponds as HBS compensation. In the case of the LNP, this compensation will be sizeable. When additional floodplain areas are added, more HBS compensation can be made available by excavating a bit deeper below SHGW. This area would be a subset of the compensation areas required above SHGW.
- For ease of discussion, Table 4 in 338884-TMEM-106, Rev. 2 has been revised. HBS is assumed to have been present when the estimated SHGW (bottom of floodplain storage) was above the average ground elevation or when the average ground elevation was at or

above the estimated floodplain elevation. To be conservative and for consistency, a minimum value of 6 inches was assumed in Rev. 2 of the TMEM to estimate the amount of compensating HBS volume that may be required.

Item 2: A discrepancy was identified in the 338884-TMEM-106, Rev. 0 calculations and corrected in 338884-TMEM-106, Rev. 1. Figure 7 accurately portrays the location of the potential floodplain compensation areas identified under Item 2 of PEF's October 9, 2009 RAI supplemental response and in Table 6. An estimated 322 acres of uplands were identified as potential compensation for floodplain, as previously presented in 338884-TMEM-106, Rev. 1. For consistency with the fill calculations, the depth of compensation at each location was rounded to the tenth place, yielding 320.9 acre-feet of storage.

Item 3: The purpose of upland HBS is to maintain the opportunity for groundwater recharge. This requirement is separate and different from the floodplain encroachment volumes above SHGW, as discussed in Item 1. The permanent pool volume within wet detention stormwater ponds would be considered compensation for HBS. The text in 338884-TMEM-106, Rev. 2 has been revised to further explain HBS and to provide volume estimates for the isolated HBS (also known as upland HBS) at these map locations within the permanent pool volume estimated for proposed on-site stormwater ponds. The text in Rev. 2 of the TMEM adequately accounts for and addresses upland HBS losses.

Item 4: In 338884-TMEM-106, Rev. 2, Tables 4 and 5 have been revised for clarity. HBS depth, where present, assumes a minimum value of 6 inches, and the rows for Z1, A2, and D2 have been adjusted accordingly in Table 5.

Item 5: In Table 6 of 338884-TMEM-106, Rev. 1, "Bottom of Value Used" (column 8) was calculated using NRCS soils data and compared with the wetland and groundwater information of nearby impact locations for verification. The column headers for this table have been revised for clarification purposes. The "Bottom of Value Used" was changed to "Estimated SHGW Elevation" and the associated depth was rounded to the tenth place for consistency with fill calculations that used depths rounded to the tenth place.

Item 6: The text in 338884-TMEM-106, Rev. 2 provides clarification of the fill and compensation volumes for both floodplain and HBS. Small modifications to the calculations were made for ease of presenting data. In summary, impact above SHGW, whether technical floodplain or HBS volume, governs the compensation area required on-site. The information is summarized in Section 4, Conclusion, Heading LNP Site and On-Site Transmission, third paragraph.

Item 7: The revised text in 338884-TMEM-106, Rev. 2 provides further discussion to clarify the fill and compensation as discussed in Item 6.

Associated LNP COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

CH2M HILL Technical Memorandum 338884-TMEM-106, Floodplain Evaluation Bounding Analysis, Revision 2 (159 pages)