PMLevyCOLPEm Resource

From: Bruner, Douglas
Sent: Thursday, July 30, 2009 8:04 AM
To: Hambrick, Gordon A SAJ
Cc: Smith, Michael Alan; ellen.kennedy@pnl.gov; Wyngarden, Stephen; Moser, Michelle; LevyCOL Resource
Subject: Response to RAIs USACE 12 and 13 - Levy
Attachments: ML0920800761 RAI USACE-12 and 13.pdf

Don,

FYI.

Doug

Hearing Identifier: Levy_County_COL_Public
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From: Bruner, Douglas

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Progress Energy

Serial: NPD-NRC-2009-146
July 22, 2009

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

LEVY NUCLEAR POWER PLANT UNITS 1 AND 2
NRC DOCKET NOS. 52-029 AND 52-030
RESPONSE TO SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION REGARDING THE ENVIRONMENTAL REVIEW – RAI USACE-12 AND RAI USACE-13

Reference: 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"

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits our response to the Nuclear Regulatory Commission's (NRC) supplemental request for additional information pertaining to Request for Additional Information (RAI) USACE-12 and RAI USACE-13 per the referenced letter. A response to the NRC request is addressed in the enclosure.

If you have any 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 22, 2009.

Sincerely,

Garry D. Miller
General Manager
Nuclear Plant Development

Enclosure

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

Progress Energy Carolinas, Inc.
P.O. Box 1551
Raleigh, NC 27602

D094
NRO

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

NRC RAI #	Progress Energy RAI #	Progress Energy Response
USACE-12	L-0506	Response enclosed – see following pages
USACE-13	L-0505	Response enclosed – see following pages

NRC Letter No.: ER-USACE

NRC Letter Date: June 23, 2009

NRC Review of Environmental Report

NRC RAI #: USACE-12

Text of NRC RAI:

Provide anticipated completion date for the conceptual and final wetland mitigation plan. Provide the conceptual and final wetland mitigation plan in accordance with 33 CFR Part 332.

a) Summarize all project-related impacts to wetlands (acreage and Uniform Mitigation Assessment Methodology (UMAM) functional losses from site impacts, associated facilities impacts and floodplain compensation impacts);

b) Identify all sites where the mitigation will occur;

c) Provide information and justification for any proposed mitigation based on the watershed approach. The conceptual mitigation plan submitted as part of the Site Certification Application (SCA) does not appear to conform to the Mitigation Rule, specifically out-of-basin mitigation is proposed for much of the offsite project facilities. According to 33 CFR Part 332.3c(1) a watershed approach is defined as follows: "Watershed approach to compensatory mitigation. (1) The district engineer must use a watershed approach to establish compensatory requirements in DA permits to the extent appropriate and practicable. Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate watershed plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources. The ultimate goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection on compensatory mitigation sites."

d) Delineate all wetlands on the mitigation sites and assess their UMAM functions;

e) Describe the components of the mitigation plan to be implemented. Note that mitigation could be achieved through wetland creation, wetland enhancement, wetland restoration, or by purchasing mitigation credits from an approved mitigation bank;

f) Provide a UMAM analysis demonstrating that the unavoidable wetland impacts are adequately mitigated for;

g) Describe a monitoring plan with success criteria for the mitigation wetlands; and

h) Present a schedule for implementing and monitoring the wetland mitigation plan.

PGN RAI ID #: L-0506

PGN Response to NRC RAI:

A conceptual mitigation plan was provided for agency review and information on January 13, 2009. According to Condition XXIV of the Draft Conditions of Certification (*Amended 3/19/09*), the Final Mitigation Plan is to be submitted to the Florida Department of Environmental Protection for review and approval within 180 days following Site Certification. The Siting Board Hearing is scheduled for August 11, 2009, resulting in an expected date for final plan submittal of February 2010. Before finalizing the plan, the final set of impacts will be determined; UMAMs

will be performed on any impact areas not previously assessed; final mitigation site needs will be determined; the mitigation sites will be acquired (either in fee or by option pending acquisition); final mitigation site analyses will be performed; and final design developed. Once the final design is developed it will be provided for federal and state agency review, comment and approval.

A) The impacts and UMAM scores associated with the project, as presently understood, are listed in the table "UMAM Scores for Wetland Impact Area," in Attachment One of the Conceptual Mitigation Plan. As wetland impacts are finalized, those will be verified, and any changes will be reflected in a revised impacts table as part of the final mitigation plan.

B) At present as described by the mitigation plan, the potential mitigation areas are as follows: on-site, Lybass property, Robinson property, portions of the Goethe State Forest, and two parcels located adjacent to Goethe. Other appropriate properties may also be considered if identified prior to mitigation plan finalization. The property(ies) to be acquired will be determined in the next several months. At that time, the final configuration of the mitigation site will be known.

C) The mitigation plan for this project has been developed using the watershed approach as described in the 33 Code of Federal Regulations (CFR) Parts 332 and 230. The first preference in the Corps' and EPA's mitigation rules is for mitigation banks that occur in the project watershed; while the second preference is for in-lieu-fee projects. There are two mitigation banks in the project vicinity and no in-lieu-fee projects. The Upper Coastal Mitigation Bank (UCMB) and Tampa Bay Mitigation Bank (TBMB) are partially (state-only) or fully permitted and located in the vicinity of the overall project. At this time, UCMB has its state banking permit but not its federal permit. Once permitted, it is anticipated that few federal wetland credits will be available at UCMB. TBMB has 31 state saltwater wetland credits available for use but no federal credits. State-authorized credits may be available in a few years, once they are deemed successful by the state. The TBMB credits were determined pre-UMAM, so the potential amount would need to be re-evaluated if this option is deemed appropriate.

No government-approved watershed plan exists for the vicinity of the Levy Nuclear Plant Units 1 and 2 (LNP) site, and as discussed above, no suitable mitigation banks or in-lieu-fee's available for use. The direct, indirect and cumulative impacts are discussed in Section 2 of the Conceptual Mitigation Plan.

The project impacts associated with the plant are consolidated in a contiguous area. The associated linear facilities, including the heavy haul road, access roads, transmission lines and blowdown pipeline, are routed to minimize environmental impacts to the greatest extent practicable. The vast majority of impacts for the overall project are located within the Waccasassa and Withlacoochee watersheds, with lesser potential impacts in the Upper Coastal, Hillsborough, and Tampa Bay Basins.

Impacts for transmission lines have been estimated by identifying all impacts as permanent, although some of these will in fact be temporary impacts. Potential wetland impacts associated with the transmission lines are characterized by size, watershed and cover type in the following tables. The cover types are based upon Southwest Florida Water Management District (SWFWMD) maps and the final assessment of cover types will be made when the final ROWs are surveyed.

Potential Impacts of Transmission Lines by Watershed

FLUCFCS Code	Upper Coastal	Hillsborough	Tampa	Waccasassa	Withlacoochee	Acreage Total
510	0.97	0.44	0.13		0.50	2.04
520	0.89		0.89			1.78
530	0.21	2.25	4.03		0.10	6.58
534			0.36			0.36
615	12.77	3.96	4.14		25.69	46.56
621	3.70	3.90	2.73	63.71	121.88	195.92
624					2.56	2.56
630	24.83	3.93	5.20		0.11	34.07
631		0.05				0.05
641	17.81	26.13	6.28		9.14	59.36
643	1.50	0.27	0.62	0.12	2.81	5.33
Grand Total	**62.68**	**40.93**	**24.37**	**63.83**	**162.80**	**354.61**

When the transmission line impacts are assessed on a per-impact site basis, the following results:

Watershed	Fill	Clearing
Waccasassa		
Impacts, number (N)	1	15
Median. Ac./Impact	0.001	1.029
Total Acres	**0.00**	**54.43**
Withlacoochee		
Impacts, number (N)	32	20
Median. Ac./Impact	0.176	1.026
Total Ac.	**10.14**	**114.44**
Upper Coastal		
Impacts, number (N)	61	9
Median. Ac./Impact	0.163	0.612
Total Ac.	**16.37**	**20.32**
Hillsborough		
Impacts, number (N)	90	43
Median. Ac./Impact	0.104	0.082
Total Ac.	**18.94**	**7.14**
Tampa		
Impacts, number (N)	60	29
Median. Ac./Impact	0.102	0.109
Total Ac.	**10.04**	**7.12**
TOTAL Number Impacts (N)	**244**	**116**
Total Acres	**55.50**	**203.44**

As illustrated by these tables, the impacts expected due to the transmission lines comprise many small impacts dispersed over a large area. The median size of potential clearing impacts are estimated to range from only 0.082 to 1.029 ac. over 116 locations. The median size of fill impact areas (such as roads) is even smaller, ranging from .001 to 0.176 ac. over a total of 244 locations.

Because of the small size and dispersed pattern of individual proposed transmission line impacts, these impacts represent a minimal loss of wetland functions across the watershed.

Watershed Approach

The proposed mitigation approach is to restore wetland and aquatic ecosystem function on a large scale in proximity to the great majority of the impacts. The chosen location will connect two regionally significant resources: Goethe State Forest and the Withlacoochee River. The mitigation will be apportioned between the Waccasassa and Withlacoochee watersheds, where the majority of the impacts occur and where they can provide the greatest net positive benefit to the watershed and ecosystem. In addition to the wetlands and waters restoration aspects of the project, the associated upland communities will also be restored to and managed in their native condition.

As mentioned above and as described in the project documentation, the project area is an intensively managed pine plantation (on-site and partially off-site), and most off-site impacts are linear and will primarily result from clearing. Areas that are not planted in pine have been logged, so that the habitat in the project area is of low to moderate quality. By restoring a large expanse of intensively managed pine plantation to native communities, the mitigation project will reinstate a suite of native habitat and ecosystem functions to the area on a large, regionally significant scale. These will include restoration of listed species habitat, water quality functioning, primary productivity, detrital export from wetlands, non-listed plant and animal species populations and communities, natural flood storage and attenuation, and a variety of other wetland and aquatic habitat functions.

D) Wetlands on the Progress Energy properties (project site and adjacent parcel to the south) and on the Robinson parcel have been field-delineated, so there is a very good understanding of their present limits. Permission to delineate wetlands on the other private parcels has not been received yet, so no site-specific work has been performed to date. Estimated wetland lines were completed on the Goethe State Forest wetlands; these can be more specifically delineated as the project moves forward. For wetlands where the consulting team has had landowner permission to conduct field assessments, site-specific UMAMs have been performed. Based on analysis of aerial photography and GIS data (soils, land cover, NWI, etc.) and knowledge of conditions on neighboring sites UMAM scores have been estimated for the other properties in this interim period. Once the final mitigation sites have been selected, if the mitigation wetlands have not been the subject of site-specific field work, they will be delineated and assessed.

E) The mitigation plan is based primarily upon a wetland restoration approach. As discussed on June 18, 2009, with Don Hambrick/U.S. Army Corps of Engineers (USACE), the required floodplain compensating storage areas (FCSAs) may include a wetland mitigation function. These FCSAs would be based on a wetland creation approach and would be proposed as mitigation where they would perform as natural wetlands in the landscape, as opposed to engineered, structurally-controlled systems.

As described in Section 6 of the Conceptual Mitigation Plan, the principal mitigation activities include the following:

- Harvesting and thinning of planted pines to approximate densities that would occur naturally and planting native pines where appropriate.
- Assessment of bedded areas to determine if bed removal would be beneficial; removal if there will be a net improvement.

- Nuisance species control for invasive plants and damaging wildlife.
- Planting of appropriate native species if natural recruitment is not occurring.
- Prevention of further silviculture impacts through establishment of a conservation easement.
- Protection of wildlife through habitat enhancement and preservation of wildlife corridors.
- Placement of low water crossings, replacement culverts, and road segment removals to restore natural surface water flow.
- Partial ditch plug filling along roadside ditches to eliminate drainage from existing wetlands and to restore natural sheet flow patterns.
- Implementation of a monitoring program to document mitigation success.

F) An extensive UMAM analysis was conducted in support of the mitigation plan. That analysis was completed on the proposed on-site, Robinson parcel and Goethe State Forest mitigation areas. Those analyses, including assumptions and scoring, are described in detail in Sections 7.3 to 7.8 of the Conceptual Mitigation Plan. The analysis shows that several configurations of the proposed mitigation properties have more than enough capacity to offset the project's wetland functional losses.

Once the final site configuration for the mitigation area has been determined, field analyses will be performed on any site that has not been the subject of site-specific field work (see response to (D) above). At that time the UMAM analysis will be refined to indicate the final analysis. The UMAM analysis will be an integral part of informing and determining the final site size and configuration.

G) The mitigation plan is based on the restoration and re-establishment of wet flatwoods, basin and dome swamps, bottomland forest, floodplain forest, depressional marsh and mesic flatwoods. In general terms, restoration of the LNP, Lybass and Robinson sites generally entails converting the pine plantations to native ecological communities through appropriate tree removal and restoration of the primary abiotic processes (hydrology and fire) that mold this type of landscape. Short-term activities will focus on hydrologic restoration and re-establishment of wetland vegetative communities. Restoration of a natural fire regime will help in restoring the vegetation and habitat dynamics of the site. The success, or performance, of the site will be measured through an annual monitoring program and will be based on the types of activities undertaken as well as the type of community being restored.

The types of activities that will be conducted are described on page 26 of the January 2009 mitigation plan and are excerpted in (E) above.

The general success criteria are as follows:

> The mitigation project shall be deemed successful when all of the following criteria have been met after a period of at least one full year without intervention in the form of artificial manipulation of water levels or replanting of desirable vegetation. The mitigation project shall enhance or restore the following community types: wet flatwoods, basin and dome swamps, bottomland forest, floodplain forest, depressional marsh and mesic flatwoods. This plan was developed using historical aerial photographs, soils maps, and

existing condition observations. As such, the expectation of actual area for each type of system is approximate. The ultimate goal of the plan is to restore natural processes to the site such that a self-sustaining, functioning ecosystem results. This concept shall override the specific acreage requirements in a general fashion.

When the final mitigation plan details are approved by the agencies, the final performance (success) criteria will be defined.

The performance monitoring will be done using transects and periodic quadrats or plots that are monitored on an annual basis. Specific locations and final details of the plan will be agreed-upon by Progress and the agencies once the final site has been determined and the mitigation plan is finalized. However, much of the plan can be described at this stage. To assess performance of the restoration project, a series of quantitative criteria will be measured and a standard series of qualitative criteria will be recorded. These criteria will include vegetative species composition and cover by stratum, hydrologic indicators, exotic and invasive species status and wildlife observations. The fundamentals of the monitoring plan are described below.

Transects

Permanent transects will be located within the project area so that they traverse portions of every proposed vegetative community across the site. The location of the transects will be located on a base map by staff using GPS equipment and downloading the locations to be used in base mapping.

Types of Data

The same types of data will be collected during each monitoring effort. Field data collected at each sampling point include:

- Non-vegetative ground cover data: percent water cover, water depth, percent pine needle and litter, and percent bare ground.
- Vegetative data by stratum, including identification to species, if possible, and percent cover. Strata are canopy, understory or shrub layer, and ground cover.
- Geographic positioning system (GPS) location record (collected during the baseline monitoring effort).

All non-native (exotic) vegetation will be identified to species and a GPS location record will be taken.

Photo documentation of the project will be done at selected sampling points. Weather conditions for the days of data collection will be noted.

Data Collection Methods

<u>Ground Cover Data: 1-Meter-Square Sampling Quadrat</u>

At each sampling point, the percent cover of non-vegetative and vegetative ground cover species are visually estimated within a 1-meter-square area (quadrat). The 1-m^2 ground cover quadrat is located in the southwest quadrant from the center point marking the plot location. Percent covers are estimated to 1 percent between 1-5% and between 95-100% and to the nearest 5% for anything between 5-95%.

Non-vegetative ground covers included in the estimates are water, litter, and bare ground. The estimates for these types of ground cover do not always sum to 100 percent as pine needles frequently float on water, if present, and these two cover types are estimated separately.

Vegetative ground cover species included in the estimates are defined as all herbaceous and those woody individuals less than 1 meter in height. Percent cover for individuals outside the quadrat is included for individuals that lean over the quadrat and, if woody, are less than 1 meter in height. Ground cover species are identified to the lowest taxonomic category possible and then percent cover is estimated for each taxonomic category identified. The smallest percent cover recorded is 1 percent (i.e., small individuals occurring within the quadrat but covering less than 1 percent are recorded as 1 percent).

Ground Cover Data: 2-Meter-Radius Sampling Plot

At each sampling point, a 2-meter radius is established with the stake as the center point of the circle. The presence of any vegetative ground cover species (see definition above) occurring within the 2-meter radius that was not observed in the 1-m^2 quadrat is recorded on the field notes. Percent cover is not estimated for these species. The intent of this sampling is to rapidly obtain a more accurate view of species richness.

Shrub or Understory Data: 25-Meter-Square Sampling Quadrat

At each sampling point, the percent cover of the understory layer/shrub species is visually estimated within a 25-meter-square area (quadrat). The 25-m^2 shrub cover quadrat is located in the southwest quadrant from the center. The 1-m^2 quadrat is nested within the 25-m^2 quadrat.

Shrub species included in the percent cover estimates included all woody species 1 meter or greater in height and less than 3 inches in diameter at breast height (dbh). Specimens greater than 3 inches dbh are eliminated from the shrub cover estimate to avoid including them in both the shrub/understory and canopy strata estimates.

Shrub layer species are identified to the lowest taxonomic category possible and then percent cover is estimated for each taxonomic category identified. The smallest percent cover recorded is 1 percent (i.e., small individuals occurring within the quadrat but covering less than 1 percent are recorded as 1 percent). Overall cover by shrubs is estimated. The cover estimates of the individual shrub species frequently sum to greater than the overall shrub cover estimate as individuals occur at different heights and taller individuals frequently overtop shorter ones.

Canopy Data: Densiometer Readings

At each sampling point, the percent cover of the canopy layer is estimated by averaging four densiometer readings taken from the four cardinal directions: north, east, south, and west. The densiometer is held at level 12-18 inches in front of the body at elbow height. The monitor assumes four equidistant dots within each square on the face of the densiometer and counts all the dots that show open canopy. There are 96 dots. The total count is then multiplied by 1.04 to obtain the percent of overhead area not covered by canopy. The difference between this number and 100 is the percent canopy cover estimation. Canopy species are noted on the field sheets, but percent cover is not estimated separately for individual species.

Monitoring Schedule and Reporting Requirements

All the data described in the preceding section, except the GPS data, will be collected during each monitoring effort. Monitoring will be conducted annually, typically in early fall (October) in order to identify the greatest potential number of ground cover species.

After each monitoring effort is completed, a report of the monitoring results will be prepared and submitted to the appropriate regulatory agencies.

H) A detailed schedule for implementation of mitigation and monitoring activities is provided in the January 2009 Mitigation Plan (Section 6.2 and Table 6-1). The schedule outlines specific activities and timeframes for Years 1 through 4, the time frame for project implementation. Commencement of the mitigation activities is contingent upon the timing of the Site Certification and subsequent construction authorizations. According to Condition XXIV of the Draft Conditions of Certification (*Amended 3/19/09*), the Final Mitigation Plan is to be submitted to the Department for review and approval within 180 days following Site Certification. The Siting Board Hearing is scheduled for August 11, 2009, which leads to an expected date for final plan submittal as February 2010. Mitigation activities will commence as soon as the Final Mitigation Plan is approved by the Department and all construction authorizations are obtained from state, federal and local government agencies. Therefore, at the very earliest, mitigation activities will begin in the 1st quarter of 2010. However, any delays in the approval process will also postpone mitigation.

Implementation of certain mitigation activities may also be dictated by the wet season or dry season. For example, supplemental plantings will be conducted only in the wet season to ensure that the plantings become established. Prescribed fire will typically be conducted during the wet season to alleviate concerns for wildfires, although some burning may be done during the dry season depending on the fuel loads and pertinent field conditions. Some activities such as selective logging, mechanical removal and ditch plugging need to be conducted in dry conditions to alleviate concerns for turbidity and soil disturbance.

This schedule will be refined with the submittal of the Final Mitigation Plan expected in February 2010.

Associated LNP COL Application Revisions:

None.

Attachments/Enclosures:

None.

NRC Letter No.: ER-USACE

NRC Letter Date: June 23, 2009

NRC Review of Environmental Report

NRC RAI #: USACE-13

Text of NRC RAI:

Provide the anticipated completion date for the additional terrestrial resource assessments.

PGN RAI ID #: L-0505

PGN Response to NRC RAI:

Additional terrestrial surveys will be required in the vicinity of the transmission line routes and along the main access road. In addition, preconstruction surveys for gopher tortoises will be required within required timeframes before construction, in accordance with current Florida Fish and Wildlife Conservation Commission guidelines.

The field work on the transmission line routes is expected to be completed by the end of 2009. This work would include wetland delineations, detailed habitat mapping, and an assessment of the potential for threatened and endangered species to occur along the right of ways.

Detailed threatened and endangered surveys are not expected to be conducted in 2009 but will depend on the results of the 2009 surveys. A plan will be developed to determine which detailed surveys need to be conducted and when in order to comply with species survey guidelines under the conditions of the State of Florida Site Certification and to coordinate with the construction timeframes of the facilities. This plan is anticipated to be completed in early 2010 based on the completion 2009 surveys.

Terrestrial resource investigations along the main access road segment consisting of wetland and threatened and endangered species evaluations will be conducted by December 2009. Results of these surveys will be used to minimize potential adverse impacts to terrestrial resources as a result of road construction.

Associated LNP COL Application Revisions:

None.

Attachments/Enclosures:

None.