PMLevyCOLPEm Resource

From: Snead, Paul [paul.snead@pgnmail.com]
Sent: Friday, January 16, 2009 11:55 AM
To: Bruner, Douglas
Subject: Response to Levy Info Needs
Attachments: Compiled NPD-NRC-2009-007.pdf

Doug:

Per our discussion, attached is the Response to the Levy ER Audit Information Needs that is being overnighted to the Document Control Desk. This does not include the Attachment 1 CD with referenced pdf files. Two copies of the Attachment 1 CD are being overnighted to you along with the responses.

Please let me know if you have any questions once you and your team have had a chance to review.

Thanks,

Paul Snead
Lead Environmental Specialist
Nuclear Plant Development & License Renewal
Progress Energy
paul.snead@pgnmail.com
(919) 546-2836

Hearing Identifier: Levy_County_COL_Public
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Subject: Response to Levy Info Needs
Sent Date: 1/16/2009 11:55:23 AM
Received Date: 1/16/2009 11:56:52 AM
From: Snead, Paul

Created By: paul.snead@pgnmail.com

Recipients:
"Bruner, Douglas" <Douglas.Bruner@nrc.gov>
Tracking Status: None

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Recipients Received:

Progress Energy

Serial: NPD-NRC-2009-007
January 16, 2009

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

Subject: Levy Nuclear Power Plant Units 1 and 2
NRC Docket Number 52-029 and 52-030
Supplemental Information for Environmental Audit –
Information Needs with Attachments

Reference: Letter from James Scarola (PEC) to NRC, dated July 28, 2008, "Application for Combined License for Levy Nuclear Power Plant Units 1 and 2, NRC Project Number 756"

Ladies and Gentlemen:

In the referenced letter, Progress Energy – Florida (PEF) submitted an application for a combined construction and operating license (COL) for two AP1000 advanced pressurized water reactors (Levy Units 1 and 2) to be located at the Levy Nuclear Power Plant site in Levy County, Florida.

During December 2-5, 2008, an NRC team conducted an Environmental Audit to gather information to assist in the review of the Environmental Report (ER) submitted as a part of the application. The purpose of this letter is to submit information discussed during the audit and requested by the NRC team.

Enclosure 1 provides a listing of information available in the Progress Energy-provided reading rooms as of January 9, 2008. Enclosure 2 provides responses to information needs that the NRC identified prior to and during the audit. Enclosure 3 provides a list of requested files noted in the responses that are included in the attached CD. The first file is an index for the files showing the topic area, information or material requested, and the corresponding file names. All files have been prepared in accordance with NRC electronic submittal guidance. A pre-flight report is included as Enclosure 4 that lists the files that do not pass pre-flight, but are deemed acceptable due to rescanning/OCR efforts, text being word searchable, clarity/legibility of high quality, and embedded photos and images.

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 January 16, 2009.

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

Sincerely,

Garry D. Miller
Manager – Nuclear Plant Development

Enclosures/Attachment

DBW/PBS

Cc (w/2 of attached CD):

Mr. Doug Bruner, U.S. NRC Environmental Project Manager

cc (w/o attached CD)

U.S. NRC Director, Office of New Reactors/NRLPO
U.S. NRC Office of Nuclear Reactor Regulation/NRLPO
U.S. NRC Region II, Regional Administrator

Enclosure 1 to NPD-NRC-2009-007

Inventory of Reading Room Materials for Levy as of 01/09/2009

INVENTORY OF READING ROOM MATERIALS FOR LEVY as of 01/09/2009

Doc Type	Folder Title/Doc Number	Doc Title
Calc	LNG-GW-GLC-001	LNP Transportation Analysis
Calc	LNG-0000-X3C-001	Potentiometric Surface Map
Calc	LNG-0000-X7C-003	Calculation for Aquifer Test
Calc	LNG-0000-X7C-004	Groundwater Vertical Gradients
Calc	LNG-0000-X7C-005	Water Level Measurements within the Vicinity of the LNP Proposed North and South Reactors
Calc	LNG-0000-X7C-006	Groundwater Velocity and Flux Calculations
Calc	LNG-0000-X7C-007	Local PMP Calculation
Calc	LNG-0000-X7C-008	Probable Maximum Precipitation for the LNP Site
Calc	LNG-0000-X7C-009	Probable Maximum Flood (PMF) for the LNP Site
Calc	LNG-0000-X7C-010	Probable Maximum Hurricane Calculation
Calc	LNG-0000-X7C-038	Calculation for Groundwater Slug Test (3 BINDERS)
Calc	Erin Report No. C573070003-8044	Severe Accident Consequence Analysis (MACCS2 Model) for Levy County Site Combined Operating License (COL) Application
Calc	LNG-0000-GEC-001	Hazards Analysis - Levy
Calc	LNG-0000-GLC-001	FGT Gas Pipeline Analysis –Levy
Calc	LNG-0000-GLC-002	Short Term Accident χ/Q Values
Calc	LNG-0000-GLC-003	Liquid Radwaste Tank Failure (COL Item 15.7-1)
Calc	LNG-0000-N5C-001	Dose to Biota 1yr
Calc	LNG-0000-N5C-002	DBA Accident Doses ER Section 7.1
Calc	LNG-0000-N5C-003	Liquid Effluent Doses & Concentrations
Calc	LNG-0000-N5C-004	Gaseous Effluent Doses & Concentrations
Calc	LNG-0000-X0C-001	Calculation of Population Distribution (2 binders)
Calc	LNG-0000-X0C-012	Calculation of Agricultural Statistics for LNP Units 1 and 2
Calc	LNG-0000-X7C-012	Calculation of Aquatic Statistics and Cooling Water Discharge Dilution Factors
Calc	LNG-0000-X7C-027	HEC RAS Model of Barge Canal
Calc	LNG-0000-X7C-035	Aquatic Sampling Data - Event 1
Calc	LNG-0000-X7C-037	Shear wave velocity variation within 120 feet below finished grade
Calc	LNG-0000-XMC-001	Calculation of Ocean Current Velocity Magnitude and Direction (5 binders)
Calc	LNG-CWS-GEC-005	Conceptual Design Calculation for the CWS Blowdown Being Discharged at Crystal River
Calc	LNG-VES-GEC-001	Control Room χ/Q Values – Levy
CD/DVD		FSAR SECTION 2.4 References
CD/DVD		Cross Florida Barge Canal (CFBC) 62 (Water Quality) Analytical Data Files (CD) .pdf and .doc versions
CD/DVD		ER References (DVD)
Drawing	LNG-0000-XG-001	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-002	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-003	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-004	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-005	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-006	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-007	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-008	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-009	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)

INVENTORY OF READING ROOM MATERIALS FOR LEVY as of 01/09/2009

Doc Type	Folder Title/Doc Number	Doc Title
Drawing	LNG-0000-XG-010	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-011	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-012	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-013	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-014	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-015	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-016	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-017	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-018	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-019	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-020	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-021	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-022	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-023	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-024	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-025	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-026	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Drawing	LNG-0000-XG-027	Conceptual Grading and Drainage Drawing (ALL 27 DRAWINGS ARE IN ONE FOLDER)
Misc	Hydro Info Need #38	Hsu2004, Hsu2006
Misc	Hydro Info Need #39	338884-TMEM-074 Rev 1
Misc	Hydro Info Need #41	MW1S, MW2S, MW3S, MW4S, MW5S, MW6D, MW7S, MW8D, MW9S, MW10D, MW11S, MW12D, MW13S, MW14D, MW15S, MW16D,OW-1, OW-2, OW-3, OW-4, OW-5, OW-6, OW-7, PW-1
Misc	Hydro Info Need #42	Figure 1, Figure 2
Misc	Hydro Info Need #46	SWFWMD Pot Map 02006-1009
Misc	Hydro Info Need #53	Figure 1, Figure 2, Figure 3, Figure 4, Figure 5
Misc	Hydro Info Need #54	Hernando Ord #94-8, Pages From NUREG_CR-3332
Misc	Hydro Info Need #62	EAP 600_X-89_050, USGS Floridan Aquifer System 2, USGS Floridan Aquifer System, USGS Water Resources Invest Report 93-4171
Misc		UFA with and without LNP 20081031
Misc		CREC NPDES Permits (CR 1, 2 & 3 and CREC 4 & 5)
Misc		MET TOWER Maintenance Paperwork
Misc		MET Tower System Documentation
Misc		ER Correspondence Binder
Misc	338884-DIT-014	Distances from LNP Safety Related Structures to FGT Pipelines -LNG-0000-X2C-001
Procedure	EVC-HOCO-00001	Progress Energy, Inc. Environmental Policy
Procedure	EVC-SUBS-00021	PESTICIDES
Procedure	EVC-SUBS-00022	Land Disturbing Activities

INVENTORY OF READING ROOM MATERIALS FOR LEVY as of 01/09/2009

Doc Type	Folder Title/Doc Number	Doc Title
Procedure	MNT-TRMX-00176	Transmission Vegetation Management Program
Report	Hydro Info Need #15	Florida Siting Study
Report	LNG-0000-XGR-001	Conceptual Grading and Drainage Report
Report	LNG-G1-X7S-001	Report on the ground water pumping test at the locations of the nuclear islands.
Report		CR 316b Demonstration (ER Reference 5.3-001 "Final Report-Crystal River 316 Studies," January 1985, Shaw Stone & Webster, prepared for Florida Power Corporation)
Report		Water Control Plan for Inglis Project Works
Report		Structure Profile for the Inglis Bypass spillway
Report		Structure Profile for the Inglis Main Dam
Report		Projections of Florida Population by County, 2005-2030 Bureau of Economic and Business Research (BEBR) Vol 39, Bulletin 144, Feb 2006
Report	LNG-CWS-GER-001	Conceptual Design and Calculations for Levy Circulating Water and Raw Water Systems
Report	LNG-CWS-GER-004	Blowdown Water System Conceptual Design
Report	LNG-G2-GER-001	Heat Rejection Study
Report		Transportation Analysis Levy County Nuclear Power Plant (Lincks & Associates, Inc)
Report		DRAFT Crystal River Power Plant Fish Impingement Study Report, March 3, 2008 Kinetrics Report: 012974-001-RA-001-R00
Tech memo	338884-TMEM-021	Potential Occurrence of Protected Species at the Levy Nuclear Plant Site, Levy County FL
Tech memo	338884-TMEM-022	Cultural Resources Survey of 300 Acres at the Proposed Progress Energy Nuclear Plant, Levy County, Florida
Tech memo	338884-TMEM-053	Land Use Survey - Air Pathway Receptors for LNP
Tech memo	338884-TMEM-054	LNP Gopher Tortoise Survey Results
Tech memo	338884-TMEM-057	LNP Cooling Tower Plume Visibility Analysis
Tech memo	338884-TMEM-058	LNP Cooling Tower Plume Deposition Analysis
Tech memo	338884-TMEM-066	Cultural Resources Investigations of the LNP Site and Associated Facilities
Tech memo	338884-TMEM-073	Preliminary Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives; Levy Nuclear Plant (LNP), Levy County, Florida
Tech memo	338884-TMEM-074	Revised Wellfield Layout and Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant
		Crystal River Salt Drift Study, Permit Number PSD-FL-007, May 24, 1995, Florida Power Corp.
Tech memo	338884-TMEM-076	Potential Changes to the Plume at CREC Resulting from LNP Discharge.
Work Plan	338884-WKPL-003	COLA Aquatic Sampling Workplan for Levy County Site. Progress Energy, Florida," November 21, 2008

Enclosure 2 to NPD-NRC-2009-007

Responses to Information Needs for Levy Environmental Audit

Responses to Information Needs

Levy Nuclear Plant Environmental Site Audit

December 2-5, 2008

Provided by

CH2M HILL

Contents

Resolution of Information Needs

Information Need	Status as of this Response
Acc-1	Resolved
Acc-2	Resolved
Acc-3	Resolved
Acc-4	Open
Acc-5	Resolved
Acc-6	Resolved
Acc-7	Resolved
Acc-8	Resolved
Acc-9	Resolved
Acc-10	Resolved
Acc-11	Resolved
Acc-12	Resolved
Acc-13	Resolved
Acc-14	Resolved
Acc-15	Resolved
Alt-1	Resolved
Alt-2	Resolved
Alt-3	Resolved
Alt-4	Resolved
Alt-A	Resolved
Alt-B	Resolved
Alt-C	Resolved
Alt-D	Resolved
Alt-E	Resolved
Alt-F	Resolved
Alt-G	Resolved
Alt-H	Open
Alt-I	Open
Alt-J	Resolved
Alt-K	Resolved
Alt-L	Resolved
Alt-M	Open
AQ-1	Resolved
AQ-2	Open
AQ-3	Resolved
AQ-4	Resolved
AQ-5	Resolved
AQ-6	Resolved
AQ-7	Open
AQ-8	Resolved
AQ-9	Resolved
AQ-A	Resolved
AQ-B	Open

Information Need	Status as of this Response
CB-1	Resolved
CB-2	Resolved
CR-1	Resolved
CR-2	Resolved
CR-3	Resolved
CR-4	Resolved
CR-5	Resolved
CR-6	Open
CR-7	Resolved
CR-8	Resolved
CR-9	Resolved
CR-10	Resolved
CR-11	Resolved
CR-12	Resolved
CR-13	Resolved
CR-14	Resolved
CR-15	Resolved
CR-A	Resolved
CR-B	Resolved
G-1	Resolved
G-2	Resolved
G-3	Resolved
G-4	Resolved
G-5	Open
G-6	Resolved
G-7	Resolved
G-A	Resolved
H-1	Resolved
H-2	Resolved
H-3	Open
H-4	Resolved
H-5	Resolved
H-6	Open
H-7	Resolved
H-8	Resolved
H-9	Resolved
H-10	Resolved
H-11	Open
H-12	Resolved
H-13	Resolved
H-14	Resolved
H-15	Resolved
H-16	Resolved

Information Need	Status as of this Response
H-17	Open
H-18	Resolved
H-19	Resolved
H-20	Resolved
H-21	Resolved
H-22	Resolved
H-23	Resolved
H-24	Resolved
H-25	Open
H-26	Resolved
H-27	Open
H-28	Open
H-29	Open
H-30	Open
H-31	Open
H-32	Open
H-33	Resolved
HP-1	Resolved
HP-2	Resolved
HP-3	Resolved
HP-4	Resolved
HP-5	Resolved
HP-6	Resolved
HP-7	Resolved
HP-8	Resolved
HP-9	Resolved
HP-10	Resolved
HP-11	Resolved
HP-12	Resolved
HP-13	Resolved
HP-14	Resolved
HP-15	Resolved
HP-A	Resolved
HP-B	Resolved
HP-C	Open
HP-D	Resolved
HP-E	Open
LU-1	Resolved
LU-2	Resolved
Met-1	Resolved
Met-2	Resolved
Met-3	Resolved
Met-4	Resolved

Information Need	Status as of this Response
NRHH-1	Resolved
NRHH-2	Resolved
NRHH-3	Resolved
NRHH-4	Open
NRHH-5	Resolved
NRHH-6	Open
NRHH-7	Resolved
NRHH-8	Resolved
NRHH-9	Resolved
NRHH-10	Resolved
NRHH-11	Resolved
NRHH-12	Resolved
NRHH-13	Resolved
NRHH-14	Resolved
NRHH-15	Resolved
NRHH-16	Resolved
NRHH-17	Resolved
NRHH-18	Resolved
SE-1	Resolved
SE-2	Open
SE-3	Resolved
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SE-5	Resolved
SE-6	Resolved
SE-7	Resolved
SE-8	Resolved
SE-9	Open
SE-10	Resolved
SE-11	Open
SE-12	Open
SE-13	Open
SE-14	Resolved
SE-15	Resolved
SE-A	Open
SE-B	Resolved
SE-C	Resolved
SE-D	Resolved
SE-E	Resolved
SE-F	Open
SE-G	Open
SE-H	Resolved
SE-I	Open
SE-J	Resolved

Information Need	Status as of this Response
SE-K	Open
SE-L	Resolved
T-1	Resolved
T-2	Resolved
T-3	Resolved
T-4	Resolved
T-5	Resolved
T-6	Resolved
T-A	Open
TE-1	Resolved
TE-2	Open
TE-3	Open
TE-4	Open
TE-5	Open
TE-6	Open
TE-7	Open
TE-8	Open
TE-9	Resolved
TE-10	Open
TE-11	Open
TE-12	Open
TE-13	Open
TE-14	Open
TE-15	Open
TE-16	Open
TE-17	Resolved
TE-18	Open
TE-19	Resolved
TE-20	Resolved
TE-A	Resolved
TE-B	Resolved
TL-1	Resolved
TL-2	Resolved
TL-3	Resolved

Accidents

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-1	TOPIC AREA: Accidents
COMMENT/ISSUE: Design Basis Accident (DBA) -1: Make available the PAVAN input and output files to support the DBA analysis in the ER. Include documentation on any supporting calculations or assumptions, input and output files to the PAVAN code, and the meteorological file used in the analysis. In addition provide a knowledgeable expert to discuss the DBA analysis. Items to be reviewed include: - Source characterization (location, release heights, building dimensions) - Distances to the EAB and LPZ - Meteorological data	

RESPONSE:

The PAVAN input and output files (which include the meteorological data) were provided during the audit for review. The calculation package describing the PAVAN analysis (LNG-000-GLC-002 “Short-Term Accident X/Q Values – Levy”) was also provided for review. The PAVAN input and output files have been provided under separate cover, as noted below. Calculation LNG-000-GLC-002 “Short-Term Accident X/Q Values – Levy” is provided in the Progress Energy-provided Reading Room. The input and output files and the calculation package contents were discussed during the audit, including the source characterization, the distances to the EAB and LPZ that were used in the analyses, and the 1 year of onsite meteorological data that was used by the model. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

PAVAN input and output files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.
Calculation LNG-000-GLC-002 “Short-Term Accident X/Q Values – Levy” is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-2	TOPIC AREA: Accidents
COMMENT/ISSUE: DBA-2: Provide a knowledgeable expert to discuss the assumptions for the LOCA and revised LOCA dose estimates consistent with the NRC position that the assumption that a DF of 5 for particles is not acceptable (NRC 8/14/2008 letter to Westinghouse).	

RESPONSE:

Worley Parsons, who performed the LOCA dose estimation, is formally responding to this issue via an RAI (15.00.03-1) submittal by the NRC to PEF.

Westinghouse has issued Revision 17 of the DCD, which contained re-evaluation of the LOCA. The re-evaluation did not make use of the rejected assumption, but does not include design changes. DCD Revision 17 will be incorporated by reference into the next revision of the COLA. Although no siting changes for LNP are necessary, LNP COLA FSAR Tables 2.0-201, 2.0-202, 2.3.4-201, and 2.3.4-206 and LNP COLA ER Subsection 7.1.3 and Tables 7.1-2 through 7.1-12 will be updated as a result of this change to include the DCD Revision 17 values.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-3	TOPIC AREA: Accidents
COMMENT/ISSUE: DBA-3: Provide access to isotopic release rates as a function of time for each of the DBAs. Include the release rate for the two-hour period giving the highest dose at the EAB.	

RESPONSE:

The design basis accidents (DBAs) considered in ER Section 7.1 are from the AP1000 Design Control Document (DCD) (Westinghouse, 2007). This issue appears to be resolved by the AP1000 Design Certification Rule (10 CFR Part 52, App. D).

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-4	TOPIC AREA: Accidents
COMMENT/ISSUE: DBA-4: Be prepared to discuss the differences in DBAs between AP1000 DCD Revision 16 and DCD Revision 17.	

RESPONSE:

Worley Parsons, who performed the DBA dose estimation, is formally responding to this issue via an RAI (15.00.03-1) submittal by the NRC to PEF.

DCD Revision 17 will be incorporated by reference into the next revision of the COLA. Although no siting changes for LNP are necessary, LNP COLA FSAR Tables 2.0-201, 2.0-202, 2.3.4-201, and 2.3.4-206 and LNP COLA ER Subsection 7.1.3 and Tables 7.1-2 through 7.1-12 will be updated as a result of this change to include the DCD Revision 17 values.

Westinghouse is in the process of resolving this issue, which should clarify this for the industry.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-5	TOPIC AREA: Accidents
COMMENT/ISSUE: DBA-5: Provide access to electronic copies of PAVAN input and output files.	

RESPONSE:

Experts were available for this discussion. The following information was provided for discussion during the audit:

ER Subsection 2.7.6 Short Term Diffusion Estimates

PAVAN_levy1yr.doc (PAVAN input/output file)
LNG-0000-GLC-002 “Short-Term Accident X/Q Values – Levy” (Calculation for short-term X/Q modeling analysis using PAVAN)

The PAVAN input and output files have been provided under separate cover, as noted below. Calculation LNG-000-GLC-002 is provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

PAVAN input and output files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.
Calculation LNG-000-GLC-002 “Short-Term Accident X/Q Values – Levy” is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-6	TOPIC AREA: Accidents
COMMENT/ISSUE: Severe Accident (SA) -1: Make available the MACCS2 input and output files used to support the severe accident analysis. Include documentation of supporting calculations or assumptions. Provide a knowledgeable expert to discuss the severe accident analysis. Items to be reviewed include: - Source characterization (locations, release height, building dimension, core inventory, release fractions, release classes) - Meterological data and assumptions - Population estimates - Land Use characterization - Evacuation assumptions - Economic assumptions - Consistency with other parts of ER	

RESPONSE:

The MACCS2 input and output files and ERIN Report No. C573070003-8044, Rev 0, and all supporting documentation were available for review during the audit.

The specific items identified for review are addressed in Section 3 of the Technical Report. Select sensitivity cases are addressed in Section 4. Additional details are generally available in supporting calculations and as “remark statements” in the appropriate MACCS2 input files. The following road map is provided:

Review Item	**MACCS2 File**	**Supporting Calc**
Source	LcAtm	Calc 573070003-CI.xls Calc 573070003-PL.xls
Meteorological	LcMet07	Calc 573070003-MET.xls
Population	LcSit60	Calc 573070003-POP.xls
Land Use	LcSit60	Calc 573070003-ECONSITE.xls
Evacuation	LcEar	None
Economic	LcChr	Calc 573070003-ECONSITE.xls

It is also noted that Appendix B of the ERIN Technical Report provides a cross-reference of NUREG-1555 data needs with the ER section that addresses that item.

Regarding consistency, the supporting analyses for ER Sections 7.2 and 7.3 sought to maintain consistency with other portions of the ER wherever appropriate.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

MACCS2 input and output files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.
ERIN Report No. C573070003-8044, Rev 0, is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-7	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-2: Provide access to electronic copies of MACCS2 input and output files.	

RESPONSE:

The MACCS2 input and output files and ERIN Report No. C573070003-8044, Rev 0, and all supporting documentation were made available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

MACCS2 input and output files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.
ERIN Report No. C573070003-8044, Rev 0, is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-8	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-3: Provide access to information of surface water users between 25 and 50 miles.	

RESPONSE:

For ER Section 7.2, the author relied upon discussions of surface water users provided in ER Section 2.3. The primary author and ER Section 2.3 author(s) were available for discussion during the audit, which resolved the comment/issue.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-9	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-4: Provide access to an estimate of the conditional probability of basemat melt-through should core damage occur.	

RESPONSE:

Per discussions with Westinghouse via teleconference on November 20, 2008, this conditional probability is not specifically identified in the AP1000 PRA. Therefore, it appears the AP1000 Design Certification Rule (10 CFR Part 52, App. D) adequately resolves the issue. The finality provisions in the AP1000 Design Certification Rule cover not only matters addressed within the rule, but also additional or alternatives to those matters.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-10	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-5: Provide access to estimates of the severe accident risks for the Crystal River Plants, if available, for the evaluation of cumulative impacts.	

RESPONSE:

The severe accident mitigation alternatives (SAMA) analysis discussed in Section 4.2 of the Environmental Report for Crystal River was available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-11	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-6: Be prepared to discuss the effects of AP1000 Revisions 16 and 17 on the AP1000 PRA and implications for Levy County.	

RESPONSE:

The author compared the MACCS2 inputs utilized from the AP1000 DCD and did not find any changes between the Rev. 16 and available portions of Rev. 17 that impact the ER Sections 7.2 and 7.3 analyses. It is noted that Figure 1.2-2 (Site Layout) of Rev. 17 is designated as 2.390 material (i.e., withhold from public disclosure) and therefore it is not included on the NRC website. The list of affected pages indicates that changes were made to this figure, but the exact changes are unknown at this time. This figure was used in the MACCS2 analysis to estimate building dimensions. Any changes to this figure are expected to have negligible impacts to the ER Sections 7.2 and 7.3 analyses (i.e., site building dimensions are not expected to change significantly).

It is unknown what impact(s) DCD Rev. 17 may have on the Westinghouse AP1000 PRA, but it is noted that the release frequency associated with each release category documented in Appendix 1B is the same between Rev. 16 and Rev. 17.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-12	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-7: Provide access to water ingestion pathway doses by release class.	

RESPONSE:

The data is available in Erin Engineering's Excel Workbook, "Calc 573070003-RESULTS.xls" sheet "Comparison" and was available for review during the audit.
This data is available in Excel Workbook "Calc 573070003-RESULTS.xls" sheet "Comparison". Pertinent data is reproduced below:

Source Term	Frequency (per yr)	Water Dose (person-sv)	Water Dose Risk (person-sv/yr)	Water Dose Risk (person-rem/yr)
ST1 - CFI	1.89E-10	1.73E+02	3.27E-08	3.27E-06
ST2 - CFE	7.47E-09	2.49E+02	1.86E-06	1.86E-04
ST3 - IC	2.21E-07	1.19E-01	2.63E-08	2.63E-06
ST4 - BP	1.05E-08	1.11E+03	1.17E-05	1.17E-03
ST5 - CI	1.33E-09	2.23E+02	2.97E-07	2.97E-05
ST6 - CFL	3.45E-13	2.13E+01	7.35E-12	7.35E-10
		Total	1.39E-05	1.39E-03

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

ERIN Report No. C573070003-8044, Rev. 0, is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-13	TOPIC AREA: Accidents
COMMENT/ISSUE: SA-7: Severe Accident Mitagation Alternatives (SAMA-1): Provide a knowledgeable expert to discuss SAMAs.	

RESPONSE:

Expert was available to discuss SAMAs. For the LNP ER analysis, the original Westinghouse SAMDA identified candidates and analysis results presented in the DCD Appendix 1B were updated using Levy County specific dispersion results.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-14	TOPIC AREA: Accidents
COMMENT/ISSUE: SAMA-2: Be prepared to discuss the effects of DCD Revisions 16 and 17 on the AP1000 PRA and SAMDA analysis.	

RESPONSE:

The author compared the AP1000 DCD Appendix 1B (SAMDA analysis) Rev. 16 and Rev. 17 versions and did not find any changes in Rev. 17 of Appendix 1B. This is consistent with Westinghouse comments made via teleconference on November 20, 2008, in which Westinghouse indicated Rev. 17 did not change any material in the SAMDA analysis. Therefore, there are no effects of Rev. 17 on the SAMDA analysis.

It is unknown what impact(s) DCD Rev. 17 may have on the Westinghouse AP1000 PRA, but it is noted that the release frequency associated with each release category documented in Appendix 1B is the same between Rev. 16 and Rev. 17.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Acc-15	TOPIC AREA: Accidents
COMMENT/ISSUE: SAMA-3: Provide information on when procedural SAMAs will be evaluated, and what will be considered.	

RESPONSE:

Section 7.3 will be updated in a future revision of the ER to include the following statement: “PEF will consider ‘risk insight’ when developing SAMA procedures and will implement them prior to initial fuel load.”

In theory, any procedure "changes" that might provide benefit would be incorporated in the initial issue of procedures and therefore no "alternatives" would be expected for evaluation. Additionally, the level of effort associated with procedure changes is often estimated in the range of $50,000 for engineering evaluation, administrative implementation, subsequent training, etc. The procedure change effort would be greater than the LNP SAMA maximum averted cost risk (MACR) value of $26,000 presented in ER Section 7.3 and procedure changes would therefore not be expected to be found cost beneficial.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Section 7.3 in a future revision of the ER to include the following statement: “PEF will consider ‘risk insight’ when developing SAMA procedures and will implement them prior to initial fuel load.”

Alternatives

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-1	TOPIC AREA: Alternatives
COMMENT/ISSUE: Provide access to the proprietary siting study for our review	

RESPONSE:

The Progress Energy Florida, Inc., "Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," October, 2007 (Proprietary Reference) document was available for review during the audit.

The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-2	TOPIC AREA: Alternatives
COMMENT/ISSUE: Provide access to complete information on intake systems.	

RESPONSE:

ER Subsections 9.4.2.1.1.1 and 9.4.2.1.1.2 present a preliminary inventory and assessment of freshwater and saltwater makeup (intake) source water. ER Subsection 9.4.2.1.1.4 presents the associated intake pipeline routing alternatives. The preferred makeup water intake system and associated pipeline corridor are identified in ER Subsection 9.4.2.1.2.

The information used in developing the ER Section 9.4 write-up for the alternative intake systems was taken from the following reference documents:

- Progress Energy, Technical Memorandum, Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, June 30, 2008 (TMEM-073);
- Sargent & Lundy, Engineering and Economic Evaluation of the Integrated Heat Rejection Cycle Florida, Report No. LNG-G2-GER-001, Revision 1, Heat Rejection Study, 12 October 2007
- Westinghouse Electric Company, LLC, AP1000 Design Control Document, Revision 16, 2007
- WorleyParsens, Conceptual Design Calculations for Levy Circulating Water and Raw Water Systems for Levy Nuclear Plant Units 1 & 2, Report No. LNG-CWS-GER-001, Revision 0, January 8, 2008.

These documents were available for review during the audit. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-3	TOPIC AREA: Alternatives
COMMENT/ISSUE: Provide access to complete information on discharge systems.	

RESPONSE:

ER Subsection 9.4.2.1.1.3 presents a preliminary inventory and assessment of blowdown (discharge) systems. ER Subsection 9.4.2.1.1.4 presents the associated discharge pipeline routing alternatives. The preferred discharge system is identified in ER Subsection 9.4.2.1.3.

The information used in developing the ER Section 9.4 write-up for the alternative discharge systems was taken from the following reference documents:

- Progress Energy, Technical Memorandum, Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, June 30, 2008 (TMEM-073)
- Sargent & Lundy, Engineering and Economic Evaluation of the Integrated Heat Rejection Cycle Florida, Report No. LNG-G2-GER-001, Revision 1, Heat Rejection Study, 12 October 2007
- Westinghouse Electric Company, LLC, AP1000 Design Control Document, Revision 16, 2007
- WorleyParsens, Conceptual Design Calculations for Levy Circulating Water and Raw Water Systems for Levy Nuclear Plant Units 1 & 2, Report No. LNG-CWS-GER-001, Revision 0, January 8, 2008.

These documents were available for review during the audit. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-4	TOPIC AREA: Alternatives
COMMENT/ISSUE: Provide access to descriptions and details of alternative water treatment systems considered.	

RESPONSE:

ER Subsection 9.4.2.2 presents a discussion on the required water treatment measures considered for the influent and effluent water streams for the heat dissipation system and the CWS.

The information used in developing the ER Section 9.4 write-up for the alternative water treatment systems was taken from the following reference documents:

- Progress Energy, Technical Memorandum, Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, June 30, 2008 (TMEM-073);
- Sargent & Lundy, Engineering and Economic Evaluation of the Integrated Heat Rejection Cycle Florida, Report No. LNG-G2-GER-001, Revision 1, Heat Rejection Study, 12 October 2007
- Westinghouse Electric Company, LLC, AP1000 Design Control Document, Revision 16, 2007
- WorleyParsens, Conceptual Design Calculations for Levy Circulating Water and Raw Water Systems for Levy Nuclear Plant Units 1 & 2, Report No. LNG-CWS-GER-001, Revision 0, January 8, 2008.

These documents were available for review during the audit. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-A	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Dave Anderson (PNNL): No basis for the statement below that discusses purchase power from other entities. "The alternative of electric power generating capacity through the combination of purchased power and the reactivation or extended service life of power generating facilities within the PEF service territory is not feasible due to the insufficient capacity of purchasing power from other utilities or power generators." Need to provide information to support the statement above.	

RESPONSE:

Expert was available to provide supplemental information to support the statement discussing purchase of power from other entities in ER Subsection 9.2.1. Chase Thomas/Progress Energy noted that a discussion of why PEF cannot purchase power needs to be added to the ER for the following reasons: The extent of intertie contracts; there are transmission line limitations between Georgia and Florida.

The following text discusses PEF's purchase of power from other entities and will be incorporated in a future revision of the ER:

> As discussed in ER Chapter 8, Progress Energy Florida (PEF) projects that approximately 0.1 percent of its net energy will be purchased or sold within the Florida Reliability Coordinating Council (FRCC) region. While at the same time, about 1.3 percent of its net energy purchased or sold will be imported from outside the state, and another 2.3 percent of its net energy purchased or sold will be derived from qualifying facility (QF) purchased power.
>
> PEF is interconnected with 22 municipal and 9 rural electric co-operative systems within the State of Florida. PEF is also interconnected with Southern Company, Tampa Electric Company, Florida Power and Light Company (FPL), Orlando Utility Commission, City of Tallahassee, Gainesville Regional Utilities, Lakeland Electric, New Smyrna Beach and Reedy Creek Improvement District (NERC, 2005).
>
> Additionally, the FRCC currently has agreements in place for importing electricity from the Southeast Electric Reliability Council (SERC) to ensure that FRCC or the North American Electric Reliability Council (NERC) reliability criteria are not violated. Currently, there are 1552 megawatts (MW) of generation owned or under firm contract that are available to be imported into the Region. These firm resources account for about 5 percent of the Reserve Margin. FRCC utilities own about 858 MW of the 1552 MW which are dispatched out of the southern subregion of SERC. This firm capacity has firm transmission service to ensure deliverability into the FRCC region. There are no firm long-term sales to other regions (NERC, 2007).
>
> The Florida Public Services Commission (FPSC) has considered the need for fuel diversity in the evaluation of utility generation expansion plans as part of PEF's annual Ten-Year Site Plan review process. In 2006, the Florida Legislature amended Section 403.519, F.S., to require the FPSC to specifically consider the need for fuel diversity on a utility's system when evaluating a petition for need. Additionally, Section 403.519(4)(b), F.S., directs the FPSC to take into account not only the need for fuel diversity, but also the reduction of Florida's dependence on natural gas and fuel oil.
>
> The FPSC stated that there are no renewable energy sources and technologies or conservation measures taken by or reasonably available to PEF that might mitigate the need for Levy Units 1

and 2. Additionally, the FPSC indicates that PEF evaluates cost-effectiveness of renewable energy projects in accordance with Rules 25-17.200 through 25-17.310, F.A.C. The cost of the energy must be at or below the avoided cost to produce the energy. Renewable attributes such as renewable energy credits (RECs) and tax credits are not included in the payments and may represent an additional revenue resource for the renewable resource. PEF has over 173 MW of renewable power from purchased power contracts.

The FPSC acknowledged that other renewable alternatives such as solar, wind, and wave energy have not yet become cost-effective, and these technologies are highly dependent upon intermittent natural energy sources that can be valuable energy resources but cannot be depended upon to produce firm capacity. As windmill and transmission technologies improve, these technologies may unlock the potential of wind energy in Florida. In the foreseeable future, however, wind-powered generation is not economical or feasible in Florida. Florida has only marginal wind resources that are along the coastline. There may be sufficient wind resources off-shore in Florida, but transmitting energy from off-shore sources is, among other things, still very expensive and often impractical. (FPSC, 2008)

Florida has adopted an energy strategy for the State that places a high priority on the promotion of renewable energy production. The FPSC also noted that PEF continues to search for other sources of renewable energy through a cooperative process between developers and PEF in order to bring such projects to fruition. The FPSC states that PEF continues to look to expand its inventory of renewable energy sources and technologies. (FPSC, 2008) For example, PEF purchases more than 800 megawatts from a number of qualifying facilities. They utilize various fuel sources, including biomass, waste heat from agricultural processes and municipal solid waste (PEF, 2008). As part of its ongoing support for renewable energy and developing technologies, ER Chapter 8 states that PEF has signed a long-term contract with the Biomass Investment Group to purchase the energy output (130 MW) generated by a unique energy source, the nation's largest biomass plant to be built in central Florida. The project is expected to reduce carbon emissions by more than 20 million tons over the 25-year life of the contract when compared to coal. In addition, PEF signed a purchase-power agreement with Vision Power Systems (VPS) to purchase 40 MW of electricity from biomass resources beginning in 2010 and an agreement with Horizon Energy Group to purchase up to 60 MW of electricity generated from municipal solid waste, using an advanced gasification process (PEF, 2008).

References:

FPSC, 2008, “Petition for determination of need for Levy Units 1 and 2 nuclear power plants, by Progress Energy Florida, Inc.,” Docket No. 080148-E1, Order No., PSC-08-0518-FOF-E1, Issued: August 12, 2008.

NERC, 2005. Balancing Authority/Transmission Operator (BA/TOP) Readiness Audit Report, Progress Energy Florida, April 4-7, 2005, St. Petersburg, Florida.

NERC, 2007. 2007 Long-Term Reliability Assessment 2007-2016. October 2007.

PEF, 2008. Progress Energy Florida Signs Two Contacts for Renewable Energy, News Release, August 12, 2008

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate above text in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-B	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Dave Anderson (PNNL): Provide supplemental information about peak load reduction affecting base load growth demand. Comment from Andy Kugler (NRC): Provide a graphic that depicts the relationship for peak load reduction affecting base load growth demand.	

RESPONSE:

Expert was available to provide supplemental information about peak load reduction affecting base load growth demand to the NRC. The following text will be incorporated into a future revision of the ER:

> Probably the most significant efficiency investments in terms of value for Progress Energy Florida (PEF) are ones that concentrate energy savings during high use and high price periods. Not only are the avoided energy costs greater, but also the value of the capacity is considerable. Furthermore, in some circumstances, such efficiency investments can avoid costly investments in distribution and transmission upgrades. Finally, such investments can have reliability advantages. More efficient air conditioning is perhaps the best example of a "peak baseload efficiency investment" — one that reduces load in periods highly coincident with system peaks.
>
> PEF has taken steps to put residential, commercial and industrial energy efficiency and load management programs in place for reducing peak load demand through its Energy Wise program (PEF, 2008). The Residential Energy Management program is a voluntary customer direct load control program that commenced in 1981 and was modified in 1995, 2000, and 2004. Peak demand is reduced by PEF using radio controlled switches installed on the customer's premises to turn off selected electrical equipment. These controlled interruptions are at PEF's option, during specified time periods, and coincident with hours of peak demand. The Commercial/Industrial Energy Management Program is a voluntary customer direct load control program that is restricted to existing customers as of July 20, 2000. Peak demand is reduced by PEF using radio controlled switches installed on the customer's premises to turn off central cooling and chiller systems during specified time periods, and coincident with hours of peak demand. Similarly to the Residential Energy Management Program, participants receive credits on their electricity bills. The Interruptible Service Program is a voluntary customer direct load control program that commenced in its present form in 1996. The program is available throughout the entire territory served by PEF to any non-residential customer who is willing to have their power interrupted by PEF.
>
> ER Chapter 8 points out that the Florida Energy Efficiency and Conservation Act (FEECA), passed in 1980, requires the Florida Public Service Commission (FPSC) to adopt goals to increase the efficiency of energy consumption, increase the development of cogeneration, and reduce and control the growth rates of electric consumption and weather-sensitive peak demand. PEF has been participating in these programs since 1981 and has been a national leader in developing and implementing conservation and demand-side management (DSM) programs. PEF participates in the FPSC's goal setting process to propose, establish, and gain approval for the company's demand-side programs, which include program measures for energy efficiency, direct load control, and standby generation in the residential, commercial and industrial sectors. PEF's current portfolio of programs was most recently reviewed and approved by the FPSC in 2007.

In addition, ER Chapter 8 also states that the FPSC approved PEF's DSM Plan for meeting its energy conservation goals established by the FPSC. The DSM Plan consists of a portfolio of individual DSM programs which include direct load control and standby generator programs in the residential, commercial and industrial sectors. The cost effectiveness of the demand-side measures included in this portfolio hinges largely on energy savings achieved during high use and high price periods. As new measures are developed and added to the system over time, the program contributions increase in helping limit the potential demand during peaking periods. During these peak periods, some of the energy requirements are mitigated and some of the energy requirements shift into high intermediate use periods. There is little significant load shifting or load reduction into the baseload demand periods, compared with the percentage of load that can be impacted during peak periods. Given the relationship between peak and baseload impacts, it would be reasonable to assume that baseload needs tend to grow at a proportionately higher rate than peak loads, given PEF's evolving demand profile over time. While PEF continues to plan for future resources accounting for both peak demand periods and energy demand profiles, it has been reasonable (and conservative) to assume that increasing peak demand will remain a practical surrogate for increasing baseload for the foreseeable future.

The accompanying figure provides a representative depiction of the impact of the PEF's approved DSM programs on the energy demand profile in a "typical" year.

Reference:

PEF, 2008. "EnergyWise Program," Website: http://www.progress-energy.com/custservice/flares/energymgmt/index.asp, accessed December 18, 2008.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Graphic depicting the relationship for peak load reduction affecting base load growth demand is provided electronically in Attachment 1 as ALT-B-001_figure.pdf.

PENDING ACTIONS

Incorporate above text in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-C	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Dave Anderson (PNNL): Provide documentation to support the following statement in the ER: "…these alternatives would have higher economic costs, and those costs would ultimately be borne by the rate-payers." Further, provide supporting documentation that discusses the economic costs of gas and coal facilities compared with nuclear facilities.	

RESPONSE:

The following text is provided to support the economic cost statement referenced in the comment and will be incorporated in a future revision of the ER.

> Additionally, the Florida Public Services Commission (FPSC) stated that the two main components of retail rates are base rates and fuel costs. Base rates are relatively stable. Fuel costs are passed through to retail customers through PEF's fuel adjustment clause. Since fuel costs are more volatile, they are adjusted annually to reflect actual costs. Evidence indicates that as PEF's system has become more reliant on natural gas for energy generation, retail rates have increased and fuel costs have become a greater portion of rates.
>
> The FPSC further notes that if PEF continues becoming more reliant on natural gas, then its ratepayers may experience higher rates in the future with the majority of costs to be recovered through PEF's fuel adjustment charge. Consequently, FPSC states that having a diverse fuel mix could serve as a hedge against fuel price volatility.
>
> Additionally, the FPSC acknowledges that the State of Florida Statutes (Section 403.519(4)(b)) suggest that there is the need for more fuel diversity, as well as a reduction of Florida's reliance on natural gas and fuel oil. The addition of Levy Units 1 and 2 will serve to reduce PEF's future dependence on natural gas and fuel oil.
>
> The FPSC suggests that the addition of Levy Units 1 and 2 will increase the percentage of total nuclear generation on PEF's system, which will give PEF's customers a more diversified, price-stable fuel portfolio. The FPSC further suggests that without Levy Units 1 and 2, PEF will rely on more volatile-priced fossil fuels for 85 percent of its energy generation. Moreover, gas and oil will contribute over 60 percent of the total energy generated, including some around-the-clock baseload energy generation. (FPSC, 2008)

The following text discusses the economic costs of gas and coal facilities compared with nuclear facilities and will be incorporated in a future revision of the ER.

> As part of the economic evaluation of Levy Units 1 and 2, the FPSC notes that PEF forecasted the prices of natural gas, residual fuel oil, coal, and distillate fuel oil and that the forecast period extends out to the year 2066. The differential between forecasted natural gas and nuclear fuel prices is a key driver in the selection of PEF's future generation options.
>
> The FPSC indicates that PEF's basic fossil fuel forecasts are its medium price forecasts. PEF relied upon two economic and energy forecasting firms, PIRA Energy Group and Global Insight, to provide the basic price forecast. The natural gas and oil price forecast period is through 2020 for PIRA and 2026 for Global Insight. Beyond these periods, PEF employed a price escalator for the forecasts.
>
> For residual oil, natural gas, and coal, PEF developed high and low price forecasts based on the 90 percentile above and below the basic, mid-reference fuel price forecast. The high and low price forecasts specify a range that allows for possible price outcomes and the uncertainty of

price forecasts in the economic analysis. Although PEF provided high and low price forecasts in this filing, PEF expects that the high price forecast is more likely than the low price forecast, because of the potential impacts of changes in environmental policy.

The FPSC states that PEF's fuel price forecasts are reasonable for purposes of evaluating its expansion plans. The forecast not only relies on two recognized consultants but also compares its forecast to the forecast in the Annual Energy Outlook published by the Energy Information Administration. The FPSC also notes that PEF's fossil fuel price forecast is conservative in comparison with various third-party forecasts. Higher forecasted gas prices cause the planned nuclear units to be more cost-effective in the economic analysis.

The FPSC points out that the nuclear fuel price forecast provided by PEF is based on projections by market consultants who study nuclear fuel supply and demand worldwide and the forecast covers the four steps needed to make nuclear fuel: uranium mining, conversion, enrichment, and fabrication. The FPSC also notes that PEF expects nuclear fuel prices are less volatile than fossil fuel prices and expects this trend to continue.

Additionally, the FPSC acknowledges that PEF included a reasonable level of environmental compliance costs associated with the proposed Levy Units 1 and 2. The major air emission effluents considered for a power generating unit are sulfur dioxide (SO_2), nitrogen oxides (NO), mercury (Hg), and carbon dioxide (CO_2). The FPSC points out that, in its need filing, PEF included the compliance costs of all four major air emissions in its economic analysis. The environmental compliance cost estimates were used to form each scenario by establishing the system emissions of air effluent and applying the forecast allowance price to the total emission. When the economic results for the scenarios were compared, the differential production costs, including fuel and environmental compliance costs, were calculated to establish the appropriate economic benefits of all of the scenarios analyzed.

The FPSC believes that since nuclear generation is a non-carbon emitting generation source, an increase of future environmental compliance costs associated with CO_2 would also increase the overall cost-effectiveness of Levy Units 1 and 2. The FPSC further states that it compared the environmental inputs (the SO_2, NO, Hg and CO_2 emission allowance price projections) to the cost-effectiveness analysis of Levy Units 1 and 2.and found that the SO_2, NO, and Hg allowance price projections used by PEF are reasonable. The FPSC also found that the CO_2 price projections used in the cost-effective analysis represent a reasonable range of forecasts based upon CO_2 compliance cost studies available to PEF at the time that the cost-effective analysis was undertaken. (FPSC, 2008)

Reference:

FPSC, 2008, "Petition for determination of need for Levy Units 1 and 2 nuclear power plants, by Progress Energy Florida, Inc.," Docket No. 080148-E1, Order No., PSC-08-0518-FOF-E1, Issued: August 12, 2008.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate above text in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-D	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL): Provide supplemental information to support the use of SMALL, MODERATE, and LARGE impact descriptions throughout Section 9.4.	

RESPONSE:

The NRC requested that supplemental information or qualifying statements be added to support the use of the impact descriptors (SMALL, MODERATE, and LARGE) identified within Table 9.4-1 in ER Subsection 9.4.1.1.

The comment was acknowledged and it was indicated that Subsection 9.4.1.1 will be revised accordingly in a future revision of the ER to address the fact that the impact descriptors were not identified in the corresponding text of Subsection 9.4.1.1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsection 9.4.1.1 in a future revision of the ER as described above.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-E	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL): Revise the following sentence, “Based on the LNP configuration and size, the once-through cooling alternative would not support the cooling requirements for the LNP” to adequately describe the reasons why once through cooling is not a viable option.	

RESPONSE:

The NRC requested clarification to adequately describe the reasons why once through cooling is not a viable option, regarding the following statement in ER Subsection 9.4.1.1.1: “Based on the LNP configuration and size, the once-through cooling alternative would not support the cooling requirements for the LNP.”

The following text will be incorporated in Subsection 9.4.1.1.1 in a future revision of the ER:

The environmental impacts associated with the once-through cooling heat dissipation system are described as follows: Land use impacts would be SMALL due to the on-site requirements of land and terrain considerations; Water use impacts would be LARGE due to the volume of makeup water and for the potential impacts to aquatic biota from the intake system; atmospheric impacts would be SMALL to MODERATE due to waste heat fogging associated with the discharge canal; thermal and physical effects would be LARGE due to the size of the intake and discharge structures as well as the quantity of offshore piping; Legislative restrictions are complex due to the potential compliance issues regarding Section 316(b) of the Clean Water Act and compliance with NPDES thermal discharge requirements surrounding discharge back into the CREC discharge canal. This alternative is subject to the requirements of the 316(b) Phase I rules governing new power generating facilities. USEPA regulations (40 CFR 125) governing CWIS under Section 316(b) of the Clean Water Act (CWA) make the use of once-through cooling systems difficult for steam power generating facilities. As a result, the use of a once-through cooling water system would require approval from the USEPA Regional Director. The overall environmental impacts associated with the use of a once-through cooling system would be LARGE due to the reasons discussed above. Therefore, the use of a once-through cooling system is not a viable cooling system option and was eliminated from further consideration. A summary of the environmental impacts of the once-through cooling heat dissipation system alternative is provided in Table 9.4-1.

The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate above text in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-F	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL) and Linda Fassbender (PNNL): Why would the use of once through cooling have a range of SMALL to LARGE impacts? Need to clarify the impacts to either list all of the criteria impacts (such as land use, water use etc.). Revise the text pertaining to Table 9.4.1 to explain the range of all the impacts for the once through cooling option in a future version of the ER.	

RESPONSE:

The NRC requested clarification to the following statement in ER Subsection 9.4.1.1.1: "...impacts from once-through cooling systems were considered SMALL to LARGE…"

The following text will be incorporated in Subsection 9.4.1.1.1 in a future revision of the ER:

The environmental impacts associated with the once-through cooling heat dissipation system are described as follows: Land use impacts would be SMALL due to the on-site requirements of land and terrain considerations; Water use impacts would be LARGE due to the volume of makeup water and for the potential impacts to aquatic biota from the intake system; atmospheric impacts would be SMALL to MODERATE due to waste heat fogging associated with the discharge canal; thermal and physical effects would be LARGE due to the size of the intake and discharge structures as well as the quantity of offshore piping; Legislative restrictions are complex due to the potential compliance issues regarding Section 316(b) of the Clean Water Act and compliance with NPDES thermal discharge requirements surrounding discharge back into the CREC discharge canal. This alternative is subject to the requirements of the 316(b) Phase I rules governing new power generating facilities. USEPA regulations (40 CFR 125) governing CWIS under Section 316(b) of the Clean Water Act (CWA) make the use of once-through cooling systems difficult for steam power generating facilities. As a result, the use of a once-through cooling water system would require approval from the USEPA Regional Director. The overall environmental impacts associated with the use of a once-through cooling system would be LARGE due to the information discussed above. Therefore, the use of a once-through cooling system is not a viable cooling system option and was eliminated from further consideration. A summary of the environmental impacts of the once-through cooling heat dissipation system alternative is provided in Table 9.4-1.

The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate above text in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-G	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL): Need to revise the following statement since Section 3.3 does not contain a number of intake plan views: "A number of intake plan views are presented in Appendix D (316[b] Demonstration) of the Site Certification Application (SCA) and in ER Section 3.3." Also, need to confirm that the SCA, Appendix D contains a discussion of the intake alternatives.	

RESPONSE:

The NRC requested clarification to the following statement in ER Subsection 9.4.2.1: "A number of intake plan views are presented in Appendix D (316[b] Demonstration) of the Site Certification Application (SCA) and in ER Section 3.3." The NRC indicated that the intake plan views are *not* presented in the SCA or the ER.

A review of the SCA and the ER confirmed that the alternative intake designs and associated plan views are not presented in Appendix D of the SCA and in Section 3.3 of the ER; only the *proposed* intake plan view is presented in those documents. It was noted that the Progress Energy, Technical Memorandum, Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, June 30, 2008 (TMEM-073) contained a description of the alternative and proposed intake designs. The NRC requested that the technical memorandum (TMEM-073) be made available for their use and review.

The following text will be incorporated in Subsection 9.4.2.1 in a future revision of the ER:

> A plan view of the proposed intake system is presented in Appendix D (316[b] Demonstration) of the Site Certification Application (SCA) and in ER Section 3.3.

Technical Memorandum, Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, June 30, 2008 (TMEM-073) is provided in the Progress Energy-provided Reading Room.

The issues were considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Progress Energy, Technical Memorandum, Preliminary Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, June 30, 2008 (TMEM-073) is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

Revise Subsection 9.2.4.1 as discussed above in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-H	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Andy Kugler (NRC): Provide information pertaining to the alternative water treatment systems.	

RESPONSE:

The NRC acknowledged that ER Subsection 9.4.2.2 contained a discussion of the proposed water treatment system for the LNP, and requested that ER Subsection 9.4.2.2 contain a discussion of *alternative* water treatment systems that were considered but dismissed for use at the LNP.

Text will be added to Subsection 9.4.2.2 in a future revision of the ER to address this issue as a result of NRC comment.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsection 9.4.2.2 in a future revision of the ER as described above.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-I	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Andy Kugler (NRC): Need a redacted copy of the Progress Energy Florida, Inc., “Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites,” October, 2007 (Proprietary Reference) docketed and made available to the NRC.	

RESPONSE:

The NRC requested that a redacted copy of the Progress Energy Florida, Inc., “Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites,” October, 2007 (Proprietary Reference) document be made available for their use and review. PEF indicated that a proprietary and a redacted copy of the document will be submitted to the NRC Document Control Desk in accordance with 10 CFR 52.3 "Written Communication”.

The issue was considered resolved.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

The proprietary version of the Progress Energy Florida, Inc., “Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites,” October, 2007 (Proprietary Reference) is provided in the Progress Energy-provided Reading Room.
A proprietary and redacted copy of the Progress Energy Florida, Inc., “Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites,” October, 2007 (Proprietary Reference) will be submitted to the NRC Document Control Desk in accordance with 10 CFR 52.3 "Written Communication.”.

PENDING ACTIONS

PEF will submit a redacted version of the requested document to the NRC Document Control Desk in accordance with 10 CFR 52.3 "Written Communication.”

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-J	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL): Need to revise the following statement to show that the use of 6,000 acres was the upper limit of acreage used in the screening: "Potential sites were generally 2424 ha (6000 ac.) in size, although favorable sites as small as 809 ha (2000 ac.) were considered."	

RESPONSE:

The sentence referenced in the comment will be revised as follows in a future revision of the ER:

> Potential sites were generally 2424 ha (6000 ac.) in size, although favorable sites as small as 809 ha (2000 ac.) were considered. The use of 2424 ha (6000 ac.) was the upper limit of acreage used in the screening process.

The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsection 9.3.2.1.3 as discussed above in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-K	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL): What is the basis for the use of the low flow and mean water level metrics as evaluation criteria?	

RESPONSE:

Clarification was requested regarding the basis for using low flow and mean water level metrics as evaluation criteria. The following information provides clarification:
Mean Flow Data: The Progress Energy Florida, Inc., "Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," October, 2007 (Proprietary Reference) analysis used the full available period of record (daily mean discharge) of USGS streamflow data for the gage nearest each of the alternative sites (where available). From this data, the lowest mean daily flow that occurred during the period of record (in some cases over a 100-year period) was identified. This was considered a very conservative approach based on a review of the data.

Mean Water Level: The flooding evaluations conducted in the Progress Energy Florida, Inc., "Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," October, 2007 (Proprietary Reference) siting report were based on elevation differences between mean site elevation and mean water elevation of the closest water body, as shown on USGS topographic maps - 1:100,000 scale, or 1:24,000 scale later in the process. Table 5-1 in the siting report (relating to screening criteria evaluations) also references USGS gaging station measurements. The gaging stations as well as the USGS topographic maps all refer to National Geodetic Vertical Datum of 1929 (NGVD 1979) or the updated North American Vertical Datum of 1988 (NAVD 88) depending on how old the topographic maps were. These reflect elevations above or below mean sea level.

The issue is considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-L	TOPIC AREA: Alternatives
COMMENT/ISSUE: Comment from Rajiv Prasad (PNNL): Clarify non-colored blocks in Table 9.3-5.	

RESPONSE:

A statement currently present in the legend of ER Table 9.3-5 that “no color = neutral ranking” indicates that no data is available.

The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Alt-M	TOPIC AREA: Alternatives
COMMENT/ISSUE: Provide additional socioeconomic information for each of the alternative sites.	

RESPONSE:

The NRC requested that additional socioeconomic information for each of the alternative sites be added to ER Subsection 9.3.2.

Subsection 9.3.2 will be revised accordingly in a future revision of the ER to address the NRC comment.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsection 9.3.2 as discussed above in future revision of the ER.

Aquatic Ecology

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-1	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: If available, Provide any correspondence with federal or state agencies (e.g., USFWS, NMFS, FDEP, FFWCC, USACOE) regarding impacts to aquatic species and proposed discussions for appropriate monitoring studies in the Cross Florida Barge Canal (CFBC), the Gulf of Mexico at the mouth of the CFBC, and the Gulf of Mexico at the Crystal River Energy Complex discharge.	

RESPONSE:

ER-related formal correspondence with state and federal agencies is provided in the Progress Energy-provided Reading Room.

The NRC has access to the SCA website and has been added to the distribution list for updates to the SCA website. The NRC was provided an electronic version of the SCA during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Formal ER-related correspondence is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-2	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss cumulative impacts to the aquatic environment in the region (quarries, etc).	

RESPONSE:

The effects of the LNP CWIS water withdrawal and the LNP blowdown discharge, when added to existing and planned infrastructure projects in the LNP project area, are not anticipated to adversely affect the area aquatic ecology resources. The LNP CWIS is anticipated to improve water quality in the now degraded upper portions of the CFBC, leading to an expected improvement in the diversity and abundance of aquatic species.

Supporting documents regarding water quality studies are discussed in Info Needs AQ-7 and AQ-8.

Other regional exisiting or proposed aquatic environment impacts are as follows and will be incorporated in a future revision of the ER:

- Cemex operation impact review
- Inglis hydropower facility application review
- Tarmac mining operation plant review
- Widening or replacement of the US 19/98 bridge over the Cross Florida Barge Canal
- Suncoast Parkway Extension

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate text in a future revision of the ER as described above.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-3	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss BMPs associated with construction and operation/maintenance of the plant and transmission corridors, especially related to aquatic habitats.	

RESPONSE:

Expert was available to provide discussion of BMPs to be utilized during construction and maintenance of the plant and transmission corridors, both pipeline and transmission line corridors.

BMPs discussed were related to sediment and erosion control, stormwater, and general information on stream crossings by the water makeup line. BMPs are described in ER Subsection 4.2.1 and erosion control measures will be put into place following FL guidelines. Stormwater will be addressed as part of the 401 process.

Requested documents that are currently available are listed below and are provided as attachments to this information need. The available Florida Stormwater Manual (1981) is currently being revised into the Statewide Stormwater Treatment Rule and is expected to become effective July 1, 2010. No State of Florida BMP manual for crossing lakes and ponds is available but construction activities and operation/maintenance of the plant shall follow all applicable Federal, State, local, and Progress Energy guideline BMPs for crossing lakes, streams, and ponds.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Pesticides (EVC-SUBS-00021) are provided electronically in Attachment 1 as AQ-3-001_Pesticides.pdf.
Environmental Policy (EVC-HOCO-00001) is provided electronically in Attachment 1 as AQ-3-002_Env_Policy.pdf
Land disturbing activities (EVC-SUBS-00022) are provided electronically in Attachment 1 as AQ-3-003_Land_Disturbing.pdf
Transmission Vegetative Maintenance Program (MNT-TRMX-00176) is provided electronically in Attachment 1 as AQ-3-004_Veg_Maintenance_Plan.pdf
Florida Erosion and Sediment Control Designer and Reviewer Manual is provided electronically in Attachment 1 as AQ-3-005_Erosion_and_Sediment_Control_Designer_and_Reviewer_Manual.pdf
Southwest WMD (Florida) Stormwater Manual is provided electronically in Attachment 1 as AQ-3-006_SWFWMD_Stormwater_Design_Alternatives.pdf
Florida Erosion and Sediment Control Inspector's Manual is provided electronically in Attachment 1 as AQ-3-007_FL_Erosion_and_Sediment_Control.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-4	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss construction of the proposed cooling water intake structure on the CFBC, barge slip, and discharge pipeline crossing, including intake design, information on proposed timing and length of the construction period, and dredging spoils disposition.	

RESPONSE:

Expert was available to address intake design questions and dredged spoil disposal. The basic design of the CWIS will follow BTA design features specified in the 316(b) Phase I regulations. These include a closed-cycle cooling tower-based cooling system and the sizing of the intake structure to provide less than 0.5 fps through-screen velocities. Sediments proposed to be dredged as part of the construction of the CWIS will be tested according to FDEP and USACE disposal guidelines and requirements. Dredged spoil materials will be contained and disposed of in designated landfills or spoil disposal areas, according to the results of the sediment testing.

Shaw Energy Systems has provided preliminary information on the proposed timing and length of the construction period for the CWIS, the preliminary blowdown routing, and preliminary intake structure design. It was indicated that the final design of the intake structure will meet the Clean Water Act 316b requirements.

The intake structure and blowdown discharge structure construction schedule, a blowdown pipe routing topogrpahy map, and a Building 165 salt water RWS intake structure drawing is provided in Attachment 1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

The following documents are provided electronically in Attachment 1: AQ-4-001_Const_Schedule_Intake_Structure_rev1.pdf AQ-4-002 LNG-G1-PL-003.pdf AQ-4-003 Salt Water Intake RWS.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-5	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss operation of the proposed cooling water intake structure, barge slip, and Cross Florida Barge Canal regarding the need for future dredging in the vicinity of the intake.	

RESPONSE:

The CFBC has not been dredged since its initial construction and given the fact that the Inglis Lock is non-functional, deposition rates are not anticipated to accelerate. While more precise sediment deposition rates can not be predicted without additional study, and over time, sediment deposition and scouring in the CFBC could be affected by periodic major storm events, it is anticipated that only infrequent maintenance will likely be required at the LNP CWIS.

Shaw Energy Systems, indicated that there is no mandate for future dredging in the vicinity of the intake structure because such dredging is a non-safety related feature. PEF will evaluate future periodic inspections in the vicinity of the intake structure to see if dredging is warranted.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-6	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss construction of the proposed discharge structure, including design, location and placement of discharge piping, as well as any information on proposed timing and length of the construction period.	

RESPONSE:

Expert led design questions and discussions of feasible options for location and placement of blowdown discharge piping.

Shaw Energy Systems, has provided information on the proposed timing and length of the construction period for the CWIS and location of discharge piping. As noted in Info Need AQ-4, the following documents are provided in Attachment 1:

- AQ-4-001 Copy of Construction schedule for Intake struct rev1.pdf
- AQ-4-002 LNG-G1-PL-003.pdf

Environemntal Report Figures LNP_ER_FIG03_03_03.pdf and LNP_ER_FIG03_03_04.pdf, and Technical Memorandum 338884-TMEM-073 “Preliminary Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives; Levy Nuclear Plant (LNP), Levy County, Florida” provide additional detail.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Technical Memorandum 338884-TMEM-073 “Preliminary Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives; Levy Nuclear Plant (LNP), Levy County, Florida” has been provided in the Progress Energy-provided Reading Room.
The following documents are provided electronically in Attachment 1: AQ-4-001 Copy of Construction schedule for Intake struct rev1.pdf AQ-4-002 LNG-G1-PL-003.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-7	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide access to any sampling reports or data from the proposed sampling events (late spring/early summer, 2008 and July/August 2008) in the CFBC and Withlacoochee River for water quality, fish and benthic macroinvertebrates.	

RESPONSE:

A detailed presentation was made showing sampling stations, schedules and results for water quality, fish, macroinvertebrates, and other sampled biological parameters, including ichthyoplankton/meroplankton and motile crustaceans in the CFBC and the Old Withlacoochee River. The developed presentation also included sampling in 2007.

The 316b Demonstration Study document requested can be found in the SCA, Volume 5, Section D, 10.02.2 NPDES.

The draft NPDES Application requested can be found in the SCA, Volume 5, Section D, 10.02.2 NPDES. The final version of the permit will be made available once it has been finalized.

The Aquatic Biological Sampling Report will be provided once the report has been completed in February 2009.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Aquatic Biological Sampling Report will be provided when available.

PENDING ACTIONS

Provide NPDES permit when final.
Provide Aquatic Biological Sampling report upon completion in February 2009.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-8	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide access to any sampling reports or data from the proposed sampling events (spring, summer, fall and winter, 2008) from the CREC discharge canal mouth and nearby Gulf of Mexico seagrass habitat for water quality, fish and benthic macroinvertebrates.	

RESPONSE:

Based on information in ER Subsection 2.4.2, a detailed presentation was made showing sampling stations, schedules and results for water quality, fish, macroinvertebratesm, and other sampled biological parameters, including ichthyoplankton/meroplankton and motile crustaceans in the CREC discharge and the nearby Gulf of Mexico seagrass habitat. The developed presentation also included sampling in 2007.

As discussed in Info Need AQ-7, the draft NPDES Application requested can be found in the SCA, Volume 5, Section D, 10.02.2 NPDES.

As noted in Info Need AQ-7, the Aquatic Biological Sampling Report will be provided once the report has been completed in February 2009.

The draft CREC impingement study by Kinetrics is provided in the Progress Energy-provided Reading Room.
A CREC 316 Phase II Report does not exist.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Draft CREC impingement study by Kinetrics is provided in the Progress Energy-provided Reading Room.
Provide Aquatic Biological Sampling Report when available (see Info Need AQ-7).

PENDING ACTIONS

Provide Aquatic Biological Sampling Report upon completion in February 2009 (see Info Need AQ-7).

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-9	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide access to any supporting documentation or references that detail improvement of aquatic communities in the nearshore environment of the Gulf of Mexico in the vicinity of the CREC discharge since 1985.	

RESPONSE:
The requested seagrass monitoring reports and requested CREC 316a and 316b studies from 1985 are provided in Attachment 1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Seagrass monitoring reports are provided electronically in Attachment 1 as follows: AQ-9-001 1993_Crystal_River_3yr_Monitoring_Prj.pdf AQ-9-002 1994_Crystal_River_Monitoring_Prj.pdf AQ-9-003 1995_Crystal_River_Monitoring_Prj.pdf AQ-9-004 Final_Rpt_Seagrass_Adv_Cmtty.pdf AQ-9-005 2001_Resurvey.pdf
CREC 316a and 316b studies from are provided electronically in Attachment 1 as AQ-9-006 FLPwrCrystalRiver316Studies.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-A	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide information on new transmission lines not included in the ER, including names of bodies of water crossed and construction impacts.	

RESPONSE:

New transmission lines not included in the ER are discussed in the SCA, Volume 2, Section 9.0.

Names of bodies of water affected are discussed in the SCA, Volume 2, Section 9-A1.3.7.3.

Construction impacts and maintenance impacts are discussed in the SCA, Volume 2, Section 9-A1.4 and 9-A1.5.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: AQ-B	TOPIC AREA: Aquatic Ecology
COMMENT/ISSUE: Provide assumptions on impacts at intake as they relate to overall impacts. Specifically, validate assumptions as to why CFBC Station 3 versus Station 4 should be used.	

RESPONSE:

Based on information in ER Subsection 2.4.2, a detailed presentation was made showing sampling stations, schedules and results for water quality, fish, macroinvertebrates, and other sampled biological parameters, including ichthyoplankton/meroplankton and motile crustaceans in the CFBC and the Old Withlacoochee River. The developed presentation also included sampling in 2007.

Impacts from the proposed intake structure near CFBC Station 1 were discussed. Assumptions discussed during the presentation include overall impacts and approximate changes to the biological community near the Intake Structure based on other CFBC sampling stations after operation begins.

Assumptions will be validated upon completion of the Aquatic Biological Sampling Report scheduled to be completed in February 2009.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Aquatic Biological Sampling Report will be provided when available (see Info Need AQ-7).

PENDING ACTIONS

Provide Aquatic Biological Sampling Report upon completion in February 2009 (see Info Need AQ-7).

Cost-Benefit

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CB-1	TOPIC AREA: Cost Benefit

COMMENT/ISSUE: Provide a knowledgeable expert (preferably the author of Section 10.4 of the ER), who can provide additional explanation and discussion of Federal incentives mentioned in Section 10.4.2.3 of the ER. Topics include the impacts of the following:

- Production tax credit for the first advanced reactors brought on line in the United States
- Federal risk insurance benefits expected as part of the Nuclear Power 2010 Partnership
- The expected impact of these incentives in terms of their role in making the project economically viable, and the impact on the proposed action in case PEC does not qualify for some or all of the incentives.
- How the provisions of the Energy Policy Act of 2005 specifically mitigate projected construction and operations costs over the life of the proposed facilities.

RESPONSE:

Expert was available to provide additional explanation and discussion of federal incentives mentioned in ER Subsection 10.4.2.3. The information provided to the NRC during the audit addressed the four bulleted items in the comment.

The following text will be incorporated in Subsection 10.4.2.3 in a future revision of the ER:

> The federal Energy Policy Act of 2005 (EPAct 2005), signed into law August 2005, provided the nuclear industry with a variety of financial incentives for new nuclear power plants. One of the incentives in the EPAct 2005 is the authorization of an eight-year production tax credit of 1.8 cents per kilowatt-hour (kWh) for up to 6000 megawatts (MW) of capacity from new, qualified advanced nuclear power facilities. The credit is further limited to $125 million annually per thousand MW of capacity allocated to the facility. To qualify for the credit, a facility must be of a design first approved by the Nuclear Regulatory Commission (NRC) after 1993 and facilities must be newly in service prior to January 1, 2021 (Congressional Research Service [CRS], 2006).
>
> The EPAct 2005 provided an innovative form of insurance for the first six reactors while the new process is being tested. The federal government, specifically the U.S. Department of Energy (DOE) will provide insurance policies to cover debt service for the first six new plants ($500 million for the first two plants; $250 million for the next four) if commercial operation is delayed for reasons beyond the company's control, such as litigation or a failure by the NRC to meet license review schedules. (CRS, 2006) Specifically, the EPAct 2005 authorizes the DOE to develop the Nuclear Power 2010 program to encourage new nuclear power plants (CRS, 2006). It is a cost-share program with industry to reduce the uncertainty in the decision-making process for building new nuclear power plants.
>
> Progress Energy Florida (PEF) considers this project economically viable and expects to continue with licensing and construction of the Levy Nuclear Plant (LNP) regardless of the project's eligibility for financial incentives available through the EPAct 2005.
>
> In addition to the financial incentives discussed above, the EPAct 2005 provides for the following additional financial incentives for new nuclear power plants (CRS, 2006):
>
> - Loan guarantees for up to 80 percent of project costs for advanced nuclear energy facilities.

- Extended Price-Anderson Act protection until December 31, 2025, which establishes an insurance system for nuclear plants in the case of accidents.
- A total of $1.25 billion for fiscal 2006 through 2015 for a prototype next-generation nuclear power plant at the Idaho National Laboratory that will produce both electricity and hydrogen.
- An advanced fuel recycling technology, research, development and demonstration program for proliferation-resistant fuel recycling and transmutation technologies.

Reference: Congressional Research Service (CRS), 2006, "Energy Policy Act of 2005: Summary and Analysis of Enacted Provisions," The Library of Congress, CRS Report for Congress, Order Code RL33302, March 8, 2006

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate the above text in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CB-2	TOPIC AREA: Cost Benefit

COMMENT/ISSUE: Provide a knowledgeable expert (preferably the author of Section 10.4 of the ER), who can provide additional discussion relative to ER Section 10.4.3. Discussion topics will include:

- The important conclusions to be drawn from the summary in Table 10.4.1.
- Balancing of all internal and external benefits and costs
- Determination of the net economic benefit (or cost) to society of the proposed action, based on this assessment.
- Discussion of costs and benefits that cannot be precisely determined at this time in relative terms compared to the expected internal construction and operation costs – to facilitate amplified discussion of the benefit/cost balance.

RESPONSE:

The important conclusions from Table 10.4-1 can be summarized as follows and will be incorporated in a future revision of the ER:

- The new plant will provide more than 1037 MWe from each unit that will help meet the growing power demand in PEF's service territory.
- There will be a large beneficial impact to the local economy through the creation of jobs and from tax revenue.
- The cooling tower design will minimize aesthetic impacts from the project.
- Due to previous land use and disturbance on the site, there will be limited impact to ecological receptors.
- The cost of the plant and associated transmission lines will exceed $11 billion.
- Consumptive water use will be 2.3 cubic meters per second during operation of the new units, but NPDES permit conditions will be required and monitored.
- The Cross Florida Barge Canal does provide an adequate source of cooling water for the plant.
- Discharge to the Gulf will occur at the existing Crystal River Energy Complex.
- Wetland impact will occur on the site, but impacts will be minimize and mitigate as required by permit conditions.
- Impacts on traffic and infrastructure will be localized and limited in nature.

The balancing of all internal and external benefits and costs and the benefit to society can be characterized as follows and will be incorporated in a future revision of the ER:

The need for additional power is clearly documented in PEF's service territory. The careful evaluation of alternative sites and the planning associated with the LNP site have resulted in a

location for the new plant that will meet power needs and minimize environmental and socioeconomic impacts. While some impact to local land use and habitat does occur, there is large economic benefit that will be realized by local economies in the form of long-term tax revenue and job growth. Overall, the benefits of the plant outweigh the costs associated with construction and operation.

Costs that can not be precisely determined at this time include the cost of storage, transportation and disposal of spent fuel from the plant. These costs will likely increase with time and while they can be estimated in present dollar values, the precise costs in the future are not known as transportation and disposal costs increase. As stated above, the benefit of the proposed plant related to the generation of new power to meet growing demand and the economic benefits of the project, outweigh the environmental and socioeconomic costs of construction.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate the above text in a future revision of the ER.

Cultural Resources

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-1	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a tour of cultural resources identified on PEF land associated with the Levy site, the area surveyed to date related to the preconstruction activities and proposed construction of Units 1 and 2, and any cultural resources identified during this effort. (ER Section 4.1.3 & 5.1.3)	

RESPONSE:

Tour was provided by Sara Orton and Steve Koski of New South Associates and all issues were resolved. Reviewer was able to see the rail bed that crosses the property south of the LNP site, as well as a nearby small hammock that still showed the tape where the shovel tests had been dug. The tour was sufficient for the reviewer to gain an understanding of the topography of the area and a context for the reported findings of the surveys.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-2	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe how the area of potential effect (APE) was defined for the COL effort. (ER Section 4.1.3 & 5.1.3)	

RESPONSE:

Experts were available for discussion and described the consultation processes for establishing the standing structures and archaeology APEs. Copies of emails and telephone records were provided for review.

The reviewer requested all correspondence with the SHPO regarding the establishment of the APEs, as well as telephone records of conversations related to the APEs. The summaries of the telephone records are below. The other requested documents are provided in Attachment 1.

Summary of 02-08-2008 telephone conversation between Sara Orton/CH2M HILL and Laura Kammerer with the FL SHPO: Referenced the map emailed to her on 1-28-08 showing the transmission corridor, heavy haul road and blowdown pipeline. SHPO asked about the height of the transmission poles; are they single pole? Are they towers? What type of poles will be used and how tall will they be? We need to know this in order to set the APE for visual impacts. The plan for the blowdown pipeline was described: buried in the berm of the existing canal, then buried along an existing transmission line going south to the Crystal River plant. Asked if we needed to do a standing structures survey of this pipeline. No, we do not need to do a structures survey under the current plan, but we must revisit the issue with her if the plan changes (if the pipeline will be above-ground). Since this survey is in a suburban area, SHPO asked that we fill out a site form for all structures over 50 years of age.

Summary of 11-29-2007 telephone conversation between Sara Orton/CH2M HILL and Laura Kammerer with the FL SHPO: Reiterated heights of buildings: transmission lines, 90'; containment building, 228'; 2 cooling towers, 75'. SHPO asked the elevation of the land in the area: 46-48 feet; SHPO wanted to make sure it was not much higher than the rest of the area, which would mean a larger APE for visual effects. SHPO went over things we need to consider as we conduct our research: 1. find out if there are any *historic cultural landscapes* in the area. These are defined as plantations, homesteads, cattle ranches, clusters of structures, but also the land in between is as significant. 2. *Tribal contacts are very important*. I told her we were not doing the consultations, nor the planning for the consultations. SHPO pointed out that whoever does the consultations, the results would go in the report and to guide the historic context. 3. We need to be sure to consult with *local informants*. I asked if she meant formal consultation process. No. She just wants us to do informal research with locals; they can help identify historic resources. Based on the maps I had sent to her and what she knows about the site and the lack of surveyed sites, she agreed that the APE for structures would be a 1-mile radius around the plant site.

Summary of 11-15-2007 telephone conversation between Sara Orton/CH2M HILL and Laura Kammerer with the FL SHPO: Calling to discuss the results of the previous survey in May. We will need to negotiate an APE for visual effects from the towers of the plant. I said I would find out the heights of the planned towers and we would talk again about a possible APE for visual. She suggested we would treat this APE delineation similarly to cell towers. She also said we will need to look into cultural communities in the area, as well as cultural landscapes. We will include that in our research. The concentration of previously recorded structures could contribute to the final determination of our APE. She also asked for a site plan and map of the project boundaries.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Correspondence with SHPO is provided electronically in Attachment 1 as follows: CR-2-001_New South and SHPO.pdf CR-2-002_Orton to Kammerer.pdf CR-2-003_APEtranslinesFinalverification.pdf
Map/figure showing laydown areas and archaeological APEs is provided electronically in Attachment 1 as CR-2-004_APE_LaydownAreas.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-3	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe the basis for determining any previous ground disturbance at the Levy site.	

RESPONSE:

Discussions between the NRC and SMEs regarding previous disturbance on the Levy Site resolved all questions with no further action.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-4	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe "preconstruction" activities and how any identified or not yet identified cultural resources will be impacted by these activities.	

RESPONSE:

Expert provided Table 4.6-2, which discusses the separation of construction and pre-construction activities for review. Comment was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-5	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert that can characterize the cultural resources at the site (areas listed below) and the impacts from construction and operation of the new units, to include discussions of: – New transmission line corridor(s) – Proposed rail line spur – Haul road(s) – Barge slip and associated access road – Makeup pipeline – Blowdown pipeline – Area to be used for intake structure and other pipeline associated structures – The Cross Florida Canal	

RESPONSE:

Experts were available for discussion.

The results of the cultural resources survey of the LNP site indicate there are no known historic properties. As such, there will be no known impacts to historic properties from construction and operation. The rail line has been removed from the plan. Cultural resources surveys have yet to be completed on the transmission line ROWs. All of the other items listed above have been surveyed and no NRHP-eligible or listed properties were found within the respective APEs.

Reviewer requested the SHPO letter stating concurrence with the findings of the surveys and was able to obtain needed documents directly from the SHPO office.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-6	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe the cultural resources scope of work to date, what remains to be completed, and a schedule for completion.	

RESPONSE:

Experts were available for discussion. No work remains at the LNP site or on the property south of the LNP site. The only unresolved issues are in regard to the transmission line ROWs, which have not yet been determined.

The transmission line cultural resource surveys schedule and results of the surveys will be provided when complete.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Transmission line cultural resource surveys schedule will be provided when available.
Results of Phase I cultural resource survey of transmission line right-of-ways will be provided when available.

PENDING ACTIONS

Provide documents when complete.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-7	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide copies of all reports completed by New South for the COL effort for Unit 1 and 2, and their associated SHPO concurrence.	

RESPONSE:

338884-TMEM-066 includes the entire New South Phase I cultural resource assessment survey and results, as well as the results of the standing structures survey. The reviewer obtained the requested documents directly from the SHPO.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-8	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe how any resources, previously identified or identified in the course of COL related work, were determined significant or not significant.	

RESPONSE:

Expert was available for discussion. Reviewer was satisfied with verbal responses to how properties were determined significant or not significant. The reviewer asked specifically about the Cross Florida Barge Canal and the research and evaluation of that site. He also discussed the canal with the SHPO. He was satisfied with the results of the research and evaluation.

The SHPO letter regarding concurrence with survey findings of significance was obtained by the reviewer directly from the SHPO.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-9	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe how it was determined that no traditional cultural properties will be impacted.	

RESPONSE:

Expert was available for discussion.

It has not been determined that no traditional cultural properties will be impacted. Consultations with Native American tribes have not yet been conducted. Unofficial inquiries were made to four area tribes.

PEF correspondence with tribes is provided in Attachment 1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

PEF correspondence with tribes are provided electronically in Attachment 1 as the following: CR-09-001_NPD-MISC-2008-001.pdf CR-09-002_NPD-MISC-2008-002.pdf CR-09-003_NPD-MISC-2008-003.pdf CR-09-004_NPD-MISC-2008-004.pdf CR-09-005_Proposed Application for the Levy Nuclear Power Plant.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-10	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide access to a procedure or plan for evaluation and mitigation or avoidance of cultural and historic resources identified during any previous or current investigations (if they are likely to be impacted by preconstruction, construction, or operation of the facility).	

RESPONSE:

As discussed in ER Subsections 2.5.3.1.4 and 2.5.3.2.2, no NRHP-eligible sites were found during the surveys, so there are no anticipated impacts to historic resources by preconstruction, construction, or operation of the facility. Since no historic properties were identified during any previous or current surveys, a mitigation or avoidance plan was not required.

The reviewer requested the PEF Cultural Resource Guidelines, which is provided in Attachment 1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Progress Energy Archaeological and Cultural Resources Guidelines is provided electronically in Attachment 1 as CR-10-001_EVC.SUBS.00105.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-11	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe the process for evaluating noise and viewshed impacts to cultural resources.	

RESPONSE:

There are no known NRHP-eligible resources in the approved APE, which considered potential viewshed impacts.

Discussion with SME resolved comment.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-12	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide access to procedure(s) for post-licensing cultural resource protection and management, from site specific to corporate level.	

RESPONSE:

As discussed in ER Subsections 2.5.3.1.4 and 2.5.3.2.2, no NRHP-eligible sites were found during the surveys, so there are no anticipated impacts to historic resources. Reviewer requested the PEF cultural resources management plan in an earlier information need, so this request will be covered elsewhere.

Discussion of related Information Needs resolved this comment. See responses to Info need CR-10.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-13	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide access to copies of ALL consultation correspondence with the SHPO, Tribes, and any other parties regarding the preconstruction and construction of the proposed Units 1 and 2 in reference to cultural and historic resources.	

RESPONSE:

Applicable references were provided for review. The summaries of the telephone conversation with five local residents are below. SHPO correspondence regarding establishment of the APEs is found in Information Need CR-2. Communications with the SHPO regarding inadvertent discoveries are provided in Attachment 1.

The telephone conversations summarized below all took place in early November 2007 in order to identify historic sites/properties in Levy County. The following are the sites the five respondents mentioned as having a local reputation as historic properties: the Yankeetown School; the Rock Store in "Crackertown," in between Yankeetown and Inglis on State 40, which is a rock built former grocery store built (in their estimation) between 1920 and 1950; the Inglis Post Office, located on Inglis Avenue; one or two houses across from the Inglis Town Hall, originally located at the old Florida Power Site, that were moved onto their current sites by a man named Hamp Mashburn; a cemetery (possibly called the Lebanon Cemetery) that dates back to the mid-1800s located on the east side of SR19 north of the proposed site; a piece of abandoned railroad track dating back to the turn of the last century located on the ranch of Harold Ross, the line used to run from Dunnellon to the Port of Inglis, while the rails have been pulled up, the handmade railroad bed (and possibly the ties) is still intact; Bill Bachschmidt's ranch is the old Cannon family ranch—they used to herd cattle from there to New Orleans along what was called the "Cannon Trail" in the 19th century, there is an old slave quarters there in the woods they have preserved, and a place called "Boggy Springs," a small freshwater spring that runs to the Gulf, which was a watering hole for the Cannon Trail; there is a hanging tree somewhere in the county where three black men were hung in the late 30s or early 40s; the old Inglis Power Plant site, the first Progress Energy had in Florida, which still has some buildings and foundations on it, near the proposed power plant site.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Communications with the SHPO regarding inadvertent discoveries are provided electronically in Attachment 1 as CR-13-001_LK-SO_inadvertentfinds_2008-7-15.pdf.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-14	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide access to copies of all survey reports referenced in the ER Sections 4.1.3 and 5.1.3.	

RESPONSE:

The referenced technical memorandum and site form in the above sections were attained by the reviewer directly from the SHPO. The only other reference in those sections was the Florida Master Site File data, from which the results of the research were compiled. The data request and response are provided in Attachment 1. The data received by the author from the SHPO was all the data from all three counties within the 10-mi. radius (Levy, Marion, and Citrus), which was then filtered to reveal only the properties within 10 mi.

The reviewer requested the SHPO data filtered for 10-mi. radius, including GIS layers for all seven historic elements (cemeteries, bridges, standing structures, archaeological sites, National Register sites, resource groups, and surveys). Due to the sensitive nature of the information in the SHPO data submittal, this data cannot be supplied. The NRC can request this data directly from the SHPO to ensure that the sensitive data is protected when it is transmitted to the NRC.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

SHPO data request and response (October 2007) is provided electronically in Attachment 1 as CR-14-001_SHPO data request 10-12-07.pdf.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-15	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a knowledgeable expert to describe the process used to identify interested Tribes and parties regarding cultural resources.	

RESPONSE:

Discussion with SME resolved comment/issue. See response to Info Need CR-09 for additional information on tribes.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-A	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide access to procedures for management of cultural resources, including protection of undiscovered resources and inadvertant discoveries.	

RESPONSE:

Discussion with SME resolved comment/issue. Documents were available for review during the audit. The responses to Information Needs CR-10 and CR-13 include the documents discussed above.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: CR-B	TOPIC AREA: Cultural Resources
COMMENT/ISSUE: Provide a copy of responses to tribes requesting information regarding any archaeological sites that would be impacted by the project.	

RESPONSE:

The NRC is responsible for the Government to Government consultation process with the tribes. PEF letters to tribes were requests for information only, not part of an official consultation. There has been no communication by PEF with the tribes since the initial letters included in Information Need CR-9 were sent. Since cultural resource surveys have been completed for the LNP, PEF does not plan any further communication with the tribes.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

General

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-1	TOPIC AREA: General
COMMENT/ISSUE: Provide access to originals of all ER figures in .jpeg, .png or .tif format at a resolution of at least 300 dpi, and sized correctly.	

RESPONSE:

Originals of all ER figures and FSAR Figures 2.5.4.2-202a and 2.5.4.2-220b, 2.5.4.2-203a, and 2.5.4.2-203b have been provided in .jpeg, .png, or .tif format at a resolution of at least 300 dpi and sized correctly.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

All ER figures and FSAR Figures 2.5.4.2-202a and 220b, 203a and 203b have been provided under separate cover via letter NPD-NRC-2008-088, 12/17/2008.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-2	TOPIC AREA: General
COMMENT/ISSUE: Provide access to separate layers for GIS files.	

RESPONSE:

Separate layers for GIS files have been provided under separate cover via letter NPD-NRC-2008-088, 12/17/2008.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

GIS layers have been provided under separate cover via letter NPD-NRC-2008-088, 12/17/2008.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-3	TOPIC AREA: General
COMMENT/ISSUE: Make available the ER references.	

RESPONSE:

The references listed in LNP ER, Revision 0, are provided electronically in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

ER references are provided electronically in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-4	TOPIC AREA: General
COMMENT/ISSUE: Provide the background information that supports all statements made and conclusions reached for each subject area for each alternative site (documentation is needed to show due diligence in gathering and using the best readily available information for a reconnaissance level review).	

RESPONSE:

The Progress Energy Florida, Inc., "Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," October, 2007 (Proprietary Reference) provided the background information that was used in developing the write-ups for each subject area for each of the alternative sites evaluated in Section 9.3. PEF indicated that a proprietary copy of this document is provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Progress Energy Florida, Inc., "Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," October, 2007 (Proprietary Reference) is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-5	TOPIC AREA: General
COMMENT/ISSUE: Provide knowledgeable expert(s) in appropriate disciplines to discuss contents of Tables 10.1-1 and 10.1-2 and assure consistency between the contents of the summary tables and the results of information needs discussions. It is anticipated that this will be addressed in specific breakout sessions for the individual disciplines.	

RESPONSE:

Ensure consistency between Table 10.1-1, Table 10.1-2, and Chapter 10 with the rest of the ER based on the revisions made as a result of the NRC audit.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Ensure consistency between Table 10.1-1, Table 10.1-2, and Chapter 10 with the rest of the ER based on the revisions made as a result of the NRC audit in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-6	TOPIC AREA: General
COMMENT/ISSUE: Provide or make available copies of permits for the CREC that may be relevant to or affected by the proposed Levy County action (e.g., USACE or NPDES permits).	

RESPONSE:

Copies of available permits were made available during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-7	TOPIC AREA: General

COMMENT/ISSUE: Provide large wall map(s) at the site audit that show key features related to the proposed project, including:

- Proposed temporary and permanent facilities
- Proposed construction laydown areas
- Proposed intake pipeline
- Proposed intake structure
- Proposed discharge pipeline
- Proposed transmission corridor(s)
- Property boundaries
- Points of interest (e.g., nearby residences, gas pipelines, nearby industries, including quarries/mines)
- Proposed rail line spur
- Proposed haul roads
- Proposed barge slip and associated road

RESPONSE:
The following figures were provided at the audit:

	File Provided
• Proposed temporary and permanent facilities	LNG-G100-X2-001.pdf
• Proposed construction laydown areas	LNG-G100-X2-001.pdf
• Proposed intake pipeline	LNP_SCA_FIG04_10_02_01.pdf
• Proposed intake structure	LNP_ER_FIG03_03_03.pdf; LNP_ER_FIG03_03_04.pdf
• Proposed discharge pipeline	LNP_SCA_FIG04_10_02_01.pdf
• Proposed transmission corridor(s)	LNP_ER_FIG02_02_06.pdf
• Property boundaries	Levy_aerial_structures_7MB.jpg
• Points of interest (e.g., nearby residences, gas pipelines, nearby industries, including quarries/mines)	**SEE BELOW**
Nearby Residences	LNP_ER_FIG02_03_40.pdf
Gas Pipelines	LNP_FSAR_FIG02_02_02_201.pdf
Nearby Industries	LNP_FSAR_FIG02_02_02_201.pdf
Quarries/Mines	LNP_FSAR_FIG02_02_02_203.pdf
Receptor Locations	Field_Map_E_ID1405.pdf
• Proposed haul roads	LNP_SCA_FIG04_10_01_01.pdf
• Proposed barge slip and associated road	LNP_SCA_FIG04_10_01_01.pdf

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: G-A	TOPIC AREA: General
COMMENT/ISSUE: Provide Draft LNP ER Revision 1, Sections 4.6 and 4.8 in response.	

RESPONSE:

Proposed Revision 1 of ER Section 4.6 “Measures and Controls to Limit Adverse Impacts During Construction” and ER Section 4.8 “Activities Undertaken Under a Limited Work Authorization” are attached to this response. Both of these sections have been revised to provide additional clarification regarding the Limited Work Authorization (LWA) that is being requested by PEF and the environmental impacts that are expected to occur as a result of those LWA activities.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Proposed Revision 1 of ER Sections 4.6 and 4.8 is provided electronically in Attachment 1 as G-A-001_LNP_ER_4.6_and_4.8_Rev1(01-07-09).

PENDING ACTIONS

None.

Hydrology

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-1	TOPIC AREA: Hydrology
COMMENT/ISSUE: Surface Water (SW) -1: Provide a knowledgeable expert to discuss state and federal permitting and consultation requirements for the proposed project and the statuses of the respective applications.	

RESPONSE:

Expert was available for this discussion during the audit. State and federal permitting and consultation requirements for the proposed project were included in the federal, state, and local environmental permits and authorizations matrix were provided at the audit. The status of the respective applications follows the SCA schedule provided by the FDEP Siting Coordination Office. An exception includes the USACE, which does not have statutory timeframes. The status of the Section 404/10 permit is contingent upon the issuance of the EIS record of decision and is assumed to be complete by July 2010.

The NRC noted the following projected SCA schedule:

- December 15-19, 2008 – Anticipated date(s) for hearing on challenge(s) to Levy County's Land Use Determination, if petition(s) filed.
- December 15, 2008 – Deadline for Agencies to submit reports to DEP (Main Site & Associated Facilities).
- January 12, 2009 – Deadline for DEP to issue Staff Analysis Report (Main Site) & Associated Facilities).
- February 23 – April 17, 2009 – Anticipated Dates for Certification Hearing in Levy County. (Local subsets of the certification hearing held per schedule to be established by ALJ.) [Deadline is February 23, 2009].
- June 8, 2009 – Anticipated date for ALJ to issue Recommended Order on Certification. (assumes transcript filed April 24, 2009)
- August 11, 2009 – Anticipated date for Siting Board Hearing on Certification Determination.

The following information was available at the audit:

Federal, state, and local environmental permits and authorizations matrix
First amended schedule table

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-2	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-2: Provide a knowledgeable expert to discuss different datums used to report elevations in the ER Sections 2.3.1 and 3.6.3.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

The word “elevation” was used incorrectly and should instead be the word “height”; there is no similarity between an elevation based on a survey datum (NGVD29 or NAVD88) as used in ER Subsection 2.3.1 and an elevation above the nominal plant grade as indicated in some of the subsections within ER Subsection 3.6.3. Wording will need to be modified in the following ER Subsections: 3.6.3.1.1, 3.6.3.1.2, and 3.6.3.1.3.

Elevations within ER Subsection 3.6.3.2 are based on a survey datum of NAVD88; the survey datum will be added to the appropriate elevations within this subsection.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsections 3.6.3, 3.6.3.1.1, 3.6.1.2, 3.6.3.1.3, and 3.6.3.2 as discussed above in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-3	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-3: Provide a knowledgeable expert to discuss flooding near the LNP site described in the ER Sections 2.3.1 and 3.6.3.	

RESPONSE:

Expert was available for this discussion during the audit.

Section 2.3 will be revised to discuss derivation of the 100-year flood plain, and Figure 2.3-11 will be revised as indicated by the NRC in a future revision of the ER.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Section 2.3 to discuss derivation of the 100-year flood plain in a future revision of the ER.
Consider changing the title of Figure 2.3-11 to "Existing 100-Year Flood Zone at LNP Site".
Consider adding discussion about the derivation of the 100 year flood plain shown in FIRM (Figure 2.3-11).

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-4	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-4: Provide a knowledgeable expert to discuss the operation of the Inglis Lock with regard to discharges to Lower Withlacoochee River as described in ER Sections 2.3.1 and 5.2.1.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

The Inglis Lock has been inoperable since 1999. If the lock is fixed in the future, water discharged during operation would flow into the Cross Florida Barge Canal (CFBC) and not the lower Withlacoochee River. Surface water currently flows from Lake Rousseau to the lower Withlacoochee River through the Inglis Lock Bypass Channel and Inglis Bypass Channel Spillway (see ER Figure 2.3-7).

ER Subsection 2.3.1.2.1.1 states, “As previously described, the lock is no longer in operation; however, during operation approximately 43.2 million L (11.4 million gal.) of freshwater were released from Lake Rousseau into the Gulf of Mexico every time the lock was used. There are no current plans to restore operation of the lock.”

ER Subsection 5.2.1.2 states, “This lock is currently inoperable and has not been in use since 1999 because of disrepair of the upper gate. The primary flow pathway from the lake is through the Inglis Lock Bypass Channel and into the lower Withlacoochee River (Figure 5.2-4).”

The operation of the Lake Rousseau water control structures is detailed in the State of Florida Department of Environmental Protection document “Water Control Plan for Inglis Project Works, Cross Florida Greenway Recreation and Conservation Area and Lake Rousseau.”

Supporting information:

1. ER Figure 2.3-7 “Water Control Structures Near the LNP Site”
2. “*Water Control Plan for Inglis Project Works, Cross Florida Greenway Recreation and Conservation Area and Lake Rousseau*,” State of Florida Department of Environmental Protection, Office of Greenways and Trails, June 2001.
3. ER Reference 2.3-006 – “FDEP Water Control Plan” (2001)
4. ER Reference 2.3-023 – “Structure Profile: Inglis Bypass Spillway” (2001)
5. ER Reference 2.3-024 – “Structure Profile: Inglis Dam” (2001)

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-5	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-5: Provide a knowledgeable expert to discuss the availability and characteristics of the surface water sampling program in the CREC discharge canal as described in the ER Section 2.3.3.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

The characteristics of the surface water sampling program for the CREC discharge canal and additional CFBC sampling are detailed in 338884-WKPL-003, Rev 2 "COLA Aquatic Sampling Workplan for Levy County Site, Progress Energy, Florida," November 21, 2008. Sampling locations for the additional data are shown in Figure 2-1. Sample locations for the CFBC are also shown in ER Figure 2.3-8 and ER Figure 2.3-12.

Additional analytical data not included in the LNP ER, Rev. 0, are included in the following tables and are provided in the Progress Energy-provided Reading Room:

1) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-01
2) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-02
3) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-03
4) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-04
5) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-05
6) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-06
7) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-07
8) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-08
9) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-09
10) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-10
11) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 0.0
12) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 1.0
13) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 1.5
14) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 2.0
15) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 2.5
16) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 3.0
17) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 4.0
18) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 4.5
19) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 5.0
20) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 5.5
21) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 6.0
22) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 6.5
23) Field Sampling Data at Cross Florida Barge Canal Station – CFBC-WQ 7.5
24) Field Sampling Data at Cross Florida Barge Canal Station – CREC-01
25) Field Sampling Data at Cross Florida Barge Canal Station – CREC-02
24) Field Sampling Data at Cross Florida Barge Canal Station – CREC-03
27) Field Sampling Data at Cross Florida Barge Canal Station – CREC-04
28) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-01
29) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-02

30) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-03
31) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-04
32) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-05
33) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-06
34) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-07
35) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-08
36) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-09
37) General Chemistry Sampling Data at Cross Florida Barge Canal Station - CFBC-10
38) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 4&5 Discharge
39) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 4&5 Intake
40) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 01
41) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 02
42) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 03
43) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 04
44) Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-01
45) Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-02
46) Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-03
47) Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-04
48) Clean Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-03
49) Clean Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-04
50) Clean Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-05
51) Clean Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-06
52) Clean Metals Sampling Data at Cross Florida Barge Canal Station – CFBC-07
53) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 4&5 Discharge
54) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC 4&5 Intake
55) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC – 01
56) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC – 02
57) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC – 03
58) General Chemistry Sampling Data at Crystal River Energy Complex Station – CREC – 04
59) Priority Pollutant Sampling Data at Cross Florida Barge Canal Station – CFBC-02
60) Priority Pollutant Sampling Data at Cross Florida Barge Canal Station – CFBC-03
61) Priority Pollutant Sampling Data at Crystal River Energy Complex Station – CREC 4&5 Discharge
62) Priority Pollutant Sampling Data at Crystal River Energy Complex Station – CREC 4&5 Intake

The following text will be added to Subsection 2.3.3.1 in a future revision of the ER to replace the sentence describing the CREC discharge canal as a Class III Water:

> The CREC's existing discharge canal is not waters of the State; instead, it is an essential component of the "point source" or "wastewater facility" for regulatory purposes. PEF relies on the heat loss in the canal to come into temperature compliance by the end of it, hence the helper cooling towers along its banks.
>
> Pursuant to Section 403.0885(2), Florida Statutes, the Department "is empowered to establish a state NPDES program in accordance with Section 402 of the federal Clean Water Act." Requirements under the Clean Water Act are applicable to discharges from point sources that are released into jurisdictional waters. (See Rule 62-660.400(1), F.A.C.) The term "point source" is defined as "any discernible, confined, and discrete conveyance," such as a "ditch" or "channel," Rule 62-620.200(37), F.A.C. Similarly, the term "wastewater facility" means a facility discharging into jurisdictional waters; the term "wastewater facility" includes the wastewater "transmission system," Rule 62-620.200(55), F.A.C.
>
> Simply put, the CREC discharge canal is a classic example of an existing "discrete conveyance" that constitutes part of an existing point source, not jurisdictional waters. As explained in Rule 62-302.520(3)(g), F.A.C., the point of discharge for a thermal discharge is "that point at which the

effluent physically leaves its carrying conduit (open or closed), and discharges into the waters of the state…." (Emphasis added.) This confirms that the discharge canal itself is not jurisdictional waters. Note that the existing discharge canal was constructed specifically to transport the Crystal River cooling water from the plant to jurisdictional waters. Because "waste transport" is specifically excluded as a permissible designated use for jurisdictional waters (40 CFR 131.10), it would not be logical to assert that water quality standards (which include designated uses) apply within the discharge canal.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Water quality analytical data (see list in response) are provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

Revise Subsection 2.3.3.1 as discussed above in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-6	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-6: Provide a knowledgeable expert to discuss the water treatment system used for the raw water system with reference to the ER Sections 3.3.2, 3.6.1, and 3.6.3.	

RESPONSE:

Expert was available for this discussion during the audit. ER Figure 3.3-2 was referenced. All raw water receives preliminary treatment through a media filter. Additional treatment is based on end use as described in the DCD. Potable water treatment is discussed in ER Section 3.6.1.1.3.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Verify accuracy of sodium hypochlorite dose in the ER sections referenced in the comment and response. If necessary, provide updated text in a future revision of the ER.
Consider discussing the sodium hypochlorite dose based on estimated water quality and industry standards.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-7	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-7: Provide a knowledgeable expert to discuss details of the CFBC makeup intake structure and the description of components used for addition of chemicals with respect to the ER Section 3.4.2.	

RESPONSE:

Expert was available for this discussion during the audit. Details of the CFBC makeup intake structure are provided in ER Subsection 3.4.2.1.1. The CWIS intake design is shown in ER Figure 3.3-3 and ER Figure 3.3-4.

ER Subsection 3.3.2 states, “Each unit of the LNP will have a CWS, SWS, PWS, DTS, and an FPS. The description of the chemicals that will be injected into these systems and the concentration of the effluents that will be discharged to the Gulf of Mexico are presented in Table 3.3-3.”

There are no chemicals added at the intake structure.

Supporting Information:

1. ER Figure 3.3-3 “Cooling Water Intake Structure — General Arrangement”
2. ER Figure 3.3-4 “Cooling Water Intake Structure — Section View”

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-8	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-8: Provide a knowledgeable expert to discuss details of the outfall structure with respect to the ER Section 3.4.2.	

RESPONSE:

Expert was available for this discussion during the audit. There are no anticipated changes to the design of the outfall structure regardless of whether the CREC discharge canal is considered Class III waters.

NRC staff will consult with the FDEP.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-9	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-9: Provide a knowledgeable expert to discuss heat dissipation system performance analyses based on site-specific data with respect to the ER Section 3.4.2.	

RESPONSE:

Expert was available for this discussion during the audit. Salt drift is discussed in ER Subsection 5.3.3.2.1.

The following documents are provided in the Progress Energy-provided Reading Room:

Technical Memorandum 338884-TMEM-058 – "Cooling Tower Plume Visibility Analysis"
Calculation LNG-CWS-GER-001 "Conceptual Design and Calculations for Levy Circulating Water and Raw Water Systems"

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Technical Memorandum 338884-TMEM-058 – "Cooling Tower Plume Visibility Analysis" is provided in the Progress Energy-provided Reading Room.
LNP Calc Package LNG-CWS-GER-001 – "Conceptual Design and Calculations for Levy Circulating Water and Raw Water Systems" is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-10	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-10: Provide a knowledgeable expert to discuss the stormwater runoff during construction and operation.	

RESPONSE:

Expert was available for this discussion during the audit. Stormwater runoff during construction and operation is discussed in ER Subsections 4.2.1 and 5.2.1, respectively. See ER Figure 3.3-2 and ER Subsection 5.2.1.1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-11	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-11: Provide a knowledgeable expert to discuss the site grading plan and its effects on local hydrology including runoff and infiltration during construction and operation.	

RESPONSE:

Expert was available for this discussion during the audit. The effects of the site grading plan on local hydrology including stormwater runoff and infiltration during construction and operation are discussed in ER Subsections 4.2.1 and 5.2.1, respectively.

Supporting information:

1. Report LNG-0000-XGR-001; Revision 4 - " Conceptual Grading and Drainage"

2. Drawings LNG-0000-XG-001 through 027 (27 Drawings); - "Conceptual Grading and Drainage Plan" (Overall Plan, Key Plan and Sheet 1 to 25)

See drawing and revision number in the table below.

Levy Nuclear Plant, Units 1 and 2		
Latest Revision of Grading and Drainage Plan Drawings		
#	Drawing #	Revision #
1	LNG-0000-XG-001	5
2	LNG-0000-XG-002	3
3	LNG-0000-XG-003	2
4	LNG-0000-XG-004	2
5	LNG-0000-XG-005	3
6	LNG-0000-XG-006	2
7	LNG-0000-XG-007	2
8	LNG-0000-XG-008	2
9	LNG-0000-XG-009	3

10	LNG-0000-XG-010	3
11	LNG-0000-XG-011	2
12	LNG-0000-XG-012	2
13	LNG-0000-XG-013	1
14	LNG-0000-XG-014	4
15	LNG-0000-XG-015	3
16	LNG-0000-XG-016	2
17	LNG-0000-XG-017	1
18	LNG-0000-XG-018	1
19	LNG-0000-XG-019	2
20	LNG-0000-XG-020	2
21	LNG-0000-XG-021	3
22	LNG-0000-XG-022	1
23	LNG-0000-XG-023	1
24	LNG-0000-XG-024	1
25	LNG-0000-XG-025	1
26	LNG-0000-XG-026	2
27	LNG-0000-XG-027	1

Wetlands on the LNP site have been delineated. Jurisdictional wetland maps will be available in spring 2009.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Jurisdictional Wetland Maps (Spring 2009) will be provided when available.
Report LNG-0000-XGR-001, "Conceptual Grading and Drainage," Revision 4, is provided in the Progress Energy-provided Reading Room.
Drawings LNG-0000-XG-001 through 027 (27 Drawings), "Conceptual Grading and Drainage Plan" (Overall Plan, Key Plan and Sheet 1 to 25), are provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

Provide jurisdictional wetland maps when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-12	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-12: Provide a knowledgeable expert to discuss Florida's Regional Off-Site Mitigation Area (ROMA) Plan.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed.

ROMAs are environmental restoration projects, usually sponsored by a government entity, that are administered to satisfy mitigation requirements for multiple projects. Applicants pay the ROMA sponsor and the funds are applied to the restoration effort. ROMAs are similar to banks in that they offer applicants pre-approved mitigation opportunities, but they differ from banks in that credits are not sold. Instead, payment and mitigation plans are on a case-by-case basis. ROMAs are authorized under Chapter 373.4135 of the Florida Statutes.

There is no ROMA currently active in the LNP vicinity. Mitigation for the LNP project will consist of a combination of onsite and offsite wetland restoration and enhancement.

PEF has developed a detailed wetland mitigation plan. The latest version of the LNP Wetland Mitigation Plan was filed with FDEP and is available at the following FDEP Mitigation Plan weblink: http://www.dep.state.fl.us/siting/Highlights/Applications/PPSA/Levy%20County/LNP%20Mitigation%20Plan%2012-26-08.pdf

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-13	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-13: Provide a knowledgeable expert to discuss the fate of construction-related effluents with respect to the ER Section 4.2.2	

RESPONSE:

Expert was available for this discussion during the audit.

ER Subsection 4.2.2.1 states, “General construction practices identified in the E&SCP, prepared in accordance with the FESC manual, will restrict the amount of additional sediment in stormwater related to construction activities. Water collected from dewatering operations will be detained in the stormwater ponds to allow particulates to settle. Discharges related to construction activities will be nonpoint source. All federal, state, regional, tribal, and local regulations relating to nonpoint sources will be observed, as listed in ER Subsection 4.2.1.”

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-14	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-14: Provide a knowledgeable expert to discuss impacts on freshwater streams including the Lower Withlacoochee River during operation with respect to the ER Section 5.2.1.	

RESPONSE:

Expert was available for this discussion during the audit. No freshwater streams, rivers (including the Lower Withlacoochee River), or lakes (including Lake Rousseau) will be impacted during LNP operation.

ER Subsection 5.2.1 states, “As described in ER Subsection 3.3.1, this water will be withdrawn from the CFBC and will be used for cooling tower evaporation, cooling tower blowdown, and pump strainer backwash. The portion of the cooling tower water supply not lost to evaporation will be discharged to the Gulf of Mexico through the use of a blowdown pipeline routed to the Crystal River discharge canal located at the CREC.”

Further details are described in ER Subsection 2.3.2.1, “There will be no discharge of water from the cooling towers to Waccasassa River basin.” and “The proposed pipelines (both blowdown and makeup) will be located in the lower part of the LNP site within the Withlacoochee River basin (Figure 2.3-31). However, the Withlacoochee River will not be influenced by the LNP as the makeup pipe will be directly connected to the Gulf of Mexico through the CFBC and the blowdown pipe will be connected to the Gulf through the CREC discharge canal.”

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-15	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-15: Provide a knowledgeable expert to discuss returns of any withdrawn water under different modes of operation with respect to the ER Section 5.2.1.	

RESPONSE:

Expert was available for this discussion during the audit. Different returns of withdrawn water are detailed in ER Chapter 3, specifically in ER Section 3.3 and ER Section 3.4. Discharge flow rates from the cooling system are shown in ER Table 3.3-2 and ER Figure 3.3-2.

In addition, ER Subsection 5.2.2.2 states, “Potential impacts on water quality from discharge of additional cooling water to the CREC discharge canal, and ultimately to the Gulf of Mexico, will be mitigated through compliance with an NPDES permit. This permit will specify limits on numerous water quality characteristics including temperature and constituent concentrations.”

Supporting Information:

1. ER Table 3.3-2 “Anticipated Water Use (Two AP1000 Units)”
2. ER Figure 3.3-2 “AP1000 Water Balance Diagram (Two Units)”

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-16	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-16: Provide a knowledgeable expert to discuss HEC-RAS modeling of the CFBC described in the ER Sections 5.2.1 and 5.2.2.	

RESPONSE:

Expert was available for this discussion during the audit. The purpose of the modeling was to evaluate the change in velocities that the intake may have on the CFBC. Two simulations were conducted for this portion of the ER: one at high tide and one at low tide. These results show that withdrawing the 122 mgd will have a negligible effect.

The following documents are provided in the Progress Energy-provided Reading Room:

Calculation LNG-0000-X7C-027 “HEC RAS Model of Barge Canal”
Calculation LNG-CWS-GER-001 “Conceptual Design and Calculations for Levy Circulating Water and Raw Water Systems”

HEC-RAS input files were provided under separate cover, as noted below.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Calculation LNG-0000-X7C-027 “HEC RAS Model of Barge Canal” is provided in the Progress Energy-provided Reading Room.
Calculation LNG-CWS-GER-001 “Conceptual Design and Calculations for Levy Circulating Water and Raw Water Systems” is provided in the Progress Energy-provided Reading Room.
HEC-RAS input files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-17	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-17: Provide a knowledgeable expert to discuss the study regarding freshwater contribution to CFBC described in the ER Section 5.2.2.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

It was recognized in the ER that some periodic freshwater contributions to the upper portions of the CFBC will occur during wet period releases from the Inglis Dam (Lake Rousseau), leakage from the Inglis Lock, and contributions from groundwater discharging to the canal. More specifically, releases from the Inglis Dam will flow directly into the old Withlacoochee River channel (OWRC) that connects to the CFBC and any leakage from the Inglis Lock will flow directly into the CFBC.

Freshwater flow data for discharge from the Inglis Dam into the OWRC was obtained from USGS station 02313230. Flow data were available from October 1, 1969, through December 20, 2007. Data are in the form of average daily flows from Lake Rousseau and represent flow over the spillway as well as an estimated additional 70 cubic feet per second (cfs) of groundwater downstream of the control structure that is considered to be primarily leakage from the lake.

The average daily value of freshwater discharge into the OWRC based on these data is 436 cfs; however, this value is skewed by flows during high discharge periods and is not representative of the most common conditions. For about 47 percent of the time, the Inglis Dam does not discharge into the OWRC and all freshwater flow into the river is from groundwater. The median value of freshwater discharge presented in the data is 87 cfs, consisting of 17 cfs discharged over the dam and an assumed 70 cfs discharged as groundwater. The maximum flow rate released was reported by the USGS to be 6,030 cfs during the period of record.

There are no similar gage data in the CFBC. Flow of freshwater in the upper portion of the CFBC can only be estimated indirectly. The SWFWMD has a regional groundwater model (DWRM2) for this area. In the DWRM2 model, the flux of Upper Floridan groundwater into the upper portions of the CFBC is only about 5 mgd (3.23 cfs).

A technical memorandum is being compiled regarding impacts to the biological communities resulting from potential changes in the salt water wedge in the original run of the Lower Withlacoochee River between the Inglis Dam and the CFBC. This study is anticipated to be available in February 2009.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Study regarding the biological communities in the Withlacoochee River just downstream of the Inglis Dam (anticipated February 2009)

PENDING ACTIONS

Provide requested document when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-18	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-18: Provide a knowledgeable expert to discuss the CWIS intake design and operational characteristics described in the ER Section 5.3.1.1.	

RESPONSE:

Expert was available for this discussion during the audit. The CWIS intake design is shown in ER Figure 3.3-3 and ER Figure 3.3-4.

As stated in ER Subsection 5.3.1.1, "… the facility will be designed to meet the stringent intake design through-screen velocity requirements of less than 0.15 m/s (0.5 ft/sec) required by the CWA Section 316 Phase I regulations for new raw water pumphouse." A more detailed design of operational characteristics will be completed later in the design process.

Additional information concerning the CWIS operation is discussed in ER Subsection 3.4.2.1.1. ER Table 3.3-1 and ER Figure 3.3-1 present Westinghouse's standard AP1000 plant water balance diagram for an individual plant for each system or component (this information is provided for reference only). ER Table 3.3-2 and ER Figure 3.3-2 present the anticipated plant water usage and discharges for the two new AP1000 units at the LNP site.

The 316b Demonstration Study document requested can be found in the SCA, Volume 5, Section D, 10.02.2 NPDES.

Supporting Information:

1. ER Figure 3.3-3 "Cooling Water Intake Structure — General Arrangement"
2. ER Figure 3.3-4 "Cooling Water Intake Structure — Section View"
3. ER Table 3.3-1 "AP1000 Water Balance Flow Rates and Volumes by Path"
4. ER Figure 3.3-1 "AP1000 Water Usage Flow Paths"
5. ER Table 3.3-2 "Anticipated Water Use (Two AP1000 Units)"
6. ER Figure 3.3-2 "AP1000 Water Balance Diagram (Two Units)"
7. SCA Appendix 10.2.2, NPDES Permit Application, see Appendix A of Attachment 2 (316b Demonstration)

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-19	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-19: Provide a knowledgeable expert to discuss the combined LNP and CREC discharges to the CREC discharge canal as described in the ER Section 5.3.2.1.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

Discharge from the LNP into the CREC discharge canal is being negotiated with the FDEP for the NPDES permit. While the LNP will be permitted separately, the permits at the CREC will also need to be modified. NPDES permits for CREC Units 1, 2, and 3 will expire in May 2010 and that renewal process will start approximately November 2009.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-20	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-20: Provide a knowledgeable expert to discuss thermal plume modeling at the discharge point of the CREC discharge canal.	

RESPONSE:

Expert was available for this discussion during the audit. No plume modeling was conducted for the ER. The only assessment to date was to model the potential change that the additional LNP discharge may have on the mixing and dilution potential of the existing CREC plume as part of the NPDES permitting process. This modeling was conducted using EPA's VISUAL Plume model and the PDS subprogram. These results indicate no significant change in the CREC plume.

Technical Memorandum, 338884-TMEM-076, Rev 0, "Potential Changes to the Plume at CREC Resulting from LNP Discharge," discusses thermal plume modeling at the discharge point of the CREC discharge canal and is provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Technical Memorandum 338884-TMEM-076, Rev 0, "Potential Changes to the Plume at CREC Resulting from LNP Discharge" is provided in the Progress Energy-provided Reading Room.
The input files for thermal (VISUAL) plume have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-21	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-21: Provide a knowledgeable expert to discuss alternatives to the heat dissipation system described in the ER Section 9.4.1.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

As discussed in the LNP ER Subsection 9.4.1, the variety of heat dissipation system alternatives that can be evaluated are generally included in the broad categories of once-through and closed-cycle systems. An initial evaluation of once-through cooling and closed-cycle cooling alternative designs was performed to eliminate systems that are unsuitable for use at the LNP site. In addition to rejecting the once-through cooling alternative, the following types of closed-cycle cooling heat dissipation system alternatives were also considered but rejected:

- Cooling ponds and spray ponds
- Dry cooling towers
- Hybrid wet/dry cooling towers
- Natural draft cooling towers

In accordance with NUREG-1555, the heat dissipation alternatives were evaluated for land use, water use, and other environmental (legislative or regulatory) requirements. The alternatives identified above were eliminated from further consideration because they were determined not to be environmentally preferred alternatives, as discussed in ER Subsection 9.4.1.1.1, ER Subsection 9.4.1.1.2, ER Subsection 9.4.1.1.3, ER Subsection 9.4.1.1.4, and ER Subsection 9.4.1.1.5.

The mechanical draft cooling tower alternative is considered a suitable heat dissipation system for the LNP site and is evaluated in detail in ER Section 3.4, ER Section 5.3, and ER Subsection 9.4.1.2.

A summary of the environmental impacts of the heat dissipation system alternatives is provided in ER Table 9.4-1, while ER Table 9.4-2 provides economic comparisons of the cooling tower options for a single hot weather year.

The information used in developing the write-up for the alternatives to the heat dissipation system described in ER Subsection 9.4.1 was taken from the EPA's AP 42 air pollution emission factors; the EPA's final regulations addressing cooling water intake structures for new facilities; the USGS's national handbook of recommended methods for water data acquisition; and Sargent & Lundy's engineering and economic evaluation of the integrated heat rejection cycle.

Supporting Information:

1. ER Table 9.4-1 "Summary of Environmental Impacts of the Heat Dissipation System Alternatives"
2. ER Table 9.4-2 "Life Cycle Cost Benefit for Tower Options (Hot Weather Year)"
3. U.S. Environmental Protection Agency, AP 42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, January 1995.
4. U.S. Environmental Protection Agency, "Chapter 4: Dry Cooling," Cooling Water Intake Structures—CWA 316(b), Phase I—New Facilities, Technical Development Document for the Final Regulations,

Technical Report Number EPA 821-R-01-036, November 2001, Website, *www.epa.gov/waterscience/316b/phase1/technical/ch4.pdf, accessed February 5, 2008*.

5. U.S. Geologic Survey, "Chapter 11: Water Use," National Handbook of Recommended Methods for Water Data Acquisition, Website, *www.pubs.usgs.gov/chapter11/, accessed February 4, 2008*.
6. Sargent & Lundy, Engineering and Economic Evaluation of the Integrated Heat Rejection Cycle Florida, Report No. LNG-G2-GER-001, Revision 1, Heat Rejection Study, 12 October 2007.
7. See response to Alt-D, Alt-E, and Alt-F.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-22	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-22: Provide a knowledgeable expert to discuss alternatives to the proposed intake system, discharge system, and water supply described in the ER Section 9.4.2.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

ER Subsections 9.4.2.1.1.1 and 9.4.2.1.1.2 present a preliminary inventory and assessment of freshwater and saltwater makeup (intake) source water. ER Subsection 9.4.2.1.1.4 presents the associated intake pipeline routing alternatives. The preferred makeup water intake system and associated pipeline corridor is identified in ER Subsection 9.4.2.1.2. In addition, the proposed intake plan views are presented in Appendix D (316[b] Demonstration) of the SCA and in ER Section 3.3.

ER Subsection 9.4.2.1.1.3 presents a preliminary inventory and assessment of blowdown (discharge) systems. ER Subsection 9.4.2.1.1.4 presents the associated discharge pipeline routing alternatives. The preferred discharge system is identified in ER Subsection 9.4.2.1.3.

The information used in developing the write-up for the alternatives to the proposed intake system, discharge system, and water supply, as described in ER Subsection 9.4.2, was taken from the PEF Technical Memorandum on the cooling tower makeup water sources and blowdown alternatives; the Sargent & Lundy engineering and economic evaluation of the integrated heat rejection cycle; the Westinghouse Electric Company's AP1000 design control document; and the Worley Parsons conceptual design and calculations report for Levy's circulating and raw water systems.

Supporting Information:

1. Site Certification Application (SCA) Appendix D (316[b] Demonstration)
2. Progress Energy, Technical Memorandum (338884-TMEM-073), Preliminary Environmental Review of Potential Cooling Tower Makeup Water Sources and Blowdown Alternatives, Levy Nuclear Plant (LNP), Levy County, Florida, November 20, 2007.
3. Sargent & Lundy, Engineering and Economic Evaluation of the Integrated Heat Rejection Cycle Florida, Report No. LNG-G2-GER-001, Revision 1, Heat Rejection Study, 12 October 2007.
4. Westinghouse Electric Company, LLC, AP1000 Design Control Document, Revision 16, 2007.
5. Worley Parsons, Conceptual Design Calculations for Levy Circulating Water and Raw Water Systems for Levy Nuclear Plant Units 1 & 2, Report No. LNG-CWS-GER-001, Revision 0, January 8, 2008.
6. See response to Alt-2, Alt-3, Alt-4, and Alt-G.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-23	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-23: Provide a knowledgeable expert to discuss the process of alternative site selection with respect to hydrology.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

As explained in ER Subsection 9.3.2.1.5, five sites were identified as alternative sites that warranted further and more detailed evaluation and consideration. The five alternative sites include: Crystal River, Dixie, Highlands, Putnam, and Levy.

Each of the five alternative sites was evaluated with respect to hydrology and water usage. A discussion on the Crystal River hydrology can be found in ER Subsection 9.3.3.1.3. A discussion on the Dixie hydrology can be found in ER Subsection 9.3.3.2.3. A discussion on the Highlands hydrology can be found in ER Subsection 9.3.3.3.3. A discussion on the Putnam hydrology can be found in ER Subsection 9.3.3.4.3. A discussion on the Levy hydrology can be found in ER Subsection 4.2.2 and ER Subsection 5.2.2.

The Progress Energy Florida, Inc., "Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," October, 2007 (Proprietary Reference) document provided the background information that was used in developing the hydrology and water use write-ups for each of the five alternative sites.

Supporting Information:

1. Progress Energy Florida, Inc., *Progress Energy, New Nuclear Baseload Generation Addition, Evaluation of Florida Sites*, October 2007 (Proprietary Reference).
2. See response to Alt-K.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-24	TOPIC AREA: Hydrology
COMMENT/ISSUE: SW-24: Provide a knowledgeable expert to discuss preconstruction activities as defined by 10 CFR 51.4 and required by 10 CFR 51.45(c).	

RESPONSE:

Experts were available for this discussion during the audit. The following information was available during the audit:

1. ER Subsection 4.6.2, “Adverse Environmental Impacts (during construction)”
2. ER Table 4.6-2, “Summary of Construction and Preconstruction Related Impacts for SSCs”
3. ER Section 4.7, “Cumulative Impacts Related to Construction Activities”
4. ER Section 4.8, “Activities Undertaken Under a Limited Work Authorization (Draft Section)”
5. ER Table 4.8-1, “Summary of Impacts Associated With Limited Work Authorization (LWA) Activities”
6. Draft LNP ER Revision 1 Sections 4.6 and 4.8.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-25	TOPIC AREA: Hydrology
COMMENT/ISSUE: Groundwater (GW)-1: Provide a knowledgeable expert to discuss hydrogeologic characterization of results from the site investigation, including development of local-scale cross-sections.	

RESPONSE:

Expert was available for this discussion during the audit. The following was discussed:

LNP ER Subsection 2.3.1.5.3 summarizes the geological characterization of the LNP site based on results of the site investigation. LNP ER Subsections 2.3.1.5.4 and 2.3.1.5.5 summarize the hydrogeologic characterization of the LNP site based on results of the site investigation. LNP FSAR Subsection 2.5.4.2 describes the geologic and hydrogeologic investigation and testing program implemented for the LNP site in further detail.

Information pertaining to how the water level measurements were analyzed is located in LNP calculation package LNG-0000-X7C-005 “Water Level Measurements within the Vicinity of the LNP Proposed North and South Reactors”. Information pertaining to the calculation of vertical gradients is located in LNP calculation package LNG-0000-X7C-004 “Groundwater Vertical Gradients”.

Information pertaining to how the slug tests were analyzed is located in LNP calculation package LNG-0000-X7C-038 “Calculation for Groundwater Slug Test”. Information pertaining to how the pumping test was analyzed is located in LNP calculation package LNG-0000-X7C-003 “Calculation for Aquifer Test”.

Information pertaining to the calculation of groundwater velocity and flux is located in LNP calculation package LNG-0000-X7C-006 “Groundwater Velocity and Flux Calculations”. Information pertaining to the development of the potentiometric maps is located in LNP calculation package LNG-0000-X3C-001 “Potentiometric Surface Map”.

LNP FSAR Figures 2.5.4.2-202A and 2.5.4.2-202B present geologic cross sections through LNP 1 based on data collected during site investigation. LNP FSAR Figures 2.5.4.2-203A and 2.5.4.2-203B present geologic cross sections through LNP 2 based on data collected during site investigation.

Supporting Information:

1. Calculation LNG-0000-X7C-003 “Calculation for Aquifer Test”
2. Calculation LNG-0000-X7C-004 “Groundwater Vertical Gradients”
3. Calculation LNG-0000-X7C-005 “Water Level Measurements within the Vicinity of the LNP Proposed North and South Reactors”
4. Calculation LNG-0000-X7C-006 “Groundwater Velocity and Flux Calculations”
5. Calculation LNG-0000-X7C-038 “Calculation for Groundwater Slug Test”
6. Calculation LNG-0000-X3C-001 “Potentiometric Surface Map”
7. LNP FSAR Subsection 2.5.4.2 “Properties of Subsurface Materials”
8. LNP FSAR Figure 2.5.4.2-202A “Subsurface Cross Section at LNP 1: Plant North to South”
9. LNP FSAR Figure 2.5.4.2-202B “Subsurface Cross Section at LNP 1: Plant East to West”
10. LNP FSAR Figure 2.5.4.2-203A “Subsurface Cross Section at LNP 2: Plant North to South”
11. LNP FSAR Figure 2.5.4.2-203B “Subsurface Cross Section at LNP 2: Plant East to West”

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Incorporate FSAR Figures 2.5.4.2-202A, 202B, 203A, and 203B and associated discussion in a future revision of the ER.
Compare FSAR and ER borehole discussions to verify accurate number of boreholes. Revise either the FSAR or ER to reflect accurate number in a future revision.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-26	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-2: Provide a knowledgeable expert to describe any consultations with EPA regarding the likelihood of any aquifers in the region being designated as sole source aquifer (40 CFR Part 149).	

RESPONSE:

An expert was available for this discussion during the LNP audit. ER Subsection 2.3.1.5.3 states, "No local aquifers associated with the LNP site are designated or proposed to be designated as 'sole source aquifers."

A copy of EPA Region 4's website (http://www.epa.gov/Region4/water/groundwater/r4ssa.html) showing this fact was provided at the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Cite EPA Region 4's website (http://www.epa.gov/Region4/water/groundwater/r4ssa.html) in Subsection 2.3.1.5.3 in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-27	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-3: Provide a knowledgeable expert to discuss hydraulic test analysis approach, the results for both the surficial and Upper Floridan aquifers, and the hydraulic properties used in the seepage velocity calculations and their impact on travel time calculations.	

RESPONSE:

An expert was available for this discussion during the LNP audit. The following was discussed:

ER Subsection 2.3.1.5.5 summarizes the site hydrogeological conditions at the LNP site.

Information pertaining to how the slug tests were analyzed, including plots of drawdown against time, is located in LNP calculation package LNG-0000-X7C-038 “Calculation for Groundwater Slug Test”. The evaluation of the data was analyzed using the AquiferWin32 software (developed by Environmental Simulations, Inc., Version 3, 1999) and the Bouwer & Rice 1976 method.

Information pertaining to how the pumping test was analyzed, including plots of drawdown against time, is located in LNP calculation package LNG-0000-X7C-003 “Calculation for Aquifer Test”. The evaluation of the drawdown data was analyzed using the AquiferWin32 software (developed by Environmental Simulations, Inc., Version 3, 1999) and the Neuman 1974 method.

ER Table 2.3-11 summarizes the slug test results. ER Table 2.3-12 summarizes the results of the surficial aquifer pumping test. ER Table 2.3-13 presents the results for the seepage velocity and Darcy flux for the March, June, September, and December 2007 gauging events.

Supporting information:
1. Calculation LNG-0000-X7C-003, Rev. 0, “Calculation for Aquifer Test”
2. Calculation LNG-0000-X7C-038, Rev. 0, “Calculation for Groundwater Slug Test”
3. Calculation LNG-0000-X7C-006, Rev. 0, “Groundwater Velocity and Flux Calculations”
4. ER Table 2.3-11 “Slug Test Results Data Reduction”
5. ER Table 2.3-12 “Aquifer Test Results Data Reduction”
6. ER Table 2.3-13 “Groundwater Linear Flow Velocity”

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Results of the re-analyses of surficial and Floridan aquifer pump test data will be provided when available.

PENDING ACTIONS

Reanalyze surficial and Floridan aquifer pump test data using MLU.
Provide the results of the re-analyses when available.
In future revisions of the ER and FSAR, update text to discuss the results of the re-analyses of surficial and Floridan aquifer pump test data.
Consider including applicable portions of the DWRM2 TMR modeling results in the ER. Consider comparing the resultant transmissivity values from the MLU analysis to the transmissivity values used in the DWRM2 TMR model.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-28	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-4: Provide a knowledgeable expert to discuss slug testing results for the Upper Floridan aquifer and their apparent discrepancy with the estimated transmissivity range presented in ER Section 2.3.1.5.2.	

RESPONSE:

An expert was available for this discussion during the LNP audit. The following was discussed:

In the ER Reference 2.3-045, the U.S. Geological Survey (USGS) states, "Model-derived transmissivities range from 17,000 ft^2/d in the southwest, where the freshwater section of the aquifer system becomes progressively thinner seaward, to nearly 13,000,000 ft^2/d near large springs in the north. Most transmissivities are in the range of 50,000 to 500,000 ft^2/d." This estimated range of transmissivity is very broad and were presented in ER Subsection 2.3.1.5.2. These values are not site specific and apply to a large region of west central Florida.

Figure 10 from ER Reference 2.3-045 was used to estimate the thickness of the Upper Floridan aquifer in the vicinity of the LNP safety-related structures. As shown on Figure 10, the thickness of the Upper Floridan aquifer is approximately 750 feet. The following tables calculate the transmissivity from slug test results performed in Upper Floridan monitoring wells and assuming an aquifer thickness of 750 feet.

Slug Test Results for Bedrock Wells

Well ID	Test Type	Hydraulic Conductivity (cm/sec)	Hydraulic Conductivity (ft/day)	Assumed Upper Floridan Aquifer Thickness (ft)	Transmissivity (ft^2/day)
MW-6D	In	1.5E-03	4.1	750	3,083
MW-8D	In	1.3E-03	3.8	750	2,849
MW-10D	In	4.1E-03	11.7	750	8,780
MW-12D	In	3.2E-03	9.0	750	6,739
MW-14D	In	8.7E-04	2.5	750	1,854
MW-16D	In	***1.9E-02***	***54.4***	750	***40,819***
OW-5	In	6.7E-03	19.1	750	14,308

Range of Transmissivities from Rising Head Slug Tests:

Minimum	Mean	Median	Geometric Mean	Maximum
1,854	11,205	6,739	6,629	**40,819**

Slug Test Results for Bedrock Wells

Well ID	Test Type	Hydraulic Conductivity (cm/sec)	Hydraulic Conductivity (ft/day)	Assumed Upper Floridan Aquifer Thickness (ft)	Transmissivity (ft^2/day)
MW-6D	Out	1.3E-03	3.7	750	2,743
MW-8D	Out	1.3E-03	3.7	750	2,785
MW-10D	Out	3.0E-03	8.4	750	6,314
MW-12D	Out	2.7E-03	7.6	750	5,698
MW-14D	Out	8.3E-04	2.4	750	1,767
MW-16D	Out	1.7E-02	47.9	750	35,929
OW-5	Out	5.8E-03	16.4	750	12,288

Range of Transmissivities from Falling Head Slug Tests:

Minimum	Mean	Median	Geometric Mean	Maximum
1,767	9,646	5,698	5,775	**35,929**

Results of the site-specific slug test derived transmissivity values are generally lower than literature values. For that reason, the average hydraulic conductivity (K) estimated from slug tests was not used to estimate groundwater velocities in the Upper Floridan aquifer beneath the safety-related structures. To be conservative, the highest recorded hydraulic conductivity (54.4 ft/day) was used (LNP ER Table 2.3-11). This hydraulic conductivity corresponds to a transmissivity of 40,800 ft^2/d.

SHAW drilled and tested two upper Floridan wells to evaluate aquifer characteristics to develop the foundation dewatering plan. A Floridan aquifer pumping well and a series of monitoring wells were drilled at both LNP 1 and 2 locations (SHAW, Report Number: LNG-G1-X7S-001). Based on these tests, the reported transmissivity ranges from 41,400 to 211,400 gpd/ft or approximately 5,530 to 28,260 ft^2/day. This range of values falls within the range of values calculated from the onsite slug tests.

No groundwater modeling was performed for the ER application, but was later performed for the Southwest Florida Water Management District (SWFWMD) for the SCA application. The SWFWMD DWRM2 regional groundwater flow model was used to simulate LNP withdrawals. The model specifies a range of transmissivities for the upper Floridan across the site from 20,280 ft^2/day to 241,300 ft^2/day, north to south respectively. See Figure H-32.1 provided in Attachment 1.

For the area where the slug tested wells and the dewatering test wells are located, the DWRM2 model transmissivity ranges in value from 20,180 to 81,800 ft^2/day. The low end value of the model range is within the values obtained from site-specific slug tests and the dewatering test well results. The upper value from the model is higher than the range of values calculated from onsite test results. This difference is within a reasonable range of values since the DWRM2 model is a large regional model and there is typically a range of aquifer values that will achieve comparable calibration results.

Supporting information:

1. LNP ER Reference 2.3-045: Ryder, Paul D., “Hydrology of the Floridan Aquifer System in West-Central Florida,” Regional Aquifer-System Analysis, USGS Professional Paper 1403-F, 1985.
2. Technical Memorandum (338884-TMEM-074, Rev.1), “Revised Conceptual Wellfield Layout and Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant,” October 24, 2008.
3. Report Number: LNG-G1-X7S-001 “Report on the Ground Water Pumping Tests at the Locations of the Nuclear Islands,” SHAW.
4. LNP ER Table 2.3-11 “Slug Test Results Data Reduction”
5. DWRM2 Model figure “Transmissivity of Layer 4 Upper Floridan”

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

DWRM2 Model figure “Transmissivity of Layer 4 Upper Floridan” is provided electronically in Attachment 1 as H-32-001_Figure 32.1.pdf.

PENDING ACTIONS

Incorporate information specified in FSAR RAI 2.4.12-13 in a future revision of the ER (RAI has yet to be received).

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-29	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-5: Provide a knowledgeable expert to discuss LNP groundwater usage from the Upper Floridan aquifer, both during construction and operations, in relation to a basin or subbasin scale water balance.	

RESPONSE:

An expert was available for this discussion during the LNP audit. The following was discussed:

LNP ER Subsection 2.3.2.1 and LNP ER Section 3.3 discuss Floridan aquifer groundwater usage during LNP operation. As stated in LNP FSAR Subsection 2.4.12.1.3, groundwater from on-site raw water wells will be used to supply specific plant water uses, including service tower makeup, potable water supply, demineralizer supply, and fire protection. An average of 3336.8 lpm (881.5 gpm or 1.27 mgd) and a maximum of approximately 15,374.1 lpm (4061.4 gpm or 5.8 mgd) of groundwater will be used for these purposes. LNP ER Subsection 4.2.1.4 discusses Floridan aquifer groundwater usage during LNP construction. As stated in LNP ER Subsection 4.2.1.2, the projected total maximum Floridan aquifer groundwater usage during construction is 550,000 gpd and the projected average usage is 275,000 gpd.

The Technical Memorandum 338884-TMEM-074, Rev.1, contains a discussion of projected incremental and cumulative pumping impacts on other groundwater users, lakes, and springs in the vicinity of the LNP site. As stated in the Technical Memorandum, the simulated future impacts to nearby water resources were evaluated for both daily average water use and maximum weekly water use (Technical Memorandum Exhibit 11).

The average day pumping rate used in the model was greater than that provided in the ER. The purpose of the increase was to make the model simulations conservative with respect to drawdown and simulated impacts. Approximately 25 percent was added to the average day flow rates resulting in a modeled rate of 4,164 lpm (1,100 gpm or 1.58 mgd). The maximum day modeled rate was the same at 5.8 mgd.

The modeling results simulate a drawdown impact of 0.5 foot in the surficial aquifer system resulting from pumping the Floridan aquifer.

The model boundaries extend 20 miles square with the wellfield centered in the square. The model domain includes portions of Levy, Citrus, and Marion counties. The projected average day pumping conditions decreased the model-simulated surficial and Floridan aquifer discharge into surface water cells used to represent nearby rivers and lakes by approximately 1.1 mgd or about 0.9 percent of the total flux.

The LNP wellfield operations decreased the model-simulated discharge from the drain cells representing Little King and Big King springs decreased by approximately 0.01 mgd, or about 0.3 percent of the total flux through those model cells. The model simulated impacts to surface water bodies are insignificant.

The total inflow and outflow in the model is about 450 mgd and the model area only covers a small portion of the three county area. Figure H-29 (provided electronically in Attachment 1 as H-29-001_Figure_H-29.pdf) is a summary of the TMR model Water Budget with LNP withdrawing 1.58 mgd. Each layer of the model is shown with the total flow into and out of the layer for the horizontal and vertical boundaries. Inflows are highlighted in blue, outflows are highlighted in yellow. Total inflows are about 450 mgd, and total outflows are 450 mgd. The LNP withdrawal comprises about 0.04 percent of the total flux through the model.

Regional water use was summarized in LNP ER Subsection 2.3.2.4.1 for Levy County, Subsection 2.3.2.4.2 for Citrus County, and Subsection 2.3.2.4.3 for Marion County. The total groundwater use for the three counties was 59.3 mgd in 2005 and is projected to be about 80.5 mgd in 2025. While the groundwater model covers only a small portion of the area of these three counties, the water budget of the model is still over 5.5 times the projected water use in these three counties. Therefore, the LNP withdrawal of 1.58 mgd is insignificant compared to the total model flux and the regional groundwater resources.

Supporting Information:

1. Technical Memorandum (338884-TMEM-074, Rev.1) "Revised Conceptual Wellfield Layout and Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant," October 24, 2008.
2. LNP FSAR Subsection 2.4.12.1.3
3. Figure H-29 DWRM2 TMR Model Water Budget (provided electronically in Attachment 1 as H-29-001-Figure_H-29.pdf)
4. Revised Figure 6.1-4

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Consider including the water balance results from the DWRM2 TMR modeling effort in the ER. Consider including a discussion of the foundation grouting program, specifically regarding dewatering during construction, in ER Subsection 4.2.1.4, such as is included in LNP FSAR Subsection 2.5.4.5.
Include a reference to Chapter 6 of the ER, which includes a discussion of water level monitoring during construction, in Subsection 4.2.1.4 in a future revision of the ER.
Review all discussions of supply wells in the ER to verify accuracy of well locations and numbers of wells on the site. Provide updated information in a future revision of the ER, if necessary.
Provide a discussion in Subsections 4.2.1.4, 6.3.3.5, 6.3.4.5, 6.6.2.6, 6.6.3.5 regarding water supply well locations needs to be updated to reflect relocation of well field to southern portion of LNP property in a future revision of the ER.
Revise Figure 6.1-4 and text pertaining to Figure 6.1-4 to reflect the relocation of the water supply well field in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-30	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-6: Provide a knowledgeable expert to describe any consultations with the state of Florida or the SWFWMD regarding LNP groundwater usage in relation to the overall current and future permitted usage for Levy County.	

RESPONSE:

The State of Florida has five water management districts that have regulatory authority over the water resources of the State. The Southwest Florida Water Management District (SWFWMD) covers an area of west-central Florida extending from northern Levy County in the north to Charlotte County to the south.

The proposed groundwater use is regulated under the Water Use Permitting (WUP) Program. A WUP is a state license to use the ground or surface water natural resources. The Florida Statutes (Chapters 120 and 373) and Florida Administrative Code (Chapters 40D-1 and 40D-2) prescribe the applicable rules. The application for a WUP is evaluated by the District staff to determine if the use of water is reasonable and beneficial, does not impact an existing legal use, and is in the public interest. The responsibility is on the applicant to provide reasonable assurances for this on both an incremental and cumulative basis. Chapters 40D-1 and 40D-2 of the Florida Administrative Code describes the water use permitting process.

The SWFWMD has developed a region-wide groundwater flow model known as the District-Wide Regulation Model (DWRM2) using the USGS MODFLOW model code. The model is used by the District to evaluate requested withdrawals to evaluate the resulting drawdown impacts in the various layers of the model. The model is the primary tool used to determine if the withdrawal causes unacceptable impacts to other well users, Floridan aquifer water quality, drawdown impacts on the surficial aquifer and subsequent impacts to wetland hydroperiod.

The process followed with the SWFWMD was to develop the Telescope Mesh Refinement (TMR) extracted model from the DWRM2 regional model. The TMR refines the model cell sizes around the proposed wellfield and extracts an area of 20 x 20 miles from the DWRM2 model with the wellfield centered in the square. A number of wellfield locations and iterations were developed to evaluate potential drawdown impacts throughout the TMR model domain. Using these evaluations, it was found that locating the wellfield in the southern part of the site resulted in modest Upper Floridan aquifer impacts and limited surficial aquifer drawdowns that could impact wetlands in the area.

The SWFWMD agreed to the conceptual well location and developed Recommended Conditions of Permit that were approved by the District Board in December. Those Conditions were sent to the Florida Department of Environmental Protection with the Agency Report. A copy of the Agency Report and Recommended Conditions of Certification are provided in Attachment 1 as H-30-001_LNP_SWFWMD_Agency_Report.pdf.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Consider including a general discussion of the State permitting process (adverse impacts and mitigation strategies) in ER Subsection 4.2.1.4 and/or 5.2.2.3. Provide any updated information in a future revision of the ER, if necessary.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-31	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-7: Provide a knowledgeable expert to discuss 1) temporal variability observed in field parameter and groundwater analytical data, most notably the ORP and COD data, 2) the reason for the generally low DO and ORP values and whether reducing conditions within the aquifer will be problematic from a water supply standpoint, 3) whether the correct units for specific conductance are presented in the text and Table 2.3-50, and 4) potential impacts to water quality associated with construction or plant operations.	

RESPONSE:

An expert was available for this discussion during the LNP audit. The following was discussed:

As stated in LNP ER Subsection 2.3.3.2, groundwater samples were collected from wells MW-13S, MW-14D, MW-15S, and MW-16D during the quarterly sampling performed in March, June, September, and December of 2007. These sampling results are presented in LNP ER Figure 2.3-41, LNP ER Table 2.3-50, LNP ER Table 2.3-51, and LNP ER Table 2.3-52. See additional figures: Figure 1, Figure 2, and Figure 3 for graphs of the temporal variation of the oxidation-reduction potential (ORP), chemical oxygen demand (COD), and dissolved oxygen (DO) data collected during this period, respectively. ORP and COD values were relatively constant during the March, June, and September sampling events. ORP values decreased and COD values increased during the December sampling event. Additional data are required to determine if the change in ORP and COD values is a seasonal event.

During the four quarterly sampling events, DO concentrations ranged from 0.02 to 1.96 milligrams per liter (mg/L) and averaged 0.5 mg/L. ORP values ranged from -36.7 to -268 millivolt (mV) and averaged -112 mV. These values indicate that reducing conditions may be present in the surficial aquifer and Upper Floridan aquifer at these well locations.

Supporting Information:

1. LNP ER Figure 2.3-41 “Groundwater Sampling Well Locations”
2. LNP ER Table 2.3-50 “Groundwater Field Parameters”
3. LNP ER Table 2.3-51 “Groundwater Analytical Data”
4. LNP ER Table 2.3-52 “Groundwater Metals”
5. Figure 1 “Oxidation-reduction Potential Values”
6. Figure 2 “Chemical Oxygen Demand Concentrations”
7. Figure 3 “Dissolved Oxygen Concentrations”

A discussion of the requirements of the NEI groundwater initiative and the Tritium task force findings will be provided in a future revision of the ER. The AP1000 safety design features that will minimize leakage from the blowdown pipeline, vacuum breakers, spent fuel pools, and high-level waste tanks will also be discussed.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise discussion in ER Subsection 2.3.3.2 regarding water quality trends to account for the increase in COD and ORP in December in a future revision of the ER.
Revise specific conductivity units to mS/cm instead of uS/cm in Table 2.3-50 in a future revision of the ER.
Consider including a discussion in ER Subsection 5.4.1.1 regarding the design of the discharge pipeline regarding leak potential and leak detection and discussion of NEI groundwater initiative. Verify whether or not this information is included in ER Chapter 3; if so, add a cross-reference to Chapter 3 in Subsection 5.4.1.1 in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-32	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-8: Provide a knowledgeable expert to discuss the use of the DWRM2 groundwater model for simulating the impacts of LNP's withdrawals from the Floridan aquifer on 1) potentiometric heads within the aquifer, 2) spring discharges, 3) other well users, and 4) upwelling of brackish water into previously fresher portions of the Floridan aquifer.	

RESPONSE:

An expert was available for this discussion during the LNP audit. The following was discussed: The modeling was performed using information exported from the Southwest Florida Water Management District (SWFWMD) District-wide Regulation Model, Version 2 (DWRM2). The results are presented in Technical Memorandum 338884-TMEM-074, Rev.1, "Revised Conceptual Wellfield Layout and Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant." The Technical Memorandum provides background information on the DWRM2 model and describes the general modeling procedures.

The model was developed by extracting the Telescope Mesh Refinement (TMR) model from the DWRM2 regional model. The TMR refines the model cell sizes around the proposed wellfield and extracts an area of 20 x 20 miles from the DWRM2 model with the wellfield centered in the square. A number of wellfield locations and iterations were developed to evaluate potential drawdown impacts throughout the TMR model domain. Using these evaluations, it was found that locating the wellfield in the southern part of the site resulted in modest Upper Floridan aquifer (UFA) impacts and limited surficial aquifer (SAS) drawdowns that could impact wetlands in the area.

The primary reason for the reduced drawdown in the UFA with the southern site location is the higher transmissivity of that area in the TRM model. Figure H-32.1 (provided in Attachment 1, as noted in Info Need H-28) shows that the transmissivity of the UFA varies from 20,284 to 81,809 ft^2/day in the northern two-thirds of the property up to 241,310 to 1,396,575 ft^2/day in the vicinity of the wellfield along the southern edge of the property. The higher transmissivity in the area of the wellfield reduces the magnitude of the cone of depression around the wells and subsequently the water level changes in the overlaying SAS. With less drawdown in the SAS, the impacts to wetland hydroperiods are minimized.

The Technical Memorandum documents the simulated hydrologic impacts associated with the proposed normal daily withdrawal of 1.58 million gallons per day (mgd) and 5.8 mgd peak flow of groundwater from the upper Floridan aquifer (UFA). No changes to the model parameters were made, other than the following:

- Two springs (Little King and Big King) were added to the model.
- Model cells that used MODFLOW's River (RIV) package to represent wetlands were changed to variable-head cells (i.e., the River package was not used to represent wetlands). This change was made based on SWFWMD staff concerns that MODFLOW's River package could provide an infinite source of water to the model and artificially limit simulated drawdowns. Model cells that used the RIV package to represent Lake Rousseau and the Withlacoochee River were not modified.
- The length of model Stress Period 3 was increased to 60 years to represent the expected operating life of the facility.

The layout of the proposed wellfield was modified from the locations presented in the ER. The wellfield layout in the ER included four wells on 1,000-foot spacing located northeast of the plant. The revised

layout, documented in the Technical Memorandum includes four wells located in the southern portion of the LNP site. Two wells are located along County Road 40 with two wells located to the north, on the east side of the heavy haul road. Exhibit 3 in the Technical Memorandum depicts the original and revised wellfield layouts.

Each well was simulated to pump at a constant rate of 0.395 mgd, for a total withdrawal of 1.58 mgd. The model simulation was run for the proposed 60-year operating life of the facility.

The model includes three stress periods. Stress Period 1 is a steady-state stress period that represents pre-development conditions; there are no well withdrawals simulated from the model. Stress Period 2, also steady-state, includes all other users except LNP. It is intended to provide an assessment of currently-permitted impacts. Stress Period 3 is the predictive phase of the simulation. In the SWFWMD's DWRM2 model, its length is 1 year. For this simulation, its length was increased to 60 years to represent the expected life of the facility.

The model is constructed with five layers, each representing a regional aquifer system within the DWRM2 model domain. Leakance between each layer is represented by a leakance value in the model. Recharge is applied to the uppermost layer and is calculated as net recharge. The evapotranspiration (ET) function is not used. The model layers include:

Layer 1 – Surficial aquifer system (SAS)

Layer 2 – Intermediate aquifer or confining bed (not present at the site)

Layer 3 – Intermediate aquifer or confining bed (not present at the site)

Layer 4 – Upper Floridan aquifer (UFA)

Layer 5 – Lower Floridan aquifer (LFA)

Each model layer has boundary conditions that govern flow into and out of the layer. The SAS is laterally bounded by constant head cells. The vertical boundary conditions vary in the SAS using active, drain, and river cells to define the movement of water into the SAS. Figure H-32.2 (provided in Attachment 1) shows the boundary conditions in the SAS. Layer 1 varies from 30- to 70-foot-thick in the TRM model domain.

Most of the Layer 1 cells in the TMR model domain are drain cells. These cells allow water to exit the model vertically at a set elevation. Drain cells are used to represent the high water table and groundwater discharge to land surface such as in wetlands and springs. River cells function in the same manner as drain cells but also allow water to enter the cell. River cells are used to represent surface water bodies like Lake Rousseau and the Withlacoochee River.

Layers 2 and 3 represent intermediate aquifers or confining beds in the DWRM2 model. In other parts of the SWFWMD, additional formations are present between the SAS and UFA that function in some areas as confining beds, in other areas as minor aquifers. Neither of these layers is present at the site or within the TMR model domain. They were left in the TMR for simplicity but are designated with no thickness so they have no hydraulic impact on the movement of water in the simulated groundwater system. The two layers are bounded laterally by constant head conditions and are active cells as shown in Figures H-32-3 and H-32-4 (provided in Attachment 1).

Layer 4 is the Upper Floridan aquifer which will be used as the source of fresh water in the wellfield. The UFA is bounded by constant head cells and all cells are active. The UFA has a thickness of 500 to 750 feet in the TRM model domain.

Layer 5 is the Lower Floridan aquifer. This layer represents the deeper intervals of the Floridan and in nearly the entire TRM model domain is a no-flow boundary. LFA cells are active only in the northeast

corner of the TRM model. Figure H-32.6 (provided in Attachment 1) shows the LFA and no-flow conditions. This layer is designated no-flow in this area to represent brackish groundwater.

The model parameters of Layer 1, the SAS and Layer 4, the UFA were of particular interest during model development and review. The SAS receives nearly all of the vertical recharge through rainfall and seepage from lakes and rivers. The TMR water budget (presented in response to Info Need H-29) shows that a significant volume of water enters the SAS via rainfall recharge. It also shows there is an even larger volume of water moving in and out of the river cells representing Lake Rousseau and the Withlacoochee River. Figure H-32.7 (provided in Attachment 1) shows the range of net recharge values in the TRM model domain. Over most of the site, net recharge ranges from 3.7 to 8.6 inches/year (in/yr). Higher recharge values occur in the south east corner of the property with 8.7 to 19.4 in/yr.

Figure H-32.8 (provided in Attachment 1) is the Layer 1 hydraulic conductivity array in the model. Note how the hydraulic conductivity is decreasing from north to south across the property, with 19 to 20 ft/day in the north to 15 to 16 ft/day in the south.

The model simulations of drawdown are presented in the referenced TM. Based on those simulations, it was concluded that:

- Simulated incremental and cumulative SAS and UFA drawdown in the wellfield after 60 years of operation do not exceed 0.5 feet anywhere in the wellfield except in the immediate vicinity of some wells.
- There are no wetlands with either an incremental or cumulative drawdown of 0.5 foot or greater within the proposed wellfield's area of influence.
- Under Average Day conditions, the operation of the LNP wellfield decreased the model-simulated surficial and Floridan aquifer discharge into river cells used to represent rivers and lakes by approximately 1.1 mgd, or about 0.9 percent of the simulated total flux between the Floridan aquifer and river cells in the model.
- The simulated impacts to Lake Rousseau and the lower Withlacoochee River (measured at the bypass canal) of 1.1 mgd are insignificant compared to the 37-year recorded average daily discharge of 687 mgd through the Bypass Canal.
- Under Average Day conditions, the operation of the LNP wellfield decreased the model-simulated discharge from the drain cells representing Big King and Little King springs by approximately 0.01 mgd, or about 0.3 percent of their total simulated flux
- The operation of LNP's proposed wellfield is not expected to adversely impact adjacent permitted users of the Floridan aquifer. The model predicts less than 0.2 foot of additional drawdown on the nearest other UFA user under Average Day conditions. The model simulation for Maximum Week withdrawals estimates an additional 0.1 to 0.2 foot of drawdown at the nearest Floridan aquifer well. Wetland impacts are not expected to occur during the short duration (1 week) of the maximum week withdrawal.

Supporting information:

1. Draft Technical Memorandum (338884-TMEM-074, Rev.1), "Revised Conceptual Wellfield Layout and Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant," October 24, 2008.
2. Figure H-32.1 SWFWMD DWRM2 TMR Groundwater Model Transmissivity of Layer 4 – Upper Floridan Aquifer (UFA) (provided electronically in Attachment 1 as H-32-001_Figure_H-32.1.pdf)
3. Figure H-32.2 SWFWMD DWRM2 TMR Groundwater Model Boundary Conditions Layer 1 – Surficial Aquifer System (SAS) (provided electronically in Attachment 1 as H-32-002_Figure_H-32.2.pdf)
4. Figure H-32.3 SWFWMD DWRM2 TMR Groundwater Model Boundary Conditions Layer 2 – Intermediate 1 (provided electronically in Attachment 1 as H-32-003_Figure_H-32.3.pdf)

5. Figure H-32.4 SWFWMD DWRM2 TMR Groundwater Model Boundary Conditions Layer 3 – Intermediate 2 (provided electronically in Attachment 1 as H-32-004_Figure_H-32.4.pdf)
6. Figure H-32.5 SWFWMD DWRM2 TMR Groundwater Model Boundary Conditions Layer 4 – Upper Floridan Aquifer (UFA) (provided electronically in Attachment 1 as H-32-005_Figure_H-32.5.pdf)
7. Figure H-32.6 SWFWMD DWRM2 TMR Groundwater Model Boundary Conditions Layer 5 – Lower Floridan Aquifer (LFA) (provided electronically in Attachment 1 as H-32-006_Figure_H-32.6.pdf)
8. Figure H-32.7 SWFWMD DWRM2 TMR Groundwater Model Recharge (provided electronically in Attachment 1 as H-32-007_Figure_H-32.7.pdf)
9. Figure H-32.8 SWFWMD DWRM2 TMR Groundwater Model Hydraulic Conductivity of Surficial Aquifer (provided electronically in Attachment 1 as H-32-008_Figure_H-32.8.pdf)

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Consider a discussion of how recharge is implemented in the DWRM2 TMR model in the ER. Provide any updated information in a future revision of the ER, if necessary.
Discuss impacts related to projected future water use on a county-wide level (see ER Table 2.3-20) in a future revision of the ER.
Consider including a discussion of the SWFWMD's process for managing groundwater resources. Provide any updated information in a future revision of the ER, if necessary.
Include all modeling discussions, including those in NRC's comment, in Subsection 5.2.2.3 in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: H-33	TOPIC AREA: Hydrology
COMMENT/ISSUE: GW-9: Provide a knowledgeable expert to discuss groundwater monitoring systems and Provide copies of any correspondence with regulatory agencies regarding monitoring requirements.	

RESPONSE:

An expert was available for this discussion during the LNP audit. Monitoring programs for the LNP site during the pre-application, construction, pre-operation, and operation phases are detailed in ER Sections 6.1, 6.3, and 6.6.

See Info Need H-29 for action items applicable to this Info Need.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

Rad/Fuel Cycle/Waste/Decommissioning

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-1	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to describe the liquid and gaseous source terms, release points, atmospheric dispersion models, and aquatic dispersion models.	

RESPONSE:

The information requested is contained in ER Sections 4.5 and 5.4 and was available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-2	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to describe the GASPAR II and LADTAP analyses used to assess the impacts of gaseous and liquid effluents.	

RESPONSE:

Expert was available to describe the GASPAR II and LADTAP analyses used to assess the impacts of gaseous and liquid effluents. In addition, both calculations, "LNG-0000-N5C-003 Liquid Effluent Doses and Concentration- Levy Site" and "LNG-0000-N5C-004 Gaseous Effluent Doses and Concentration-Levy Site" used to support Section 5.4 were available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-3	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide access to electronic copies of GASPAR II and LADTAP input and output files and calculation packages.	

RESPONSE:

Electronic copies of GASPAR II and LADTAP input and output files have been provided under separate cover, as noted below. Calculations “LNG-0000-N5C-003 Liquid Effluent Doses and Concentration-Levy Site” and “LNG-0000-N5C-004 Gaseous Effluent Doses and Concentration-Levy Site” are provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

GASPAR II and LADTAP input and output files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.
Calculations “LNG-0000-N5C-003 Liquid Effluent Doses and Concentration-Levy Site” and “LNG-0000-N5C-004 Gaseous Effluent Doses and Concentration-Levy Site” are provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-4	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to describe the waste systems including exposure rates due to onsite storage of solid waste and independent spent fuel storage.	

RESPONSE:

Expert was available to describe the waste systems including exposure rates due to onsite storage of solid waste and independent spent fuel storage. Spent fuel storage is discussed in detail in the DCD and summarized in ER Section 3.8.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-5	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert responsible for identifying exposure pathways and calculating doses to the public and biota from normal plant operations. Also, provide information on the presence or lack thereof of any unusual plants, animals, agricultural practices, or unusual food processing operations that can contribute 10% or more to offsite doses.	

RESPONSE:

Both calculation, “LNG-0000-N5C-003 Liquid Effluent Doses and Concentration- Levy Site” and “LNG-0000-N5C-004 Gaseous Effluent Doses and Concentration- Levy Site,” used to support Section 5.4 were made avaialable for review.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-6	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the models, assumptions, and input data used to arrive at the estimates for doses to construction workers.	

RESPONSE:

The primary author and the NRC lead responsible for this section discussed the assumptions, rationale, and the GASPAR input and output files used as the basis for the section. The primary author discussed in detail the doses to construction workers and comparison to the regulatory guidance. At the end of the discussions, the NRC lead had no additional questions and all issues were resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-7	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to describe the uranium fuel cycle impacts and the comparison to the Table S3 values from 10 CFR 51.51(a) contained in the ER.	

RESPONSE:

Expert was available to describe the uranium fuel cycle impacts and the comparison to the Table S3 values from 10 CFR 51.51(a) contained in the ER.

In a future revision of the ER, 930 MWe will be changed to 1037 MWe in Subsection 5.7.1.3.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Change 930 MWe to 1037 MWe in Subsection 5.7.1.3 in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-8	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert responsible for the radiological environmental monitoring program to discuss the design and technical basis for the program.	

RESPONSE:

Expert was available for discussion. The following was discussed:

To the greatest extent practical, PEF will use already established Crystal River Unit 3 (CR-3) monitoring or sampling locations, as applicable.

The LNP REMP includes: (1) number and location of sample collection points and measuring devices, and the pathway sampled or measured; (2) sample collection frequency; (3) type and frequency of analysis; and (4) general types of sample collection and measuring equipment. The lower limit of detection for each analysis is provided in the LNP Off-Site Dose Calculation Manual (ODCM).

It should be noted that sampling of the CR-3 facility environs is performed by the State of Florida Department of Health, Bureau of Radiation Control. The State also performs the required analyses, participates in the Interlaboratory Comparison program, and performs the annual land use census.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-9	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the difference in the collective dose for construction workers calculated by the reviewer (0.028 mSv × 2700 workers = 0.0756 person-Sv) and the 0.088 person-Sv value on page 4-83 (Section 4.5.5) of the ER. Also, to discuss the difference in the collective dose to construction workers. The reviewer calculated a 9.72 person-Sv (360 mrem/yr × 2700 workers) collective dose to construction workers, however a value of 11.34 person-Sv from background and manmade radiation sources is shown on page 4-83 (Section 4.5.5) in the ER.	

RESPONSE:

The numerical values in ER Subsection 4.5.5 (0.088 and 11.34) will be revised as 0.0756 and 9.72, respectively.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Correct numerical values in Subsection 4.5.5 as discussed above in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-10	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert (i.e., the principal author(s) of the radiological sections of the ER) to discuss the source term, liquid and gaseous release points, transport and exposures used to calculate doses to construction workers, and MEI and population doses.	

RESPONSE:

Expert was available to discuss the source term, liquid and gaseous release points, transport and exposures used to calculate doses to construction workers, and MEI and population doses.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-11	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the assumptions (chi/Q, stability classification, wind directions and speeds based on release and receptor locations) used to analyze transport of releases from specific elevations of LNP1 during construction of LNP2. This expert should also be able to discuss the uncertainty associated with less than a year of local data used to establish a correlation between site conditions and the Gainesville, Tampa and Orlando observation stations.	

RESPONSE:

Experts were available to discuss the assumptions (chi/Q, stability classification, wind directions and speeds based on release and receptor locations) used to analyze transport of releases from specific elevations of LNP1 during construction of LNP2.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-12	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the onsite movement of nuclear fuel and radiological waste during construction of LNP2. (This could be staff responsible for the uranium fuel cycle environmental data addressed in ER section 5.7 and 10CFR51.51.)	

RESPONSE:

The primary author and the NRC lead responsible for this section discussed in detail the movement of new fuel and spent fuel and Progress Energy's Radiological Safety Program responsible for protecting workers during the movement of radiological materials. The primary author also discussed in detail the 49 CFR requirements for the shipment of radiological materials off site and required compliance to those requirements for the protection of the public along the transportation route. Discussion with SME resolved all comments/issues.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-13	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to discuss methods for identifying exposure pathways and calculating doses to the public and the biota from normal plant operations. In particular, would like to discuss information confirming existing and projected locations of nearby (within 10 miles) homes, off-site populations, cows/goats, gardens, sustenance forage and hunting, potable and irrigation wells, water intakes, fisheries, recreation etc.	

RESPONSE:

During the site audit, the primary author and Worley Parsons personnel were available to discuss section 5.4 of the ER. Items discussed during the audit included, GASPAR and LADTAP input and output parameters, assumptions, population distributions, nearest cows/goats/gardenshunting, wells, water intakes, fisheries, and recreation. The SME and Worley Parsons personnel were able to answer all questions posed by the NRC review lead to his satisfaction at the time of the audit. The NRC lead requested copies of the calculation packages and the electronic files that support both GASPAR and LADTAP. These input and output fileshave been provided under separate cover, as noted below. Calculation “LNG-0000-N5C-003 Liquid Effluent Doses and Concentration-Levy Site” is provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

GASPAR II and LADTAP input and output files were provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.
Calculation “LNG-0000-N5C-003 Liquid Effluent Doses and Concentration-Levy Site” is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-14	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert (preferably a cognizant Florida DEP radiological scientist, if possible) to discuss an August 12, 2008 letter from Jamie Hunter, Lead Environmental Specialist, Progress Energy, to Mr. Mike Halpin, PE, Siting Administrator, Florida DEP, responding to Determination of Incompleteness – Main Site and Associated Facilities for the Levy Nuclear Plant.	

RESPONSE:

An FDEP radiological scientist was available at the time of the audit. Additional contacts with the FDEP were also provided to the NRC lead so that he could follow-up with additional questions if required. Discussion with SME and the FDEP resolved all comments/issues.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-15	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the radiological environmental monitoring program.	

RESPONSE:

The primary author and NRC lead responsible for this section discussed in detail the proposed REMP for the LNP. Items discussed included, the FDEP responsibilities, sampling points, Crystal River's REMP, control locations, pre and post-operational requirements, and REMP QC requirements. Discussion with SME resolved all comments/issues.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-A	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Need to address LLW storage/disposal (Class B and Class C) due to the closure of the Barnwell SC site.	

RESPONSE:

Section 11.4 of the Levy COLA SAR states that no additional LLRW storage beyond that specified in the AP1000 DCD is needed. The AP1000 DCD states that the radioactive waste facility can accommodate up to 2 years of storage, plus additional temporary/mobile facilities can be accommodated.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-B	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Florida Dept. of Health-- Tritium intake canal concentrations that will require additional review and/or clarification.	

RESPONSE:

The NRC lead was provided the name and number for the Crystal River REMP coordinator. The NRC lead contacted the coordinator and discussed this issue with him in detail.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-C	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Update Table 2.7-58 in ER to present actual chi/Q used in population dose calculations in Section 5.4.	

RESPONSE:

PEF will provide 2 years' worth of chi/Q data. Table 2.7-58 will be updated to reflect actual GASPAR data when 2-year data available.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Table 2.7-58 to reflect actual GASPAR data in a future revision of the ER.
Provide second year of data when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-D	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: Need to address LLW storage/disposal (Class B and Class C)	

RESPONSE:

Section 11.4 of the Levy COLA SAR states that no additional LLRW storage beyond that specified in the AP1000 DCD is needed. The AP1000 DCD states that the radioactive waste facility can accommodate up to 2 years of storage, plus additional temporary/mobile facilities can be accommodated.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: HP-E	TOPIC AREA: Rad/Fuel Cycle/Waste/Decommissioning
COMMENT/ISSUE: The decommissioning costs in Part 3 do not match those in Part 1.	

RESPONSE:

The decommissioning costs in the LNP COLA Part 3 will be revised to reflect the costs contained in the LNP COLA Part 1, Appendix A-1. This revision will be made in a future revision to the ER.

The issue was considered resolved.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Update the decommissioning costs in the LNP COLA Part 3 to reflect the costs in the LNP COLA Part 1, Appendix A-1 in a future revision of the ER.

Land Use

PPROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: LU-1	TOPIC AREA: Land Use
COMMENT/ISSUE: Provide access to information regarding rail line construction length and associated rail-bed construction activities.	

RESPONSE:

NA due to removal of rail line.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: LU-2	TOPIC AREA: Land Use
COMMENT/ISSUE: Provide access to information regarding whether borrow pits will be constructed or expanded. Also, what volumes of borrow will be transported and used in construction?	

RESPONSE:

A breakout session to discuss Info Need LU-2 did not occur during the audit.

The site plan requires approximately 2,700,000 cubic yards (cy) of fill. Approximately 900,000 cy of fill will be excavated from the ponds; approximately 300,000 cy of fill will be excavated from the site grading and the excavation needed for Unit 1 and Unit 2; and approximately 300,000 cy of fill will be excavated from the barge slip and hauled to the site. The remaining 1,200,000 cy of fill will be purchased offsite and hauled to the site. It is anticipated that the fill may be purchased from the State of Florida, which has sufficient fill material currently stockpiled on State lands from the construction of the Cross Florida Barge Canal. In addition, fill may be purchased from mining operations in the surrounding region. In conclusion, onsite borrow pits will not be needed for the proposed project. Fill material will be generated from onsite activities with additional fill being purchased and brought into the site from offsite areas.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

Meteorology

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Met-1	TOPIC AREA: Meteorology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss meteorology and air quality described in the ER Sections 2.7, 4.4.1.2, and 5.8.1.2.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

1. Why are onsite winds speeds (specifically very low wind speeds at the lower tower level) lower than those reported at the Gainesville or Tallahassee stations (based on a comparison of the wind roses presented in ER Subsection 2.7.4.1.1? The expected reason for the difference is the effect that the surrounding forest canopy has on local wind speeds at the 10-meter level. Since this is where the LNP will be located, these wind speeds are believed to be representative of the site area. The issue was considered to be resolved.
2. For the purpose of evaluating cumulative impacts, are there any other air emission sources in the area that need to be considered? There will be no significant emissions of any pollutants other than total particulate matter (PM) from the LNP, and there are no ambient standards or PSD increments for PM. Only PM10 and combustion related pollutants, such as NOx, SO2, CO, and VOC, have ambient standards and PSD increments. A cumulative impact analysis was not required by the FDEP as part of the air quality permitting of the facility since the impacts on ambient air quality due to LNP operation will not be significant. The issue was considered to be resolved.
3. It was noted that the use of the Severe Storm Database that is referenced in ER Subsection 2.7.3 should be used with caution since inaccuracies have been noted in some of the reported information, particularly for tornado and hail events in the earlier years of the reporting period when reporting was less detailed. This comment was acknowledged and it was indicated that future revisions to the ER are planned to address this issue as a result of NRC comments that were previously made on the FSAR. The issue was considered resolved.
4. In ER Subsection 2.7.4.1.2 and in ER Table 2.7-55, it is indicated that ambient temperature is measured at the 10- and 60-meter levels and clarification was requested on whether or not this was in fact true. It was explained that ambient temperature is measured only at the 10-meter level and delta-T is measured between the 10- and 60-meter levels. The text and table will be revised in a future revision of the ER to make this clarification. The issue was considered resolved.
5. In ER Table 2.7-51 clarification was provided that the dew point temperatures are monthly mean values. The issue was considered resolved.
6. The general arrangement figures in the ER indicate that there will be several ponds in the process area. Will these impact delta-T/stability measurements? It is not expected that these ponds will have any impact on the meteorological measurements since the ponds are relatively small, and they are located a considerable distance from the meteorological tower. The issue was considered resolved.
7. ER Subsection 2.7.6.1 provides a discussion that describes wind speed categories that deviate from RG 1.23, Rev. 1. There was some discussion as to why this was necessary and how it was justified. It was noted that this issue had been discussed in earlier readiness meetings with Van Ramsdell and others and that the reason for the deviation was based on the high frequency of very low (non-calm) wind speeds observed at the site. There was also some discussion regarding the inherent inability of the dispersion models to account for calm or near-calm conditions since the model predictions are inversely proportional to wind speed (i.e., as wind speed goes to zero, concentrations grow infinite). Van Ramsdell agreed with the approach described in the ER and noted that a new version of the PAVAN model is expected in the not-too-distant future that will use hourly meteorological data and this issue will also be addressed. The issue was considered resolved.

8. Clarification was requested on the last sentence of ER Subsection 2.7.6.2 (related to modification of sigma y and sigma z dispersion parameters). It was noted these parameters were not modified and that we did not use that option in the PAVAN model code. The issue was considered resolved.
9. Clarification was requested on the use of building wake effects in the PAVAN and XOQDOQ models. It was noted that both models were run with and without these building wake effects and the results that are reported in the ER represent the highest predicted X/Q values (i.e., with or without building wake effects). The issue was considered resolved.
10. Clarification was requested on the period of meteorological record used in the XOQDOQ analysis described in ER Subsection 2.7.7.2 (second bullet), which indicates less than one year of data was used in the analysis. It was noted that the second bullet in ER Subsection 2.7.7.2 should read “Period of Record - February 1, 2007, to January 31, 2008” and in fact a full year of data was used in the analysis. It was also noted that the results of the analysis that are presented in ER Table 2.7-58 contain the correct period of record in a footnote to the table. This revision will be made in a future revision of the ER. The issue was considered resolved.
11. Larry Berg asked if there was any discussion of Air Quality due to construction traffic in ER Subsection 4.4.1.2. It was noted that this section discusses an increase in construction related traffic, and that the impacts were not expected to significantly impact local or regional air quality. Van Ramsdell also noted that NUREG-1437 contains a generic discussion of this issue that could be used in the preparation of the EIS. There is also a discussion of the air quality impacts due to worker transportation to and from the site in the Socioeconomics sections of the ER. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsection 7.2.3 based on discussion in above Item 3 in a future revision of the ER.
Revise Subsection 2.7.4.1.2 and Table 2.7-55 based on discussion in above Item 4 in a future revision of the ER.
Revise the second bullet in Subsection 2.7.7.2 to read, “Period of Record - February 1, 2007, to January 31, 2008” in a future revision of the ER, as discussed in above Item 10.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Met-2	TOPIC AREA: Meteorology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss meteorology monitoring as described in the ER Section 2.7.5. This should include a tour of the meteorological equipment, and, if possible, a meeting with staff that operate and maintain the meteorological equipment (Section 2.7 and Section 6.4). This should also include an opportunity to review the instrument maintenance records.	

RESPONSE:

A copy of the LNP system manual for the meteorological monitoring system was provided to Larry Berg for his review during the assessment. This manual contains copies of all instrument specifications, as well as the initial design information for the 199-foot tower. Also included were copies of all maintenance, calibration, and inspection records since the tower became operational in February 2007. There were also discussions between Larry Berg, Van Ramsdell, and George Howroyd concerning compliance with RG 1.23, Rev. 1, maintenance and calibration procedures, data handing procedures, and data recovery (over 99 percent to date). A visit to the meteorological tower on December 4, 2008, was attended by George Howroyd, Larry Berg and Van Ramsdell of PNNL, and Andy Kugler of NRC. All instrumentation was noted to be in compliance with RG 1.23. All issues were considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Met-3	TOPIC AREA: Meteorology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the cooling system to aid our evaluation of cloud formation from the cooling towers (Section 5.3.3).	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

1. ER Subsection 5.3.3.2.1 indicates that the deposition analysis was based on a 5-year period of meteorological data that was used in the AERMOD modeling analysis. Why is this a different period that was used for the visible plume CALPUFF modeling analysis? It was explained that the two models used different meteorological data sets and the analysis periods were based on data availability. The issue was considered resolved.
2. Why did we not use onsite data for the plume visibility analysis? It was explained that the decision to use Gainesville data for the CALPUFF modeling analysis was based on the availability of properly formatted data. The onsite data was not readily available for use in the CALPUFF model. The issue was considered resolved.
3. Was recirculation considered between the two banks of cooling towers? It was explained that the location of the cooling towers was based on predominant wind directions and the orientation and spacing accounted for potential recirculation effects. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: Met-4	TOPIC AREA: Meteorology
COMMENT/ISSUE: Provide access to electronic copies of input and output files for PAVAN, XOQDOQ, models used for cooling tower plumes, and calculation packages (Section 2.7).	

RESPONSE:

Electronic copies of the requested input and output files were made available for review during the audit, as well as all relevant calculations and technical memorandums.

The following documents were provided under separate cover, as noted below:

PAVAN_levy1yr.doc (PAVAN input/output file)
levyinp.207108.txt (XOQDOQ input file, 2/1/07–1/31/07)
levyout.207108.txt (XOQDOQ output file)

The following documents are provided in the Progress Energy-provided Reading Room:
Calculation LNG-0000-GLC-002 “Short-Term Accident X/Q Values – Levy”
Technical Memorandum 338884-TMEM-057, Rev. 0 “LNP Cooling Tower Plume Visibility Analysis”
Technical Memorandum 338884-TMEM-058, Rev. 2 “LNP Cooling Tower Plume Deposition Analysis”

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

The following documents were provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008: PAVAN_levy1yr.doc (PAVAN input/output file) levyinp.207108.txt (XOQDOQ input file, 2/1/07–1/31/07) levyout.207108.txt (XOQDOQ output file)
The following documents are provided in the Progress Energy-provided Reading Room: Calculation LNG-0000-GLC-002 “Short-Term Accident X/Q Values – Levy” Technical Memorandum 338884-TMEM-057, Rev. 0 “LNP Cooling Tower Plume Visibility Analysis” Technical Memorandum 338884-TMEM-058, Rev. 2 “LNP Cooling Tower Plume Deposition Analysis”

PENDING ACTIONS

None.

Non-Rad Human Health

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-1	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: If available, provide access to any correspondence with the Florida Division of Health regarding public health concerns from thermophilic microorganisms (etiological agents) from cooling waters.	

RESPONSE:

State and local health agencies were contacted to confirm that there have been no known outbreaks of thermophilic microorganisms.

Ray Bogardus, the CH2M HILL SME, contacted Ms. Sherry Reed on December 22, 2008; Environmental Health Nurse at Citrus County Health Department, to discuss the matter of LNP ER—thermophilic organisms and power plant cooling systems. The discussion began by noting that an outbreak of Shigellosis had occurred in Citrus County during the 2005-07 timeframe, as recorded in the Florida CHARTS health records system. According to Sherry Reed, the outbreak was confined to day care centers and appeared to be related to poor hand washing hygiene. She said the original source of the infection could not be determined. Mr. Bogardus asked if she had seen any communicable disease outbreaks that could be attributable to the existing CREC and she said that she did not. Mr. Bogardus also checked the CHARTS system for information on outbreaks of Giardiasis and Salmonellosis. No infection rates for these two monitored illnesses above the recorded state-wide averages were recorded for Citrus County.

Ray Bogardus also contacted Mr. Tommy McQueen on December 24, 2008, Epidemiologist at Levy County Health Department, to discuss the matter of LNP ER—thermophilic organisms and power plant cooling systems. Mr. McQueen confirmed that there have been no outbreaks of Shingellosis, Giardiasis, or Salmonellosis in Levy County within the past 10 years; however, Mr. McQueen did note that a few individual cases have been noted in the local health records.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-2	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: Provide a knowledgeable expert to discuss potential thermophilic microorganism impacts from cooling water discharge to the Gulf of Mexico.	

RESPONSE:

The contribution of the LNP cooling water blowdown stream that will be introduced to the CREC discharge canal is expected to be less than 5 percent of the existing CREC flow volume under maximum discharge conditions and the LNP discharge will be at a slightly lower temperature. Based on the relatively small flow rate and the high degree of dilution, no impacts would be expected, even if thermophilic microorganisms were present in the LNP blowdown stream. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-3	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the proximity and types of recreational activities occurring near the cooling water discharge to the Gulf of Mexico.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The SME discussed the following assumptions used to assess potential human exposure through boating, shoreline, and swimming related activities.

- Shoreline and swimming exposure estimates were calculated based on data collected for major parks and recreational areas located within the 50-mi. study area. For the purpose of these estimates, it was assumed that shoreline and swimming exposure estimates would be the same. For example, people with shoreline exposure were also assumed to have swimming exposure. It was also assumed that the total number of people with shoreline exposure would be reported as the total capacity for parks and recreational areas that provide shoreline access. This information was combined with the average of recommended values (child, teen, and adult) for the maximum exposed individual as published in RG 1.109.
- Boating usage estimates were calculated based on the number of registered boats within the 50-mi. study area. County boat registration data were collected from the Facts for Florida Vessel Owner's website, maintained by the Florida Department of Highway Safety and Motor Vehicles. These data contain the number of vessels registered by county. Average boat party numbers from the "High Season 2007 Visitor Profile" published by KlagesGroup for Collier County were used to calculate the number of person-hours per year of boating exposure within the 50-mi. study area.

NRC staff requested additional information on the specific controls that are in place near the CREC intake and discharge canals.

PEF confirmed the use of buoys and barricades around the canals and that the area is heavily enforced with armed security officials.

Calculation LNG-0000-X7C-012 "Calculation of Aquatic Statistics and Cooling Water Discharge Dilution Factors" is provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Calculation LNG-0000-X7C-012, "Calculation of Aquatic Statistics and Cooling Water Discharge Dilution Factors" is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-4	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the most recent Centers for Disease Control information regarding incidence of infection from etiological agents or diseases of concern in the ROI.	

RESPONSE:

See also the related discussion provided for NRHH-1 (thermophilic microorganisms).

Additional research confirmed that there are no known or identified incidence of infection from etiological agents or diseases of concern in the ROI based on contacts with local agencies. It was confirmed that no contact has been made with CDC. The CDC for food borne outbreaks was searched for relevant data for the ROI (http://www.cdc.gov/foodborneoutbreaks/). The 2006 report included state-specific data on food borne outbreaks identified to specific cause. However, data was not specific to the region of interest. There were incidents of food borne diseases in the state of Florida. Due to the limited amount of flow being added to the discharge and at a lower temperature as discussed in Info Need NRHH-1, no additional or significant impacts are expected.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Document research and information collected to date. Search CDC database and review CDC data. If warranted, updated information will be included in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-5	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the following associated with the transmission system: ozone, electrostatic effects (electric shock), corona discharges, and conformance with NESC concerning steady-state currents.	

RESPONSE:

Expert was available for this discussion during the audit and the information requested was noted to be contained in ER Section 3.7. Issue was considered to be resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-6	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: Provide a knowledgeable expert to discuss occupational health in association with operation activities and adherence to NRC, OSHA and State safety standards, practices and procedures.	

RESPONSE:

It was noted that PEF and/or its contractors will be required to follow and adhere to all applicable State and Federal OSHA regulations and requirements. It was recommended that a statement to this effect be included in a future revision of the ER. It was also recommended that a reference to the safety record at CREC be included as an indicator of PEF performance in this area. The issue was considered resolved.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Consider including a statement as discussed in the response in a future revision of the ER.
Consider including a reference to the safety record at CREC in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-7	TOPIC AREA: Non-Rad Human Health
COMMENT/ISSUE: Provide a knowledgeable expert to discuss cumulative health impacts of construction and operation.	

RESPONSE:

The potential for cumulative health impacts due to noise and dust attributable to construction and operation of the LNP facility was discussed. It was explained that, for air quality, cumulative impacts during operation will effectively be addressed and mitigated through mandated compliance with all applicable State and Federal permits and ambient air quality standards since those standards are in place to be protective of the public health. Ambient monitoring data in the region surrounding the LNP site indicates that the air quality of the area is good and that there are no areas where the ambient air quality standards are considered to be at risk of being threatened or exceeded. Additionally, the air emissions from the LNP are expected to be minimal and are not expected to result in a significant impact on ambient air quality (including local and regional visibility) at any location. Cumulative air quality heath-related impacts during plant operation are therefore expected to be minimal. Since construction is a temporary activity that is expected to be very localized on the site and controlled using best management construction practices, no cumulative impacts are expected to occur. Cumulative noise impacts during operation are not expected to be significant at any offsite location and the facility will also be required to comply with the Levy County Noise Ordinance. Air quality and noise related impacts during construction are discussed in ER Chapter 4. Impacts during operation are discussed in ER Chapter 5. The air quality and noise standards and ordinances that are in place are designed to be protective of the public health and cumulative impacts, which must comply with these standards and ordinances, are therefore be assumed to be limited to acceptable levels.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-8	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to discuss sanitary sewer systems related effluent in ER 3.6.2.	

RESPONSE:

The handling and disposal of construction and operational sanitary sewer system waste streams was discussed. During construction, it is anticipated that specialty vendors will be utilized to provide lavatory facilities for construction workers. These facilities will be routinely serviced by the vendors and sanitary wastes collected by these systems will be removed and disposed of offsite at approved facilities using arrangements that will be made by the vendors under contract to either PEF or the General Contractor. During plant operation, the facility will use a dedicated onsite package treatment plant that will treat sanitary wastes that are generated onsite. Treated wastewater from this system is proposed to be discharged to the facility's cooling water blowdown stream and eventually discharged to the CREC discharge canal and the Gulf of Mexico. The volume of the sanitary wastewater stream from the onsite treatment plant is expected to be a negligible component of the cooling water blowdown stream. The normal daily flow of the cooling water blowdown stream is approximately 81.4 million gallons per day including the sanitary sewer stream flow rate of 35,000 gallons per day. The sanitary flow therefore comprises only 0.04 percent of the total blowdown flow. It was also requested during the discussion that a copy of the final NPDES permit be provided when completed.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Finalize draft NPDES permit and provide when final.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-9	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to discuss public and occupational health and noise associated with preconstruction and construction activities.	

RESPONSE:

PEF will be required to comply with applicable state and federal OSHA requirements and standards during construction and operation of the plant. Additionally, Progress Energy will comply with all applicable Levy County noise ordinances. Noise levels related to construction and operation have been assessed characterized in the ER as being SMALL (see ER Chapters 4 and 5). The issue was considered to be resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-10	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to discuss possible pre-existing soil and sediment contamination on the Levy site and mobilization thereof during the preconstruction and construction phases.	

RESPONSE:

The site has been maintained in silviculture for a number of years and no known industrial or residential activities have occurred onsite. A preliminary environmental review of the site was conducted in August 2006 and no significant areas of contamination were identified, other than a small firing range used by a local gun/hunters club. Some soil in the firing range was excavated and removed from the site to remove soil contamination (lead bullets). It is also noted that groundwater wells installed and monitored on the site have not resulted in any indication of groundwater contamination at any location. There were also no indications in any of the extensive number of site boring logs that there was any soil contamination (visual or olfactory) on the site.

Best Management Practices (BMPs) will be used during the construction phase of the project to limit the amount of dust, soil erosion, and potential mobilization of soil or sediment.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-11	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to discuss possible pre-existing sediment contamination in the CFBC at the CWIS and sediment mobilization during construction and facility operation.	

RESPONSE:

Sediment has not yet been test/characterized in the CFBC, but will occur in the future as part of the requirements of the CWA 404 permit. This permit will require testing of the sediment to ensure proper disposal of the sediment in accordance with applicable laws and regulations. Surface water quality samples collected in the barge canal (see water quality analytical data Document Request for Info Need H-5) did not provide any indication of contamination and sediment contamination is not expected.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-12	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to discuss human exposures to volatile and particulate chemical releases from the cooling system during facility operation.	

RESPONSE:

This will be based on the Health and Safety/Industrial Hygiene procedures and program implemented by PEF in the LNP during operations. Prevention of exposures will be based on information contained in the MSDS for application and use.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-13	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to describe the quantities and disposition of vegetative debris from land clearing operations, including clearing of the plant area for the proposed transmission line and pipeline rights-of-way.	

RESPONSE:

A discussion of the quantities and disposition of vegetative debris from land clearing operations was held, including land clearing for the plant area and the proposed transmission line and pipeline right-of-ways (ROWs). The following information was discussed:

- Vegetation removed from areas requiring clearing may be handled using a combination of chipping, spreading, and stockpiling for decomposition onsite or within the limits of the ROW; by burning onsite or within the limits of the ROW; and by offsite disposal in an approved disposal facility. The selection of options for individual areas of the proposed project will depend on landowner requirements, agency permit conditions, and relative costs.
- Most of the width of the 150-foot proposed pipeline ROW will be cleared and grubbed to accommodate the trench for the six 54-inch diameter pipes, an adjacent construction road, and excavated trench spoils.
- Most of the width of the proposed pipeline heavy haul road will be cleared and grubbed to accommodate the 50-foot-wide road and associated drainage swales.
- Within the transmission line ROWs, only vegetation taller than low growth shrubs will be removed, except as required for towers and access roads. This material will be ground up and spread in the ROW.
- If any areas to be cleared have significant tree cover, the clearing contractor will be encouraged to consider harvesting the usable trees for wood or wood pulp.
- The quantities of vegetative waste have not yet been estimated in part because the exact alignments within the proposed ROWs have not been determined; therefore, the actual vegetative cover of the alignment is unknown.
- A temporary storage area for the stockpiling of vegetative waste material will be provided for materials that will not be disposed of onsite.

The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-14	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to describe the air quality impacts of burning cleared vegetation.	

RESPONSE:

Bill Mendez asked what types of approvals would be required during the site clearing process, specifically to allow for the burning of cleared vegetation onsite, including the transmission ROWs. He also asked if there would be a significant impact on ambient air quality as a result of any burning activities. It was explained that the amount of vegetation that will be burned onsite may not be very significant (amounts have not yet been estimated) and impacts on air quality will be minimal and limited to the site vicinity during the limited periods when any open burning occurs. Cleared vegetation will either be ground up and distributed onsite, transported to an offsite landfill that is approved for such material, or burned onsite. All burning of land clearing debris that is not ground up or transported offsite (landfill) will occur only after FDEP has been properly notified and all applicable permits or approvals are obtained by the responsible contractor. All burning will be in accordance with FDEP's open burning requirements of the site-specific permit or approval. Additionally it was discussed that open burning was not expected to occur in the transmission line ROWs since those ROWs are relatively narrow and most vegetation is low-level brush, with not a lot of trees or other significant material. Most of the ROW material will be ground up and distributed in the ROW or transported back to the main site for distribution or staging for offsite disposal. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-15	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide information on the location and capacity of permitted industrial waste landfills that will be used for disposition of construction waste.	

RESPONSE:

Section 4.7 of the SCA provides information on the estimated quantities of construction related waste material that will be generated and potentially disposed of in landfills. These quantities are expected to be relatively small during the construction phase of the project and the material will be transferred to a local construction and debris landfill as it accumulates. Telephone conversations with Mills Engineering regarding the Levy County Solid Waste Management facility indicate that capacity is adequate to handle the amount of estimated waste and at least one new cell could be opened if the demand exceeds existing cell capacity. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-16	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to identify the types and quantities of hazardous waste to be generated during construction and operation.	

RESPONSE:

The generation and handling of hazardous waste during construction and operation was discussed. It was noted that hazardous waste generated during construction may include small quantities of paints, solvents, greases, oils, caulk and other common construction materials. No asbestos waste will be generated during construction or operation. During operation, only normal cleaning products, petrochemical products, water treatment chemicals and additional regulated substances will be used and the facility is expected to be classified as a small quantity generator and will follow all applicable laws and regulations for proper storage and discposal.

Bill Mendez asked what types of hazardous materials, if any, would be stored or used in the Hazardous Waste Storage Building (Building 136), two Chemical Storage Building (Buildings 119 and 120), and the Painting and Sandblast Shop (Building 105). PEF employees provided some baseline information at the time of the audit. Information pertaining to these buildings will be added to this section in a future revision of the ER, when information becomes available.

STATUS:

☐ Open

☒Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Update ER Section 5.5 as discussed above in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-17	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide a knowledgeable expert to describe the types and quantities of solid waste expected to require disposition during construction and operation.	

RESPONSE:

A summary of the discussion with Jim Nevill of PEF is below. Additionally Section 4.7 of the SCA describes operation phase waste generation. The following information was discussed during the audit:

- The quantity of construction waste requiring landfill disposal is expected to be limited for the following reasons.
- Engineering projections of the soil cut and fill balance indicate that the proposed project will require approximately 1 million cubic yards of additional clean fill to reach design grades, therefore no clean excavation spoils are expected to require disposition offsite.
- Organic soils in areas to be cleared are typically 8 to 12 inches thick. The organic soils will either be used to restore topsoil in temporarily disturbed areas (such as over the pipeline ROW after pipeline placement and soil backfill), be spread adjacent to disturbed areas, or be stockpiled in a designated stockpile area. Little or no organic soil is expected to require disposition offsite.
- Disposition of slurry waste from construction of the proposed diaphragm wall will be a contractual responsibility of the slurry wall contractor. The slurry trench for the diaphragm wall is expected to be excavated in panels using mechanical or hydraulic clamshell grabs or hydrofraise mills, as opposed to trenching, minimizing slurry requirements and allowing greater slurry reuse.
- Disposition of excess or waste asphalt from road construction will be a contractual responsibility of the paving contractor.
- Most of the plant equipment will be constructed offsite and delivered in modular units, reducing the generation of onsite construction waste.
- Waste concrete will be crushed and used on site for road aggregate or removed from the site and disposed of by the construction contractor.
- Construction is expected to generate small quantities of building and plant construction waste, such as scrap wood, wallboard, plastics, paper, and metal.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: NRHH-18	TOPIC AREA: Non-Rad Human Health and Waste
COMMENT/ISSUE: Provide information to clarify the number of proposed diesel-driven fire pumps (as referenced in Section 3.6.3.1.3 in the ER).	

RESPONSE:

The following items were discussed:

1. Clarification was requested on the number of diesel powered fire pumps. There will be two 2000-GPM diesel-fueled fire pumps, one for each of LNP Units 1 and 2. This information is described in the DCD and in ER Subsection 3.6.3.1.3.
2. It was noted that ER Table 3.6-1 lists four 4000-kW standby diesel generators and four 35-kW auxiliary generators, but ER Subsection 3.6.3.1.1 does not mention any 35-kW auxiliary generators. It was explained that there are four 4000-kW standby generators and four 35-kW auxiliary generators. This inconsistency will be clarified in a future revision of the ER.
3. Clarification was requested on the number of fuel storage tanks for the diesel generators and fire pump engines. It was explained that each generator and fire pump engine will have its own diesel storage tank, as described in the DCD.
4. Drawing LNG-G100-X2-001 was noted to show a fueling station in the motor pool area (No. 118). Additional information on this fueling station will be included in a future revision of the ER, when information becomes available.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Correct inconsistency noted in above Item 2 in a future revision of the ER.
Provide additional text as discussed in above Items 3 and 4 in a future revision of the ER.

Socioeconomics/EJ

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-1	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the method underlying the BEBR population projections – do these projections consider expected development of any particular kind? Be prepared to walk through an example of how a county-wide projection is applied to a sector on ER Figures 2.5-1 and 2.5-2.	

RESPONSE:

Expert was available for this discussion during the audit.

Projected populations were determined based on projected growth estimates developed by the Warrington College of Business at the University of Florida, Bureau of Economic and Business Research (BEBR) (ER Reference 2.5-002). BEBR produces low, medium and high intercensal population estimates and projections in 5-year increments for the State of Florida. The medium projection was utilized as the most likely to provide an accurate forecast of future population for the region since the source (Table 1.41) notes that "If future distributions of errors are similar to past distributions, however, future populations will fall between high and low projections in approximately two-thirds of Florida's counties." The methodology from the Florida Population Studies, February 2006, Volume 39, Bulletin No. 144 is provided in Attachment 1 to clarify the extent to which the projections consider expected development of any particular kind.

Population projections for 10-year increments up to 80 years from the 2000 United States Census for population within the 16-km (10-mi.) radius and the 16- to 80-km (10- to 50-mi.) radius were estimated using the following methodology: county projection information was collected from the BEBR CD-ROM, "Detailed Population Projections by Age, Sex, Race, and Hispanic Origin for Florida and Its Counties." The population projections are based on the expected population percent change rates (percent change) between 2000 and 2010, 2010 and 2020, and 2020 and 2030 (ER Reference 2.5-002). The percent change was estimated for each county, and the expected population change rate for the 10 year increments between 2030 and 2080 were assumed to be the average of the estimated percent change for the three periods between 2000 and 2030. The county percent change rates were then used to project populations using the U.S. Census Bureau data for each census block within the county. Population projections for each sector were calculated using the same method described above, assuming even distribution throughout the census block.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Bureau of Economic Business and Research (BEBR), "Projections of Florida Population by County, 2005-2030" *Florida Population Studies*, Volume 39, Bulletin 144, February 2006 is provided electronically in Attachment 1 as SE-1-001_BEBR_2006.pdf.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-2	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to walk through the calculation of transient population, including how recreational area use was estimated and factored in and how the statewide migrant worker estimates were distributed.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The SME discussed the following assumptions used determine the calculation of transient population estimates as outlined in the table below:

Transient Group	Methodology for 0 to 16 km (0 to 10 mi.) radius	Methodology for 16 to 80 km (10 to 50 mi.) radius
Seasonal Population	2000 United States Census on seasonal and vacation home usage, a standard housing occupancy factor of 2.49 people per house was used to estimate transient population from seasonal housing. (Reference 2.5 003)	Same as 0 to 16 km (0 to 10 mi.) radius.
Business Population	A list of the major employers (more than 100 employees) and total number of employees was obtained from the Economic Development offices for Levy, Citrus, and Marion counties (References 2.5 004, 2.5 005, and 2.5 006). For businesses within the 16 km (10 mi.) radius, employees were included in the transient population estimates since the primary population centers are located outside this radius.	For businesses located within the 80 km (50 mi.) radius, no net change was assumed to occur in population. This assumption was based on the large radial area and reasonable judgment that the number of workers commuting into the 80 km (50 mi.) area is the same as the number of workers commuting out of the 80 km (50 mi.) area on a daily basis.
Hotel/Motel Population	Hotel / Motel locations were identified via GIS data then sorted based on distance from the centerpoint of the two proposed reactor units. Total room numbers were obtained by phone surveys and one person was assumed to occupy each room on a given night to provide a conservative estimate in the absence of readily available occupancy rate data.	GIS was used to collect information on the location and number of hotels, motels, inns, and bed and breakfast establishments within the 80 km (50 mi.) radius. The average hotels, motels, inns, and bed and breakfast establishments were assumed to contain 75, 25, 10, and 5 rooms, respectively and one person was assumed to occupy each room on a given night.
Recreation Areas	Major recreational areas were identified within the 16 km (10 mi.) radius of the LNP site. Total projected occupancy estimates collected for major recreational areas were used in the transient population estimates and are presented in further detail in ER Subsection 2.5.2.7. Transient population estimates from	Recreational areas were defined to be public recreational areas where usage patterns are tracked based on parking permits or other entrance fees. Transient population estimates from recreational visitation for the region was calculated in the same method as the 0 to 16 km (0 to 10 mi.) radius.

Transient Group	Methodology for 0 to 16 km (0 to 10 mi.) radius	Methodology for 16 to 80 km (10 to 50 mi.) radius
	recreational visitation were determined based on the percent of the recreational area within a given sector cell. Visitation was assumed to be uniformly distributed throughout the recreational area. For example, if 50% of recreational area was located within sector cell X, 50% of the recreational visitation numbers were applied to that sector cell.	
Special Populations (Schools, Hospitals, Nursing Homes, and Correctional Facilities)	The GIS was used to determine schools, hospitals, nursing homes, and correctional facilities located within the 16 km (10 mi.) radius. Telephone interviews were conducted to identify occupancy estimates for hospitals, nursing homes, and correctional facilities located within the 16 km (10 mi.) radius.	Based on the large area and reasonable judgment, no net change in special population was assumed to occur within the 80 km (50 mi.) radius. The United States Census was assumed to include university students living in dormitories and apartments, residents of correctional facilities, and long term residents of nursing homes, hospitals, and other institutions, as part of the census survey for residential totals. Staff and residents temporarily placed in hospitals, nursing homes, and other institutions are likely to live within the 80 km (50 mi.) radial area; therefore, special populations would not contribute to transient population estimates within the region.
Festivals	There are no major festivals within the 16 km (10 mi.) radius that would affect the transient population estimates. The annual Nature Coast Civil War Reenactment is held on the Crystal River Quarry property and is attended by approximately 7300 people; however, this three day event is not included in transient population estimates because of its short duration (Reference 2.5 007)	Several large festivals and sporting events occur in the larger regional area, such as University of Florida collegiate sporting events and festivals including the Fall Downtown Arts Festival, Spring Arts Festival, and the Hoggetowne Medieval Faire, all of which are held in Gainesville, Florida. However, these festivals occur throughout the year causing the transient population to vary on a daily basis. Any additional transient population would be small in comparison and short in duration
Migrant Workers	Migrant worker populations were calculated using average statewide statistical information supplied by the United States Department of Agriculture (USDA) 2002 Agricultural Census (Reference 2.5 008). Migrant worker population estimates were prepared using the average number of migrant farm labor per farm multiplied by the total number of farms utilizing migrant farm labor. This analysis was performed at the county level and proportionately distributed throughout the sector grid.	Same as 0 to 16 km (0 to 10 mi.) radius.

The SME discussed the methodologies used above and referenced the calculation package for population distribution as a summary of the transient population estimates.

Calculation LNG-0000-X0C-001, Rev. 0 “Population Distribution” is provided in the Progress Energy-provided Reading Room.

During the audit the NRC also requested the following information. These comments were acknowledged and the text will be revised in a future revision of the ER to provide clarification.

- Provide a discussion describing the location of correctional populations within the 10-mil.radius of the LNP site in addition to the location shown of the figures. Add context to the report by explaining the population.
- Provide information to clarify the methodology used to locate migrant worker populations.
- Provide a summary of the methodology used to locate special populations.

The NRC also requested sources for recreation area population within the 10-mile radius of the LNP site.

The table below summarizes the telephone contacts used to characterize the recreation area population within the 10-mile radius; this issue was considered resolved.

	Facilities Contacted in the Region
Recreation	Phone call to Jeanne Ellis at Crystal River Preserve State Park on 12/17/2007 Phone call to Morgan Tyrone at Dudley Farm State Historic Park on 11/26/2007 Phone call to Steve Davenport at Fanning Springs State Park on 10/31/2007 Phone call to Sherry Bennett at Goethe State Forest on 11/27/2007 Phone call to Heather Callahan at Ocala National Forest on 11/26/2007 Phone call to Furlishus Mobley at Withlacoochee State Forest on 11/26/2007

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Calculation LNG-0000-X0C-001, Rev. 0 “Population Distribution” is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

Provide clarification regarding correctional facilities and the methodology used to locate migrant worker and special populations in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-3	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to describe how the location of major employers was used in relation to the estimates of transient population in the 16-km versus 80-km sectors?	

RESPONSE:

The SME and staff explained that the workforces of the major employers within a 16-km radius of the site were assumed to be transient due to the lack of significant residential housing density in the area. In contrast, employees of major employers beyond 16-km were not assumed to be transient. This discussion resolved the comment/issue.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-4	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: A number of demographic figures were obtained from the 2000 Decennial census data sets included in Reference 2.5-001. Provide a knowledgeable expert to describe which tables within the cited reference were used in developing the data for different tables and conclusions in the ER (e.g. for Tables 2.5-1, 2.5-3, 2.5-6, 2.5-7). Additional comment: In relation to SE-4 and SE-5, print out of specific data references from socioeconomic section (e.g., 2.5-001).	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The SME discussed the table below which summarizes the specific references for ER Tables 2.5-1 through 2.5-7; copies of these references were made available during the audit.

After discussion with the NRC, individual document numbers were provided for each of the references listed below for Tables 2.5-1 through 2.5-7. As noted in Info Need G-3, all ER references have been provided electronically in the Progress Energy-provided Reading Room. This issue was considered resolved.

ER Table	References	Document No.
Table 2.5-1	a. U.S. Census Bureau, American Factfinder "Average Household Size: 2006," Website, www.factfinder.census.gov/servlet/GRTTable?_bm=y&-_box_head_nbr=R1105&-ds_name=ACS_2006_EST_G00_&-_lang=en&-format=US-30, accessed February 6, 2008.	FER-203B
	b. U.S. Census Bureau, "American Factfinder," 2001, Website, www.factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF1_U&_program=DEC&_lang=en, accessed February 11, 2008.	FER-201B
Table 2.5-2	a. Bureau of Economic and Business Research, Warrington College of Business, University of Florida, "Florida Statistical Abstract 2006, Fortieth Edition," 2006.	FER-220B
	b. U.S. Census Bureau, American Factfinder "Average Household Size: 2006," Website, www.factfinder.census.gov/servlet/GRTTable?_bm=y&-_box_head_nbr=R1105&-ds_name=ACS_2006_EST_G00_&-_lang=en&-format=US-30, accessed February 6, 2008.	FER-203B
	c. U.S. Census Bureau, "American Factfinder," 2001, Website, www.factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF1_U&_program=DEC&_lang=en, accessed February 11, 2008.	FER-201B

ER Table	References	Document No.
Table 2.5-3	a. U.S. Census Bureau, American Factfinder "Average Household Size: 2006," Website, www.factfinder.census.gov/servlet/GRTTable?_bm=y&-_box_head_nbr=R1105&-ds_name=ACS_2006_EST_G00_&-_lang=en&-format=US-30, accessed February 6, 2008.	FER-203B
	b. U.S. Census Bureau, "American Factfinder," 2001, Website, www.factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF1_U&_program=DEC&_lang=en, accessed February 11, 2008.	FER-201B
Table 2.5-4	a. Bureau of Economic and Business Research, Warrington College of Business, University of Florida, "Florida Statistical Abstract 2006, Fortieth Edition," 2006.	FER-220B
	b. U.S. Census Bureau, American Factfinder "Average Household Size: 2006," Website, www.factfinder.census.gov/servlet/GRTTable?_bm=y&-_box_head_nbr=R1105&-ds_name=ACS_2006_EST_G00_&-_lang=en&-format=US-30, accessed February 6, 2008.	FER-203B
	c. U.S. Census Bureau, "American Factfinder," 2001, Website, www.factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF1_U&_program=DEC&_lang=en, accessed February 11, 2008.	FER-201B
Table 2.5-5	Correct Reference is 2.5-002, Bureau of Economic and Business Research, Warrington College of Business, University of Florida, "Detailed Population Projections by Age, Sex, Race, and Hispanic Origin for Florida and Its Counties, 2005-2030," 2006.	FER-534
Table 2.5-6	Correct Reference is U.S. Census Bureau, "American Factfinder," 2001, Website, www.factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF1_U&_program=DEC&_lang=en, accessed February 11, 2008.	FER-201B
Table 2.5-7	Correct Reference is U.S. Census Bureau, "American Factfinder," 2001, Website, www.factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF1_U&_program=DEC&_lang=en, accessed February 11, 2008.	FER-201B

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-5	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: This request embedded in SE-4 applies to a number of other references. Please revisit the reference list for the socioeconomic sections of the ER and, for those that cite web pages, provide the specific data tables within the cited page that were used. Additional comment: In relation to SE – 4 and SE - 5, print out of specific data references from socioeconomic section (e.g., 2.5-001)	

RESPONSE:

The following table provides the specific data table references for those references that cite web pages in the socioeconomic sections of the LNP ER. Copies of these references were available during the audit.

Reference Number	Cited Web Page	Specific Data Table
2.5-004	http://www.eflorida.com/profiles/CountyReport.asp?CountyID=62&Display=all	Existing Employment For Table 2.5-8
2.5-005	www.eflorida.com/profiles/CountyReport.asp?CountyID=9&Display=all	Existing Employment For Table 2.5-8
2.5-006	www.eflorida.com/profiles/CountyReport.asp?CountyID=66&Display=all	Existing Employment For Table 2.5-8
2.5-008	www.nass.usda.gov	Table 7. Hired Farm Labor – Workers and Payroll: 2002
2.5-009	www.bea.gov/regional/reis/print.cfm?geography=CA&account=REMD&mytable=CA25&lc=&years=2000,1990&rformat=display&page=action&mystate=12001,12017,12029,12041,12053,12075,12083,12119&end_year=2000&start_year=1969&draw=false&printable=true&areahold=12000&area=12001,12017,12029,12041,12053,12075,12083,12119&fips=12001,12017,12029,12041,12053,12075,12083,12119	Total full-time and part-time employment by SIC industry
2.5-010	www.bea.gov/regional/reis/print.cfm?geography=CA&account=REMD&mytable=CA25N&lc=&years=2005&rformat=display&page=action&mystate=12001,12017,12029,12041,12053,12075,12083,12119&end_year=2006&start_year=2001&draw=false&printable=true&areahold=12000&area=12001,12017,12029,12041,12053,12075,12083,12119&fips=12001,12017,12029,12041,12053,12075,12083,12119	Total full-time and part-time employment by SIC industry
2.5-011	www.bea.gov/regional/reis/print.cfm?geography=CA&account=REMD&mytable=CA05&lc=&years=2000,1990&rformat=display&page=action&mystate=12001,12017,12029,12041,12053,12075,12083,12119&end_year=2000&start_year=1969&draw=false&printable=true&areahold=12000&area=12001,12017,12029,12041,120	Personal income by major source and earnings by SIC industry

Reference Number	Cited Web Page	Specific Data Table
	53,12075,12083,12119&fips=12001,12017,12029,12041,12053,12075,12083,12119	
2.5-012	www.bea.gov/regional/reis/print.cfm?geography=CA&account=REMD&mytable=CA05N&lc=&years=2005&rformat=display&page=action&mystate=12001,12017,12029,12041,12053,12075,12083,12119&end_year=2006&start_year=2001&draw=false&printable=true&areahold=12000&area=12001,12017,12029,12041,12053,12075,12083,12119&fips=12001,12017,12029,12041,12053,12075,12083,12119	Personal income by major source and earnings by NAICS industry
2.5-026	www.factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=05000US12075&_geoContext=01000US%7C04000US12%7C05000US12075&_street=&_county=Marion+County&_cityTown=Marion+County&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-027	www.factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=05000US12075&_geoContext=01000US%7C04000US12%7C05000US12075&_street=&_county=Marion+County&_cityTown=Marion+County&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2008 American Community Survey
2.5-028	www.factfinder.census.gov/servlet/SAFFFacts?_event=ChangeGeoContext&geo_id=05000US12017&_geoContext=01000US%7C04000US12%7C05000US12083&_street=&_county=Citrus+County&_cityTown=Citrus+County&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2008 American Community Survey
2.5-032	www.factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=05000US12017&_geoContext=01000US%7C04000US12%7C05000US12017&_street=&_county=Inglis&_cityTown=Inglis&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-033	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=01000US&_geoContext=01000US&_street=&_county=Yankeetown&_cityTown=Yankeetown&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-034	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=16000US1233800&_geoContext=01000US%7C04000US12%7C16000US1233800&_street=&_county=Dunnellon&_cityTown=Dunnellon&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=160&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-035	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=16000US1218675&_geoContext=01000US%7C04000US12%7C16000US1218675&_street=&_county=Crystal+River&_cityTown=Crystal+River&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=160&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&r	Census 2000 Demographic Profile Highlights

Reference Number	Cited Web Page	Specific Data Table
	eg=null%3Anull&_keyword=&_industry=	
2.5-036	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=16000US1215775&_geoContext=01000US%7C04000US12%7C16000US1215775&_street=&_county=Dixie&_cityTown=Dixie&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=160&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-037	factfinder.census.gov/servlet/SAFFFacts?_event=ChangeGeoContext&geo_id=05000US12001&_geoContext=01000US%7C04000US12%7C05000US12029&_street=&_county=Alachua&_cityTown=Alachua&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2008 American Community Survey
2.5-038	factfinder.census.gov/servlet/SAFFFacts?_event=ChangeGeoContext&geo_id=05000US12053&_geoContext=01000US%7C04000US12%7C05000US12001&_street=&_county=Hernando&_cityTown=Hernando&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2008 American Community Survey
2.5-039	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=05000US12053&_geoContext=01000US%7C04000US12%7C05000US12053&_street=&_county=Sumter&_cityTown=Sumter&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-040	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=05000US12119&_geoContext=01000US%7C04000US12%7C05000US12119&_street=&_county=&_cityTown=&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2008 American Community Survey
2.5-041	factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=04000US12&_geoContext=01000US%7C04000US12&_street=&_county=Gilchrist&_cityTown=Gilchrist&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=040&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	Census 2000 Demographic Profile Highlights
2.5-045	quickfacts.census.gov/qfd/states/12/12075.html	People Quickfacts
2.5-046	quickfacts.census.gov/qfd/states/12/12083.html	People Quickfacts
2.5-047	quickfacts.census.gov/qfd/states/12/12017.html	People Quickfacts
2.5-101	factfinder.census.gov/servlet/DTTable?_bm=y&-context=dt&-ds_name=DEC_2000_SF3_U&-mt_name=DEC_2000_SF3_U_P087&-CONTEXT=dt&-tree_id=4001&-redoLog=true&-all_geo_types=N&-geo_id=01000US&-search_results=01000US&-format=&-_lang=en	Poverty Status in 1999 by age 17
2.5-108	factfinder.census.gov/servlet/DTSubjectShowTablesServlet?_ts=220986861966	Total Population; Race

Reference Number	Cited Web Page	Specific Data Table
2.5-109	factfinder.census.gov/servlet/ACSSAFFFacts?_event=Search&geo_id=01000US&_geoContext=01000US&_street=&_county=Lake&_cityTown=Lake&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=ACS_2006_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2006 American Community Survey
2.5-110	factfinder.census.gov/servlet/ACSSAFFFacts?_event=Search&geo_id=05000US12069&_geoContext=01000US%7C04000US12%7C05000US12069&_street=&_county=Pasco&_cityTown=Pasco&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=ACS_2006_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2006 American Community Survey
2.5-111	factfinder.census.gov/servlet/ACSSAFFFacts?_event=Search&geo_id=05000US12101&_geoContext=01000US%7C04000US12%7C05000US12101&_street=&_county=Putnam&_cityTown=Putnam&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=050&_submenuId=factsheet_1&ds_name=ACS_2006_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=	2006 American Community Survey
2.5-144	www.cfcc.cc.fl.us/about/annual_statistics.htm	2006-2007 Headcount by Term

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-6	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to describe how the figures for % minority population and % population below poverty were obtained (ER 2.5.1.3.3 and 2.5.1.3.4 and Tables 2.5-6 and 2.5-7).	

RESPONSE:

Expert was available for this discussion during the audit.

The figures for percent minority population and percent population below poverty (ER Subsections 2.5.1.3.3 and 2.5.1.3.4 and Tables 2.5-6 and 2.5-7) were calculated based on the following methodology:

Based on the guidelines in 2004 NRC's "Procedural Guidance for Preparing Environmental Assessments and Considering Environmental Issues" and using U.S. Census Bureau Summary File 1 (SF1) data and TIGER census block group boundaries from 2000, the following steps were taken to identify low income or minority populations in the region and information on racial, ethnic, and income population characteristics:

1. Each census block within the region (community of comparison) was examined for racial composition and median household income in comparison to the potential impact area as a whole.

2. Environmental Systems Research Institute (ESRI) ArcMap GIS was used to determine the minority characteristics by census block group. Census block groups were included if any part of their area lay within the 80-km (50-mi.) radius. The 80-km (50-mi.) radius is centered on the centerpoint of the LNP site. This centerpoint is located at latitude 29.073598 and longitude -82.62078. The total number of census block groups located within in the 80-km (50-mi.) radius based on the midpoint between LNP 1 and LNP 2 includes 536 block groups.

3. The percent of minority population and low income population within the census block were then tallied based on the total block groups that exceed the following criteria for census block groups within the 80-km (50-mi.) radius.

   Minority populations exist if: (a) the minority population in the census block group exceeds 50 percent, or (b) The minority population percentage of the environmental impact area is significantly greater (typically at least 20 percentage points) than the minority population percentage in the geographic area chosen for comparative analysis. The geographic area for comparative analysis for the LNP site is defined as the State of Florida.

   Low income populations exist if: (a) low income populations exceed 50 percent of the total census block group population, or (b) the percentage of households below the poverty level is significantly greater (typically at least 20 percentage points) than the low income population percentage in the geographic area chosen for comparative analysis. The geographic area for comparative analysis for the LNP site is defined as the State of Florida. The state average for low income population is 12.5 percent.

4. Efforts were made to quantify subsistence populations by contacting government organizations in Levy, Citrus, and Marion counties however no quantitative information was found. As a result, subsistence populations were not included.

5. Migrant labor populations for Levy, Citrus, and Marion counties were supplied by the USDA 2002 Agricultural Census.

Table A presents a list of telephone sources used to gather subsistence population data.

Table A
Information Collected for Subsistence Hunting and Fishing in Levy and Citrus Counties

Levy	Citrus
By phone calls to Don May, Environmental Health Director, and Leslie Sturmer at the University of Florida Cedar Key Shellfish Industries on 1/2/2008. By phone calls to Janet Allen, the WIC Coordinator, and Barbara Lock, the Levy County Health Director, on 1/7/2008. By phone calls to Carol McQueen, the levy County Economic Development Director, and Matt Weldon, the Levy County Parks Director, on 1/8/2008. By phone call to Sara Creel, a Levy County Forester, on 1/9/2008. By phone call to Albert Fuller, the Levy County Agent, on 1/18/2008.	Phone call to Carol Burke, the Director of Nutrition and Director of WIC in Citrus County, on 1/2/2008.

In ER Table 2.5-6, the race percentages for each row should add up to 100 percent, excluding Hispanics. The percentages in each row added up to 100 percent, except for the last row (Region), which is assumed to be a result of rounding errors. The table will be revised in a future revision of the ER.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise percentages in Table 2.5-6 in a future revision of the ER.
Revise ER Subsection 2.5.4 to provide a cross reference to the Native American discussion in Subsection 2.5.3 in a future revision of the ER.

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INFO NEED NUMBER: SE-7	TOPIC AREA: Socioeconomics/EJ

COMMENT/ISSUE:

Provide a knowledgeable expert to discuss the figures in Table 2.5-9 and explain the relationship between numbers for the region and the three counties.

New Audit Comments:

During the audit NRC staff requested additional information on the availability of heavy construction workers in the region.

NRC requested whether construction workers will be union or non-union, this is pending response to RFI 354 which was issued on December 12, 2008 with a requested receipt date of December 24, 2008.

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:
The SME noted that the following table is being provided to support discussion of Table 2.5-9 and to illustrate the percent of employment and earnings by industry represented by the vicinity versus that of the region as defined by the table notes.

	Region (a)		3 County Area		3 County Area as a % of Region	
Industry	Number of Jobs	Total Earnings[(d)]	Number of Jobs	Total Earnings[(d)]	Number of Jobs	Total Earnings[(d)]
Farming	8304	$105,201	4138	$60,340	50%	57%
Agricultural Services, Forestry, Fishing	3637	$110,094	2906	$83,903	80%	76%
Mining	873	$37,083	376	$13,522	43%	36%
Construction	39,022	$1,255,192	20,252	$646,282	52%	51%
Manufacturing	19,150	$892,384	11,829	$542,130	62%	61%
Transportation and Public Utilities	6947	$372,452	3646	$168,669	52%	45%
Wholesale Trade	10,634	$463,248	5786	$237,855	54%	51%
Retail Trade	56,352	$1,340,936	28,602	$703,703	51%	52%
Finance, Insurance, and Real Estate	35,878	$871,835	18,360	$412,337	51%	47%
Services	170,304	$4,794,559	75,274	$2,040,121	44%	43%
Government and Government Enterprises	77,017	$3,788,924	23,654	$999,706	31%	26%

Industry	Region (a)		3 County Area		3 County Area as a % of Region	
	Number of Jobs	Total Earnings[(d)]	Number of Jobs	Total Earnings[(d)]	Number of Jobs	Total Earnings[(d)]
Regional Total	**439,252**	**$14,295,215**	198,710	$6,056,778	45%	42%

Notes:

a) The region includes the following counties: Levy, Citrus, Marion, Alachua, Dixie, Gilchrist, Hernando and Sumter. Although the 80-km (50-mi.) region includes Pasco, Lake, and Putnam counties, these counties were not included in these data because only very small portions of these counties fall within the region.

b) Employment estimates and earnings are based on the 1987 Standard Industrial Classification (SIC).

c) Employment estimates and earnings are based on the 2002 North American Industry Classification System (NAICS). These industry classifications vary slightly from the SIC system, and therefore have been regrouped into the SIC system. Effected classifications for the 2005 employment and earnings estimates include the following: the Transportation and Public Utilities classification includes the NAICS Warehousing classification; the Services classification includes the NAICS Information, Professional and technical services, Management of companies and enterprises, Administrative and waste services, Educational services, Health care and social assistance, Arts, entertainment, and recreation, Accommodation and food services, and Other services, except public administration, classifications.

During the audit, NRC staff requested additional information on the availability of heavy construction workers in the region. U.S. Census Bureau data on heavy, civil, and utility construction employment was collected for Alachua, Citrus, Dixie, Gilchrist, Hernando, Levy, Marion, and Sumter counties in Florida for 2006. The data is provided in Attachment 1. The issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Additional information on the availability of heavy construction workers in the region is provided electronically in Attachment 1 as follows: SE-7-001_Hvy_Const_Emp_2006.pdf SE-7-002_Pwr_Comm_Const_Emp_2006.pdf SE-7-003_Utility_Const_Emp_2006.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
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INFO NEED NUMBER: SE-8	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to describe how income figures in Tables 2.5-11 were derived from Reference 2.5-016.	

RESPONSE:

Expert was available for this discussion during the audit.

The income figures found in Table 2.5-11 were derived as follows:

- 1995 and 2005 per capita income numbers for the eight counties lying mostly in the 80-km (50-mi.) region were extracted from Reference 2.5-016. Pasco, Lake, and Putnam counties are also in the region, but were not included in the table because only very small portions of these counties fall within the region.
- The 1995 and 2005 Percent Change = 100 (x2 x1)/x1, where x2 > x1 (x=variable).

Table A presents supplemental information that identifies how each county funds their school systems.

Table A
Marion, Citrus, and Levy County School System Funding

County	Total Millage Rate	Millage Rate for Schools	Total Property or Ad Valorem Taxes Collected for 2008 Adopted Budget	Total School Funding[a]
Marion	12.8830	8.0130	130,386,669	81,098,220.81
Citrus	15.7061	7.4130	82,249,144	38,820,133.86
Levy	15.579	7.7120	Not available	10,745,000[b]

Notes:

a) Calculated = (Millage Rate for Schools/Total Millage Rate) * Total Property or Ad Valorem Tax value

b) Information from Elementary and Secondary Schools: All Funds Revenue by Major Source in the State and Counties of Florida, 2003-04, local revenue receipts for Levy County

Validation for Reference 2.5-216 to describe income figures in Table 2.5-11 is provided in Attachment 1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Validation for Reference 2.5-216 is provided electronically in Attachment 1 as SE-8-001_Val_for_Ref_2.5-016.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-9	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to give a fuller description of the community structures found in the towns and cities within the region, (particularly those closer to the site that may be more affected by in migration or through traffic) than is currently provided in Section 2.5.2.4. NRC Clarification provided "Useful Information will be size, population, social services, and infrastructure, major sources of income, employment and governance for communities around site."	

RESPONSE:

Expert was available for this discussion during the audit.

A technical memorandum is being prepared to describe "nearby," or proximate, cities and towns in detail beyond what is required by NUREG-1555, ESRP 2.5.2. Nearby cities and towns are considered to be those within 16 km (10 mi.) of the LNP site, or within 20 minutes driving time, which include:

- Town of Inglis - 5 mi. driving distance, or 6 minutes driving time from LNP site
- Town of Yankeetown - 6.6 mi. or 10 minutes
- City of Dunnellon – 10 mi. or 20 minutes
- City of Crystal River - 15 mi. or 20 minutes

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Provide LNP Assessment of Proximate Community Services, 338884-TMEM-080 in the Progress Energy-provided Reading Room when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-10	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to describe how the information in section 2.5.2.8.2 was obtained.	

RESPONSE:

Expert was available for this discussion during the audit.

Information from Subsection 2.5.2.8.2 describing Police, Fire, Emergency Management Services, and Medical Facilities Capabilities was obtained as described in the following table.

	Levy	Citrus	Marion
Police	By email from Patty Galyean on 9/18/07.	By phone calls to Judy Botts and Julie Witten, and to Martha Langston on 9/18/07.	By phone call to Linda Binera on 9/18/07, to Laurie in Dunnelon Police Department on 9/18/07, to Michelle with Belleview Police Dept on 9/18/07, and to Francis Hunter on 9/20/07.
Fire	By phone calls to Fred Moody on 9/19/07 and to Tony Turner on 9/11/07.	By phone call to Courtney Tepolt on 9/07/07.	By phone calls to Angela Kinsler and Heather Danenhower on 9/07/07, to Chris Castleberry on 8/31/07, and to Gary Lackey on 9/07/07.
EMS	By phone call to Mark Johnson on 9/17/07.	By phone call to Bret Lee Jordan on 8/28/07.	By phone call to Chip Wildy on 8/28/07.
Medical Facilities	By phone calls to Mark Johnson on 9/17/07, to Karla Dafs on 8/29/07, to Debbie Pittman on 9/27/07, to Brenda Brown on 9/25/07, and to Becky Mullins on 9/27/07.	By phone calls to Christian Strouken on 8/29/07, and to Charlene August on 8/29/07.	By phone calls to Sandra with West Marion Hospital on 8/29/07, to Ray Hopkins on 12/26/07, to Cynthia Peese on 12/13/07, and to Carol Jubelirer on 9/25/07.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-11	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: In addition to the information provided on Figure 2.5-14, please provide the locations of the block groups with specific minority populations of more than 20% above the state average (i.e. African-American and Hispanic, as discussed in Section 2.5.4.2.1).	

RESPONSE:

Figure SE-11 is provided in Attachment 1, which includes only those block groups with specific minority populations of more than 20 percent above the state average (i.e. African-American and Hispanic, as discussed in Subsection 2.5.4.2.1).

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Figure SE-11 is provided electronically in Attachment 1 as SE-11-001_Figure_SE-11.pdf.

PENDING ACTIONS

Consider the following for a future revision of the ER: Provide clarification to the housing section on page 2-473 and clarify whether apartments are grouped with mobile homes or housing. Separate out apartments if possible (i.e., mobile v. single family v. apartments)
Consider the following for a future revision of the ER: Provide context for population growth discussion on page 2-474 (i.e., on track with state growth?)
Consider the following for a future revision of the ER: Provide clarification of footnotes on schools section, identifying which schools are not identified, change footnote to clarify information that BEBR excluded from study. Explain that impacts to these schools (or county) would not change.
Consider the following for a future revision of the ER: Provide existing population and projection totals by county for the Region.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-12	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to walk through the allocation of in-migrating construction workers to different cities and counties in the ER Section 4.4. NRC COMMENT/ISSUE (added at Audit): Verify peak construction workforce estimates again, NRC staff observed they seemed low compared to other AP1000 COLAs they had reviewed recently.	

RESPONSE:

As discussed in ER Subsection 4.4.2, because of the temporary nature of the construction jobs, it is assumed that the construction workers will tend to settle in the areas that are most accessible to a wide range in job opportunities; that are within commuting distance of the LNP site; and that have available housing, including rental properties and suitable places for motor homes. This set of assumptions has led to allocating workers to counties in the following proportions: Levy (5 percent), Citrus (17 percent), Marion (35 percent), Alachua (35 percent), Dixie (2 percent), Gilchrist (2 percent), Hernando (2 percent), and Sumter (2 percent), as presented in Table 4.4 1. These percentages are closely tied to the share of the available housing in the region, with slight adjustments for convenience of road access to the site. During peak construction, it is estimated that 1350 workers will migrate to the region (50 percent of 2700 construction workforce) and will be distributed across the region as shown in Table 4.4 1.

The average household size for the State of Florida (2.49) was applied to the peak assumption for incoming construction workers (1350) as a conservative assumption that some would bring their families due to the length of the construction period (Reference 4.4-004). This resulted in an estimate of 3362 people migrating to the region. Based on these estimates of changes in the workforce and demographics, likely bounds can be placed on the extent of positive and negative social and economic impacts from construction.

The peak construction workforce estimates are in the process of being verified and a future revision to the ER will be updated, if appropriate.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Upon confirmation of revised construction workforce estimates, portions of the ER will be revised in the future if needed.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-13	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: If available, provide access to information at town and city level, particularly for the smaller towns, regarding housing availability, school capacity, public facilities and services, water and wastewater.	

RESPONSE:

A technical memorandum is being prepared to describe "nearby," or proximate, cities and towns in detail beyond what is required by NUREG-1555, 2.5.2. Nearby towns and cities are considered to be those within 16 km (10 mi.) of the LNP site, or within 20 minutes driving time, which include:

- Town of Inglis - 5 mi. driving distance, or 6 minutes driving time from LNP site
- Town of Yankeetown - 6.6 mi. or 10 minutes
- City of Dunnellon - 10 mi. or 20 minutes
- City of Crystal River - 15 mi. or 20 minutes

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Provide LNP Assessment of Proximate Community Services, 338884-TMEM-080 in the Progress Energy-provided Reading Room (see SE-9). when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-14	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to: (1) walk through the discussion of employment and earnings impacts, (2) describe the basis for assuming that induced jobs would be taken by existing residents with no in-migration, (3) describe the basis for excluding earnings for the construction jobs that will be taken by locals, while including local expenditures and applying the RIMS multiplier to the latter.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The SME discussed the employment and earnings impacts noted in the ER with NRC staff. It was noted that the induced jobs are assumed to be primarily service sector jobs, which would not require importing a specialized workforce. The small number of jobs could be filled by reducing the unemployment rate. So, this would increase jobs in the region, without increasing population migration.

Lastly, the SME noted that in both cases our objective was to attempt to count the net benefits that could be reasonably attributed to the Project. We assumed that 50 percent of the construction jobs resulted in a net increase in direct, indirect, and induced jobs for the region. In terms of the total purchases of capital, material, labor, and services purchased to build the project, PEF assumed that about 10 percent would be spent within the region and the remainder would be imported. Given the uncertainty of this estimate, it seemed misleading to then subtract earnings from the local construction labor force from this total as it would imply a level of precision that is not warranted by the estimate.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-15	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a knowledgeable expert to describe what historical information can be obtained about socioeconomic impacts of construction of the Crystal River Energy Complex that can illuminate the discussion of expected impacts of LNP.	

RESPONSE:

Expert was available for this discusssion during the audit.

A list of potential data sources were available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-A	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Page 2-473, more info on classification of housing. Clarify school types that were excluded (parochial specifically).	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the audit:

1. Confirm and respond whether our permanent or non-permanent housing numbers include apartments. Apartment availability is summarized in Tables 2.5-18 and 2.5-21 of the ER, as well as included in the permanent and non-permanent housing numbers utilized for the impact analysis in Table 4.4-1, Regional Housing and Residential Distribution for Construction Workers. Table 4.4-1 includes "public lodging units," which are defined in Table 2-30 of BEBR, 2007 (provided electronically in Attachment 1 as SE-A_001_BEBR_Section2.pdf), to include apartment buildings, rooming houses, resort condominiums, resort dwellings, and transient apartment buildings, hotels and motels.

2. Confirm and respond whether we included parochial/private schools in our education analysis. The education analysis only included public schools in the region. Information for parochial and private schools was not collected or included in the discussion.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Minor revisions and clarifications to be made in a future version of the ER per Items 1 and 2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-B	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Provide a wider context for the population changes discussed for the region.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The NRC requested further clarification of the population changes in the region compared to the changes at the State of Florida level. The NRC commented that this seemed to be a large increase. However, the SME noted that in the context of the overall population growth for the State of Florida, the regional increase may be in line with the State growth.

The following table is provided to demonstrate that the population projections are comparable to those of the State of Florida. These comments are acknowledged and the text will be revised in a future revision of the ER to provide additional context. The issue was considered resolved.

Geographic	**Projections** [a]		
Area	2010	2020	2030
Florida	25%	18%	13%
Region	33%	22%	15%

Notes:
a) Populations projections for 2030 - 2080 were based on the average percent growth from four periods 2000 - 2005, 2000 - 2010, 2010 - 2020, and 2020 – 2030 from BEBR, 2006. Refer to SE-C-001_Proj_2000-2080.pdf in Attachment 1.

See Info Need SE-C for applicable attachments.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Include narrative noted above providing additional context describing regional population changes as compared to changes at the State of Florida level in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-C	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Tables 2.5-1 and 2.5-2…provide a single table with projections by county for all counties in the Region.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The SME discussed the following assumptions used to calculate population projections for 2005-2030 and 2040-2080:

Population projections from 2005 through 2030 were taken directly from the reference Florida Bureau of Economic and Business Research's "Estimates of Florida Population, 2006." Population estimates for the periods 2040 through 2080 were calculated using the average population growth rates from three periods: 2000-2010, 2010-2020, and 2020-2030.

NRC staff requested additional information to include the population projections for the counties in the region. These population estimates are provided in Attachment 1. This issue was considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Population projections for the counties in the region are provided electronically in Attachment 1 as SE-C-001_Proj_2005-2080.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-D	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: During the Audit, NRC staff asked for validation for the assumption that 10 percent of construction supplies are readily available locally (Pages 4-63 and 4-64).	

RESPONSE:

During the audit, PEF staff discussed with the NRC the likely local purchase of construction materials, such as sand, limestone, and aggregate. An assumption of purchasing 10 percent of the construction materials from local distributors reflects that the fact that the majority (approximately 90 percent) of the materials are specific to the nuclear construction process and will need to be purchased from sources outside the region.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-E	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Page 4-68 Revise the distribution of impacts to Marion, Levy, and Citrus counties (currently overestimated)	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

During the audit, NRC staff noted that the narrative on page 4-68 of the ER overestimates the housing impacts to Levy County based on the housing analysis provided in Chapter 2. The SME agreed that the narrative could better track with the anticipated impacts.

The following paragraph from page 4-68 of the ER will be revised as illustrated in a future revision to the ER:

> Marion and Citrus counties are likely to experience a majority of the housing impacts because they are closest to the LNP site; however, these impacts are anticipated to be SMALL because of the available housing units and infrastructures currently in place. Levy County is expected to experience few housing impacts based on assumptions that most construction migrant workers will choose to live in more established counties and commute to the LNP site. Overall, the construction housing impacts are anticipated to be SMALL.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

The narrative in the response section above will replace the last paragraph of Subsection 4.4.2.4 in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-F	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Page 4-71 Verify assumptions about water availability (and sewage).	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

During the audit, the NRC requested that the water availability (and sewage) assumptions on page 4-71 be verified and noted that excess housing capacity does not necessarily equate to service capacity.

These comments are acknowledged and the text will be revised in a future revision of the ER if there is not adequate capacity to support the construction populations upon further review of the water and sewage assumptions.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Review water and sewage capacity assumptions and revise ER Subsection 4.4.2.9 in a future revision of the ER if there is not adequate capacity to support the construction populations.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-G	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Page 4-72 Verify the conclusions affecting roads. Consider CR 121 and US 41.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

During the audit, NRC staff questioned the transportation impacts noted in Subsection 4.4.2.10 and asked if the transportation study included analysis of CR 121 and US 41 during construction. The SME responded that she did not think they were included. NRC staff asked that the level of service for these roadways be assessed based on the distribution of workers during construction.

The SME agreed to revisit the transportation study scope with PEF staff and revise Subsection 4.4.2.10 in a future revision of the ER, if PEF deems appropriate.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

PEF to determine if transportation study analysis should be conducted for CR 121 and US 41.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-H	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Section 5. Provide documentation of regional haze effects in this discussion.	

RESPONSE:

ER Subsection 5.8.1.2 provides a discussion of the projected maximum emissions from the LNP and the anticipated impact on ambient air quality. The discussion indicates that there will be only a very small increase in regional or local emissions as a result of increased vehicular traffic during plant operations. This section of the ER also describes the minimal emissions that will occur due to facility operation and concludes that there will be no significant impact on ambient air quality at any location as a result of plant operation and that no ambient air quality standard will be threatened or exceeded. The only emissions from the facility that will be visible will be water vapor from the plant cooling towers. Plume modeling studies that are described in ER Subsection 5.3.3.1.1 indicate that cooling tower plumes are likely to be visible beyond the property boundary less than 1 percent of the time during daylight hours. Given the very low level of emissions that will be emitted by the facility, there is not expected to be a discernible impact on visibility or regional haze at any location as a result of plant operations.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-I	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Revise tables and discussions that do not include analysis of overlap of operations and construction workers during construction phase (1/3 will be arriving at the same time)	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

The NRC asked if the ER considered the overlap in construction and operations workers. The SME explained that it did include overlap for Unit 1 coming online prior to Unit 2; however, it does not include the time spent in training by operations workers prior to Unit 1 startup.

The SME noted that the tables and discussions that do not include analysis of overlap of operations and construction workers during this period of training. This information will be updated in a future revision of the ER, pending confirmation by PEF staff.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Include analysis of overlap of operations and construction workers during construction phase (1/3 will be arriving at the same time) due to training in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-J	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Page 5-127 Verify that operation worker's wage is accurate.	

RESPONSE:

During the audit, NRC staff asked that the assumed wage for the operations workforce, $68,991, be validated with the average wage paid at Crystal River 3.

PEF provided the following distribution of the operation workforce at CR-3 which results in an average wage of $79,944. In a future revision to the ER, Subsection 5.8.2.1.2 will be revised to reflect the average wage at CR-3.

CR-3 Operational Workforce

CR-3 Job Categories	# of Workers	Annual Average Job Values
Engineering	91	$84,946
Training	41	$87,278
Maintenance	135	$65,420
Operations	88	$79,712
Outage & Schedule	17	$89,984
Environmental & Radiation Control	42	$74,475
Plant Support Services	78	$77,794
Contractors	22	Not Available
Temporary Employees	18	Not Available
Total Workers and Average Salary	532	$79,944

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise Subsection 5.8.2.1.2 to reflect the average wage at CR-3 in a future revision of the ER.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-K	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Subsection 5.8.2.1, revisit the assumption that 100 percent of operations workers will come from outside the region.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

During the audit, NRC staff requested that the assumption in Subsection 5.8.2.1 that 100 percent of operations workers will come from outside the region be revisited. The SME responded that 100 percent was chosen as a conservative estimate to characterize the maximum impacts possible. The NRC noted that they would still like to see this assumption validated by looking at the nuclear industry workforce in the region.

The SME agreed to revisit the assumption with PEF staff and revise a future version of the ER, if appropriate.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revisit the assumption in Subsection 5.8.2.1 that 100 percent of operations workers will come from outside the region with PEF staff and revise a future version of the ER, if appropriate.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: SE-L	TOPIC AREA: Socioeconomics/EJ
COMMENT/ISSUE: Subsection 5.8.2.4, reevaluate the distribution of operations workers.	

RESPONSE:

The following issues/questions were discussed and resolved or agreed upon during the meeting:

During the audit, NRC staff requested that the distribution of operations workers in Subsection 5.8.2.4 be reevaluated since they questioned Levy County's ability to accommodate 28 percent of the future operation population. The SME noted that she did not think this was an unreasonable assumption given the 60-year operation period/horizon. NRC staff noted that the impacts from operations workers should be assessed based on a shorter time frame and requested that the assumption be revisited.

Based on this discussion, the SME proposes that ER Subsection 5.8.2.4 be revised to reflect the following operation workforce distribution in a future revision of the ER:

County	Workers During Operation and Refueling
Levy	15%
Citrus	35%
Marion	40%
Alachua	5%
Dixie	1%
Gilchrist	1%
Hernando	2%
Sumter	1%
Total	**100%**

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Update Subsection 5.8.2.4 to include revised operation workforce distribution as noted above in a future revision of the ER.

Transportation

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-1	TOPIC AREA: Transportation
COMMENT/ISSUE: Provide access to electronic copies of RADTRAN input and output files.	

RESPONSE:

The electronic files and Calculation LNG-GW-GLC-001 used to support ER Sections 3.8 and 7.4 were available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

RADTRAN input and output files have been provided under separate cover via letter NPD-NRC-2008-094, 12/19/2008.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-2	TOPIC AREA: Transportation
COMMENT/ISSUE: Provide access to calculation packages for the transportation analyses presented in the ER, Sections 3.8 and 7.4, preferably making it accessible to PNNL staff in Columbus, Ohio, prior to the site audit.	

RESPONSE:

Calculation LNG-GW-GLC-001 was available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-3	TOPIC AREA: Transportation
COMMENT/ISSUE: Provide access to electronic copies of TRAGIS output files for the transportation analyses presented in the ER, Sections 3.8 and 7.4. This includes routes associated with the Levy site and the alternative sites.	

RESPONSE:

Calcualtion LNG-GW-GLC-001 used to support the transportation analyses presented in ER Sections 3.8 and 7.4 were available for review during the audit. This includes routes associated with the LNP site and the alternative sites.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-4	TOPIC AREA: Transportation
COMMENT/ISSUE: Provide access to a copy of the reference Progress Energy Florida, Inc., "New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," (Proprietary) October 2007.	

RESPONSE:

The Progress Energy Florida, Inc., "New Nuclear Baseload Generation Addition, Evaluation of Florida Sites," (Proprietary) October 2007 document was available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-5	TOPIC AREA: Transportation
COMMENT/ISSUE: Provide access to maps denoting the locations of Dixie, Highlands, and Putnam sites.	

RESPONSE:

The information is contained in Appendix A in the Calculation LNG-GW-GLC-001, which was available for review during the audit.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-6	TOPIC AREA: Transportation
COMMENT/ISSUE: Provide access to a copy of the reference Progress Energy and Lincks & Associates, Inc., "Transportation Analysis: Levy County Nuclear Power Plant," Project Number: L07040, February 2007.	

RESPONSE:

A copy of the Progress Energy and Lincks & Associates, Inc., "Transportation Analysis: Levy County Nuclear Power Plant," Project Number: L07040, February 2007 document was provided during the audit and is provided in the Progress Energy-provided Reading Room.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Progress Energy and Lincks & Associates, Inc., "Transportation Analysis: Levy County Nuclear Power Plant," Project Number: L07040, February 2007 is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: T-A	TOPIC AREA: Transportation
COMMENT/ISSUE: ER: In Table 3.8-9, revise stop times to be consistent with calculation package. LNG-GW-GLC-001: - Revise CRUD release fraction for severity group 8 in Table 3-3 and all spent fuel RADTRAN runs. - Revise package dimension for all RADTRAN fresh fuel runs from 11.8 m to 11.5 m and revise appropriate tables in the calc package.	

RESPONSE:

ER Table 3.8-9 will be revised to reflect the correct stop times to be consistent with calculation package in a future revision of the ER.

Calculation LNG-GW-GLC-001 will be revised as follows:

- Revise CRUD release fraction for severity group 8 from 0.02 to 0.002 in Table 3-3 and all spent fuel RADTRAN runs.
- Revise package dimension for all RADTRAN fresh fuel runs from 11.8 m to 11.5 m and revise appropriate tables in the calc package.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Revise ER Table 3.8-9 to reflect the correct stop times to be consistent with calculation package in a future revision of the ER.
Revise CRUD release fraction for severity group 8 from 0.02 to 0.002 in Table 3-3 and all spent fuel RADTRAN runs.Revise package dimension for all RADTRAN fresh fuel runs from 11.8 m to 11.5 m and revise appropriate tables in the calc package.

Terrestrial Ecology

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-1	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: If available, provide information on correspondence with federal and state agencies regarding the impact to terrestrial species and habitats onsite and along the proposed transmission corridor.	

RESPONSE:

ER-related formal correspondence with state and federal agencies is provided in the Progress Energy-provided Reading Room.

As discussed in the breakout session, written responses from three of the agencies contacted (USFWS, FDACS, and FFWCC) were not received.

RAIs and responses associated with the SCA have been provided.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Formal ER-related correspondence with federal and state regulatory agencies is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-2	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the methods used to quantify habitat distribution onsite and methods and locations of wildlife and plant surveys, and along the transmission corridors.	

RESPONSE:

Expert was available for this discussion during the audit. The following documents were available during the audit and are provided in the Progress Energy-provided Reading Room:

Technical Memorandum 338884-TMEM-021 “Potential Occurrence of Protected Species at the Levy Nuclear Plant Site, Levy County FL”
Technical Memorandum 338884-TMEM-054 “LNP Gopher Tortoise Survey Results”

The Wetland Delineation Report and UMAM data were provided as part of the ERP Application appended to the SCA. RAPANOS data sheets and memorandum are provided in Attachment 1. The USACE has not completed their jurisdictional determination of onsite wetlands. Seasonal data for species will be provided.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

The following documents are provided in the Progress Energy-provided Reading Room: Technical Memorandum 338884-TMEM-021 “Potential Occurrence of Protected Species at the Levy Nuclear Plant Site, Levy County FL” Technical Memorandum 338884-TMEM-054 “LNP Gopher Tortoise Survey Results”
The RAPANOS forms and Memo are provided electronically in Attachment 1 as TE-2-001_RAPANOS.pdf.

PENDING ACTIONS

The information listed below will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion.
Provide additional seasonal information regarding seasonal observations of wildlife. Include date of field observations, qualification of field observations, and rare plant survey data with seasonal data.
Provide a short write-up on ground truthing of habitats within the transmission corridors.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-3	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss terrestrial resources, including waterfowl onsite and along the transmission corridor.	

RESPONSE:

Expert was available for this discussion during the audit. It was determined that the onsite resources are addressed in the materials provided. Additional discussion of waterfowl habitats along transmission corridors will be provided.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Review existing information for waterfowl habitats along transmission corridors (see Info Need TE-2). Additional information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-4	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the location of temporary and permanent facilities, including the construction laydown areas, the intake pipeline, transmission corridor and discharge pipeline.	

RESPONSE:

Expert was available for this discussion during the audit. The following information was available during the audit:

LNG-G100-X2-001.pdf (poster size)

Additional details and configuration of temporary and permanent impacts were requested, including impacts relating to security fences. NRC requested information and figures depicting relative abundance of specific habitat types in vicinity of both the site and transmission corridors.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

The information listed below will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.
Develop a figure showing estimated limits of disturbance overlaid over vegetative types.
Update acreage for each habitat type and relative acreage for habitat types in vicinity (by temporary and permanent impacts) and further broken out by project features. Add explanation of how comparative calculations were derived (FLUCCS) 6-mile radius for LNP site. Provide figure to accompany text and table.
Show fence lines on figure.
Provide a qualitative discussion of relative abundance of habitats along transmission corridors by FLUCCS.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 – BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-5	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss wetlands impacts related to temporarily and permanent construction activities onsite, including dewatering during excavation as well as impacts related to construction of the transmission corridor.	

RESPONSE:

Expert was available for this discussion during the audit.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

The information listed below will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.
Prepare a new figure showing jurisdictional (Corps) and non-jurisdictional wetlands (State of Florida) onsite with an accompanying table showing acreage of wetland types (overlay of limits of disturbance on wetlands lines).
Provide a Dewatering Plan, including qualitative assessment of dewatering effects on surrounding wetlands and a description of disposal of water from dewatering when available.
Develop a table of UMAM scores for impacted wetlands with text describing wetlands within a 300-foot area around the impacted area. Show jurisdictional (Corps) and non-jurisdictional wetlands (State of Florida).
Develop updated tables dealing with temporary and permanent impacts in the transmission corridor (acreage of wetlands and upland habitats).

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-6	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss bird collisions with elevated construction equipment, cooling towers and transmission towers.	

RESPONSE:

Experts were available for this discussion during the audit.

The proposed cooling towers are relatively low-profile, mechanical draft structures. Use of elevated equipment will be restricted only to the area and duration necessary in order to minimize the potential for avian collisions.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

The information listed below will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.
Provide text discussing potential for likelihood for avian collision and electrocution, including discussion of minimization measures.
Provide a discussion of the proposed plan for avian protection.
Provide FDEP agency report for transmission lines for the SCA when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-7	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss salt deposition, including information on habitats that may be impacted by deposition, as well as seasonal fluctuations in deposition.	

RESPONSE:

Expert was available for this discussion during the audit. The following information was available during the audit:

Technical Memorandum 338884-TMEM-058 LNP "Cooling Tower Plume Deposition Analysis"

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Existing salt drift study conducted at CREC is provided in the Progress Energy-provided Reading Room.

PENDING ACTIONS

The information listed below will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.
Provide isopleths of salt drift disposition or an understanding of where deposition will occur.
Provide discussion of impacts based on isopleths, including discussion of long-term buildup of salts in the environment.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-8	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss restoration of temporarily disturbed areas onsite and along the transmission corridor.	

RESPONSE:

Expert was available for this discussion during the audit.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Provide text discussing BMPs and proposed plans for restoring temporary construction impacts onsite and transmission, including seed mix, specific wetland activity, restoration of pipeline corridor, monitoring and invasive species control. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-9	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss concentration estimates for any specific contaminants in the cooling tower basin.	

RESPONSE:

Expert was available to discuss concentration estimates for any specific contaminants in the cooling tower basin. The description of the chemicals injected into the AP1000 process systems and the maximum concentration of the effluents that could possibly be discharged to the Gulf are presented in ER Table 3.3-2 and the concentrations would be the maximum expected in the cooling tower basin.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-10	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss impacts of operational noise on wildlife.	

RESPONSE:

Experts were available for this discussion. The following information was available during the audit:

Report: “Noise Assessment of Proposed Levy Nuclear Plant” March 10, 2008 (SCA Appendix & ER Ref)

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Add a qualitative discussion of noise impacts on wildlife – integrate existing noise model information for both construction and operations in a future revision of the ER. Include both chronic and acute impacts.
Determine important species that may be present along the transmission corridor and how PEF would respond during construction and operation. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-11	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss transmission ROW maintenance practices, including specific BMPs and procedures that will be used to minimize impacts to wetlands or other sensitive habitats.	

RESPONSE:

Experts were available for this discussion during the audit.

BMPs are related to sediment and erosion control, stormwater, and general information on stream crossings by the water makeup line. BMPs are described in ER Subsection 2.4.1.2.1. Sediment and erosion control measures will be put into place following State of Florida guidelines. Stormwater will be addressed as part of the 401 process.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Provide a discussion of transmission line ROW maintenance activities including examples of special use/needs areas. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-12	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss information about onsite or within transmission line ROW wildlife management or enhancement practices.	

RESPONSE:

Experts were available for this discussion during the audit.

Land Management Plan (from Forestry contractor) will be provided when available.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Land Management Plan (from Forestry contractor) will be provided when available.

PENDING ACTIONS

Include an onsite description comparable to Info Need TE-11. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.
Provide Land Management Plan (from Forestry contractor) when available

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-13	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss cumulative impacts to terrestrial resources.	

RESPONSE:

Expert was available for this discussion. The following information was available during the audit:

ER Section 4.7 Cumulative Impacts Related to Construction Activities
ER Section 5.11 Cumulative Impacts Related to Station Operation

Include discussion of the following projects: Titan mine, US 19 Bridge Expansion, and Suncoast Freeway

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Identify unique or rare habitats including Threatened and Endangered species on transmission lines and compare with other projects near transmission lines in a future revision of the ER.
Provide discussion of cumulative impacts on important species and habitats relative to existing and reasonably foreseeable projects in the vicinity. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-14	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the impacts of project construction and operation on terrestrial ecology/wildlife.	

RESPONSE:

Expert was available for this discussion during the audit.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Expand discussion on wildlife displacement and nuisance species. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-15	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the value/utility of retained forest buffers on the project site as future wildlife habitat.	

RESPONSE:

Expert was available for this discussion during the audit. Land Management Plan (from Forestry contractor) will be provided when available

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

Land Management Plan (from Forestry contractor) will be provided when available.

PENDING ACTIONS

Provide a discussion on forestry management and mitigation practices during normal operation to enhance wildlife habitat on undeveloped lands surrounding the plant. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.
Provide Land Management Plan (from Forestry contractor) when available.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-16	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the ongoing studies of important species and their habitat onsite and along the transmission corridor.	

RESPONSE:

Expert was available for this discussion during the audit. Study types, dates, and duration requested for onsite and transmission

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Provide a one-page list of future and ongoing studies relative to important species and habitats, including study date ranges, status of studies, what is detected, and where. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-17	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss potential project effects on important wildlife and plant species, and important habitats.	

RESPONSE:

Expert was available for this discussion during the audit. Information previously provided in ER and as part of other information needs requests.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-18	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the post-certification process for addressing listed species along the proposed transmission corridor.	

RESPONSE:

Expert was available for this discussion during the audit.

STATUS:

☒ Open

☐ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

Provide a description of the post-certification process for addressing listed species along the proposed transmission corridor and onsite, including a schedule of implementation. This information will be included in a Terrestrial Ecology Technical Memorandum that will be provided to the NRC upon completion, as noted in the response to Info Need TE-2.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-19	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the potential effects of operational groundwater pumping on wetlands.	

RESPONSE:

Expert was available for this discussion during the audit. Wellfield configuration and pumping schedule minimize potential impacts to wetlands. Monitoring is required as part of Water Use Permit. Issue considered resolved.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-20	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Provide a knowledgeable expert to discuss the wetland permitting process being pursued, including avoidance, minimization and mitigation for onsite areas and the transmission corridor.	

RESPONSE:

Expert was available for this discussion during the audit. The LNP Wetland Mitigation Plan was filed with the Florida Department of Environmental Protection on December 26, 2008, and is available at the following Web link:

http://www.dep.state.fl.us/siting/Highlights/Applications/PPSA/Levy%20County/LNP%20Mitigation%20Plan%2012-26-08.pdf

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-A	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: Are any borrow areas needed or planned?	

RESPONSE:

The site plan requires approximately 2,700,000 cy of fill. Approximately 900,000 cy of fill will be excavated from the ponds; approximately 300,000 cy of fill will be excavated from the site grading and the excavation needed for Unit 1 and Unit 2; and approximately 300,000 cy of fill will be excavated from the barge slip and hauled to the site. The remaining 1,200,000 cy of fill will be purchased offsite and hauled to the site. It is anticipated that the fill may be purchased from the State of Florida, which has sufficient fill material currently stockpiled on State lands from the construction of the Cross Florida Barge Canal. In addition, fill may be purchased from mining operations in the surrounding region. In conclusion, on-site borrow pits will not be needed for the proposed project. Fill material will be generated from onsite activities with additional fill being purchased and brought into the site from offsite areas.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TE-B	TOPIC AREA: Terrestrial Ecology
COMMENT/ISSUE: What is the extent of shoreline loss in linear feet due to construction?	

RESPONSE:

Shoreline, currently consisting of manmade dredge spoil, will be expanded as part of barge slip development. Details are provided as part of the barge slip permit ("Little ERP").

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

Transmission Lines

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TL-1	TOPIC AREA: Transmission Lines
COMMENT/ISSUE: Provide GIS-based transmission corridor analysis for our review.	

RESPONSE:

Non-COLA transmission lines will be included in G-2 submission.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

None.

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TL-2	TOPIC AREA: Transmission Lines
COMMENT/ISSUE: Provide access to details for alternative transmission system design (e.g., voltage levels, transmission frequency, tower designs, conductor designs), construction (e.g., underground placement in certain areas, erosion control, revegetation, access roads), and maintenance practices.	

RESPONSE:

Audit presentation slides are provided in Attachment 1.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

Audit presentation slides are attached electronically in Attachment 1 as follows: TL-2-001_Transmission_Presentation.pdf TL-2-002_LNP_Audit_Orientation.pdf TL-2-003_LNP_LWA_Presentation.pdf TL-2-004_PPSA_and_ACOE_Presentation.pdf TL-2-005_Siting_Process_Overview.pdf

PENDING ACTIONS

None.

PROGRESS ENERGY LNP ER POST-COLA AUDIT
DECEMBER 2 – 5, 2008 - BREAKOUT SESSION NOTES

INFO NEED NUMBER: TL-3	TOPIC AREA: Transmission Lines
COMMENT/ISSUE: Provide access to details regarding the transmission corridor selection process and cost data for the proposed and alternative transmission corridors.	

RESPONSE:

Anticipated schedule for completion of route selection and subsequent surveys of routes for transmission lines, as well as audit presentation slides with redactions, will be provided when available.

STATUS:

☐ Open

☒ Resolved

DOCUMENT REQUESTS

PENDING ACTIONS

See schedule discussion in transmission slide provided in Attachment 1 (see Info Need TL-2).

Enclosure 3 to NPD-NRC-2009-007

Listing of Files Included on CD Provided as Attachment 1

Enclosure 3

Listing of Files Included on CD Provided as Attachment 1

ALT-B-001_Figure_ALT_B_Annual_Energy_Load_Profile.pdf
AQ-3-001_Pesticides.pdf
AQ-3-002_Env_Policy.pdf
AQ-3-003_Land_Disturbing.pdf
AQ-3-004_Veg_Maintenance_Plan.pdf
AQ-3-005_Erosion_and_Sediment_Control_Designer_and_Reviewer_Manual.pdf
AQ-3-006_SWFWMD_Stormwater_Design_Alternatives.pdf
AQ-3-007_FL_Erosion_and_Sediment_Control.pdf
AQ-4-001_Const_Schedule_Intake_Structure_rev1.pdf
AQ-4-002 LNG-G1-PL-003.pdf
AQ-4-003 Salt Water Intake RWS.pdf
AQ-9-001 1993_Crystal_River_3yr_Monitoring_Prj.pdf
AQ-9-002 1994_Crystal_River_Monitoring_Prj.pdf
AQ-9-003 1995_Crystal_River_Monitoring_Prj.pdf
AQ-9-004 Final_Rpt_Seagrass_Adv_Cmtty.pdf
AQ-9-005 2001_Resurvey.pdf
AQ-9-006 FLPwrCrystalRiver316Studies.pdf
CR-2-001_New South and SHPO.pdf
CR-2-002_Orton to Kammerer.pdf
CR-2-003_APEtranslinesFinalverification.pdf
CR-2-004_APE_LaydownAreas.pdf
CR-09-001_NPD-MISC-2008-001.pdf
CR-09-002_NPD-MISC-2008-002.pdf
CR-09-003_NPD-MISC-2008-003.pdf
CR-09-004_NPD-MISC-2008-004.pdf
CR-09-005_Proposed Application for the Levy Nuclear Power Plant.pdf
CR-10-001_EVC.SUBS.00105.pdf
CR-13-001_LK-SO_inadvertentfinds_2008-7-15.pdf
CR-14-001_SHPO data request 10-12-07.pdf
G-A-001_LNP_ER_4.6_and_4.8_Rev1(01-07-09).pdf
H-29-001_Figure_H-29.pdf
H-30-001_LNP_SWFWMD_Agency_Report.pdf
H-32-001_Figure_H-32.1.pdf
H-32-002_Figure_H-32.2.pdf
H-32-003_Figure_H-32.3.pdf
H-32-004_Figure_H-32.4.pdf

Listing of Files Included on CD Provided as Attachment 1

H-32-005_Figure_H-32.5.pdf
H-32-006_Figure_H-32.6.pdf
H-32-007_Figure_H-32.7.pdf
H-32-008_Figure_H-32.8.pdf
SE-1-001_BEBR_2006.pdf
SE-7-001_Hvy_Const_Emp_2006.pdf
SE-7-002_Pwr_Comm_Const_Emp_2006.pdf
SE-7-003_Utility_Const_Emp_2006.pdf
SE-8-001_Val_for_Ref_2.5-016.pdf
SE-11-001_Figure_SE-11.pdf
SE-A_001_BEBR_Section2.pdf
SE-C-001_Proj_2005-2080.pdf
TE-2-001_RAPANOS.pdf
TL-2-001_Transmission_Presentation.pdf
TL-2-002_LNP_Audit_Orientation.pdf
TL-2-003_LNP_LWA_Presentation.pdf
TL-2-004_PPSA_and_ACOE_Presentation.pdf
TL-2-005_Siting_Process_Overview.pdf

Enclosure 4 to NPD-NRC-2009-007

Pre-Flight Report for Files Included on CD Disc Provided as Attachment 1

Enclosure 4 - PREFLIGHT REPORT: LNP INFORMATION NEEDS SUBMITTAL

This table serves as a pre-flight report for the LNP Information Needs Request in support of the LNP COLA. The following files where checked for items related to pre-flight/electronic submittal acceptance. The results of the review are shown below. For files that do not pass pre-flight, the reason for the error is provided, however all files within this submittal are deemed compliant with the NRC electronic submittal checklist as noted below.

Preflight/Electronic Submittal Acceptance Results

		Acceptance Review			Preflight Review		
Item #	File Name	Word Searchable? (Y/N)	Fast Web View Enabled? (Y/N)	Fonts Embedded? (Y/N)	Preflight Status (Pass/Fail)	Reason for Failure	Comments
1	ALT-B-001_Figure_ALT_B_Annual_Energy_Load_Profile.pdf	Y	Y	Y	PASS	N/A	N/A
2	AQ-3-001_Pesticides.pdf	Y	Y	Y	PASS	N/A	N/A
3	AQ-3-002_Env_Policy.pdf	Y	Y	Y	PASS	N/A	N/A
4	AQ-3-003_Land_Disturbing.pdf	Y	Y	Y	PASS	N/A	N/A
5	AQ-3-004_Veg_Maintenance_Plan.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED DRAWINGS IN DOCUMENT, CLEAR AND LEGIBLE
6	AQ-3-005_Erosion_and_Sediment_Control_Designer_and_Reviewer_Manual.pdf	Y	Y	Y	FAIL	<300 PPI	PHOTOGRAPHS IN DOCUMENT; DRAWINGS IN DOCUMENT WHICH ARE CLEAR AND LEGIBLE
7	AQ-3-006_SWFWMD_Stormwater_Design_Alternatives.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DOCUMENT (OCR UNEMBEDDED FONTS); DRAWINGS IN DOCUMENT WHICH ARE CLEAR AND LEGIBLE
8	AQ-3-007_FL_Erosion_and_Sediment_Control_Manual.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWINGS IN DOCUMENT WHICH ARE CLEAR AND LEGIBLE
9	AQ-4-001_Const_Schedule_Intake_Structure_rev1.pdf	Y	Y	Y	PASS	N/A	N/A
10	AQ-4-002 LNG-G1-PL-003.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS	ENGINEERING DRAWING; NON-SCANNED PAGE, BUT CANNOT RUN OCR; CLEAR AND LEGIBLE
11	AQ-4-003 Salt Water Intake RWS.pdf	N	Y	N	PASS	N/A	ENGINEERING DRAWING; NON-SCANNED PAGE, BUT CANNOT RUN OCR TO MAKE SEARCHABLE; CLEAR AND LEGIBLE
12	AQ-9-001 1993_Crystal_River_3yr_Monitoring_Prj.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) TYPEWRITEEN AND WITH LOGOS; CLEAR AND LEGIBLE
13	AQ-9-002 1994_Crystal_River_Monitoring_Prj.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) TYPEWRITEEN AND WITH LOGOS; CLEAR AND LEGIBLE
14	AQ-9-003 1995_Crystal_River_Monitoring_Prj.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) TYPEWRITEEN AND WITH LOGOS; CLEAR AND LEGIBLE
15	AQ-9-004 Final_Rpt_Seagrass_Adv_Cmtty.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS); CLEAR AND LEGIBLE
16	AQ-9-005 2001_Resurvey.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) WITH PHOTOGRAPHS; CLEAR AND LEGIBLE
17	AQ-9-006 FLPwrCrystalRiver316Studies.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) WITH OLD LINE DRAWINGS; GENERALLY CLEAR
18	CR-10-001_EVC.SUBS.00105.pdf	Y	Y	Y	PASS	N/A	N/A
19	CR-13-001_LK-SO_inadvertentfinds_2008-7-15.pdf	Y	Y	Y	PASS	N/A	N/A
20	CR-14-001_SHPO data request 10-12-07.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) WITH DRAWINGS; CLEAR AND LEGIBLE
21	CR-2-001_New South and SHPO.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS) WITH DRAWINGS; CLEAR AND LEGIBLE
22	CR-2-002_Orton to Kammerer.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED IMAGES IN DOCUMENT; CLEAR AND LEGIBLE
23	CR-2-003_APEtranslinesFinalverification.pdf	Y	Y	Y	PASS	N/A	N/A
24	CR-2-004_APE_LaydownAreas.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED MAPS, CLEAR AND LEGIBLE

Preflight/Electronic Submittal Acceptance Results

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Item #	File Name	Word Searchable? (Y/N)	Fast Web View Enabled? (Y/N)	Fonts Embedded? (Y/N)	Preflight Status (Pass/Fail)	Reason for Failure	Comments
25	CR-9-001_NPD-MISC-2008-001.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS); SCANNED MAPS; CLEAR AND LEGIBLE
26	CR-9-002_NPD-MISC-2008-002.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS); SCANNED MAPS; CLEAR AND LEGIBLE
27	CR-9-003_NPD-MISC-2008-003.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS); SCANNED MAPS; CLEAR AND LEGIBLE
28	CR-9-004_NPD-MISC-2008-004.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DATA DOCUMENT (OCR UNEMBEDDED FONTS); SCANNED MAPS; CLEAR AND LEGIBLE
29	CR-9-005_Proposed Application for the Levy Nuclear Power Plant.pdf	Y	Y	Y	PASS	N/A	N/A
30	G-A-001_LNP_ER_4.6_and_4.8_Rev1(01-07-09).pdf	Y	Y	Y	PASS	N/A	N/A
31	H-29-001_Figure_H-29.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED IMAGE IN DOCUMENT; CLEAR AND LEGIBLE
32	H-30-001_LNP_SWFWMD_Agency_Report.pdf	Y	Y	N	FAIL	UNEMBEDDED FONTS <300 PPI	SCANNED DOCUMENT (OCR UNEMBEDDED FONTS); SIGNATURES WHICH ARE CLEAR AND LEGIBLE
33	H-32-001_Figure_H-32.1.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH GRAYED BACKGROUND; CLEAR AND LEGIBLE
34	H-32-002_Figure_H-32.2.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH GRAYED BACKGROUND; CLEAR AND LEGIBLE
35	H-32-003_Figure_H-32.3.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH GRAYED BACKGROUND; CLEAR AND LEGIBLE
36	H-32-004_Figure_H-32.4.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH GRAYED BACKGROUND; CLEAR AND LEGIBLE
37	H-32-005_Figure_H-32.5.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH GRAYED BACKGROUND; CLEAR AND LEGIBLE
38	H-32-006_Figure_H-32.6.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH GRAYED BACKGROUND; CLEAR AND LEGIBLE
39	H-32-007_Figure_H-32.7.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH COLORED BACKGROUND; CLEAR AND LEGIBLE
40	H-32-008_Figure_H-32.8.pdf	Y	Y	Y	FAIL	<300 PPI	DRAWING WITH COLORED BACKGROUND; CLEAR AND LEGIBLE
41	SE-1-001_BEBR_2006.pdf	Y	Y	Y	FAIL	<300 PPI	LOGO; CLEAR AND LEGIBLE
42	SE-11-001_Figure_SE-11.pdf	Y	Y	Y	PASS	N/A	N/A
43	SE-7-001_Hvy_Const_Emp_2006.pdf	Y	Y	Y	PASS	N/A	N/A
44	SE-7-002_Pwr_Comm_Const_Emp_2006.pdf	Y	Y	Y	PASS	N/A	N/A
45	SE-7-003_Utility_Const_Emp_2006.pdf	Y	Y	Y	PASS	N/A	N/A
46	SE-8-001_Val_for_Ref_2.5-016.pdf	Y	Y	Y	FAIL	<300 PPI	LOGOS; CLEAR AND LEGIBLE
47	SE-A-001_BEBR_Section2.pdf	Y	Y	Y	PASS	N/A	N/A
48	SE-C-001_Proj_2005-2080.pdf	Y	Y	Y	PASS	N/A	N/A
49	TE-2-001_RAPANOS.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED MAPS, PHOTOGRAPHS; CLEAR AND LEGIBLE
50	TL-2-001_Transmission_Presentation.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED MAP; CLEAR AND LEGIBLE
51	TL-2-002_LNP_Audit_Orientation.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED MAPS, PHOTOGRAPHS; CLEAR AND LEGIBLE
52	TL-2-003_LNP_LWA_Presentation.pdf	Y	Y	Y	FAIL	<300 PPI	SCANNED DRAWINGS IN DOCUMENT, CLEAR AND LEGIBLE
53	TL-2-004_PPSA_and_ACOE_Presentation.pdf	Y	Y	Y	FAIL	<300 PPI	LOGOS AND COLORED HIGHLIGHTING; CLEAR AND LEGIBLE
54	TL-2-005_Siting_Process_Overview.pdf	Y	Y	Y	FAIL	<300 PPI	LOGOS AND COLORED HIGHLIGHTING; CLEAR AND LEGIBLE