

LNP Nuclear Plant Project

Meeting with USFWS

February 28, 2011



Meeting Objective

- Understand USFWS needs so that PEF can provide information needed to facilitate completion of the consultation process to allow finalization of the Levy Environmental Impact Statement.

Project Background

- Proposed 2 Westinghouse AP-1000 advanced nuclear power plants and support facilities
- Barge Slip on the Cross Florida Barge Canal
- Blow down Pipeline from Levy to CREC
- Approximately 180 miles of transmission lines
- Approximately 722 acres of project wetland impacts

Project Background

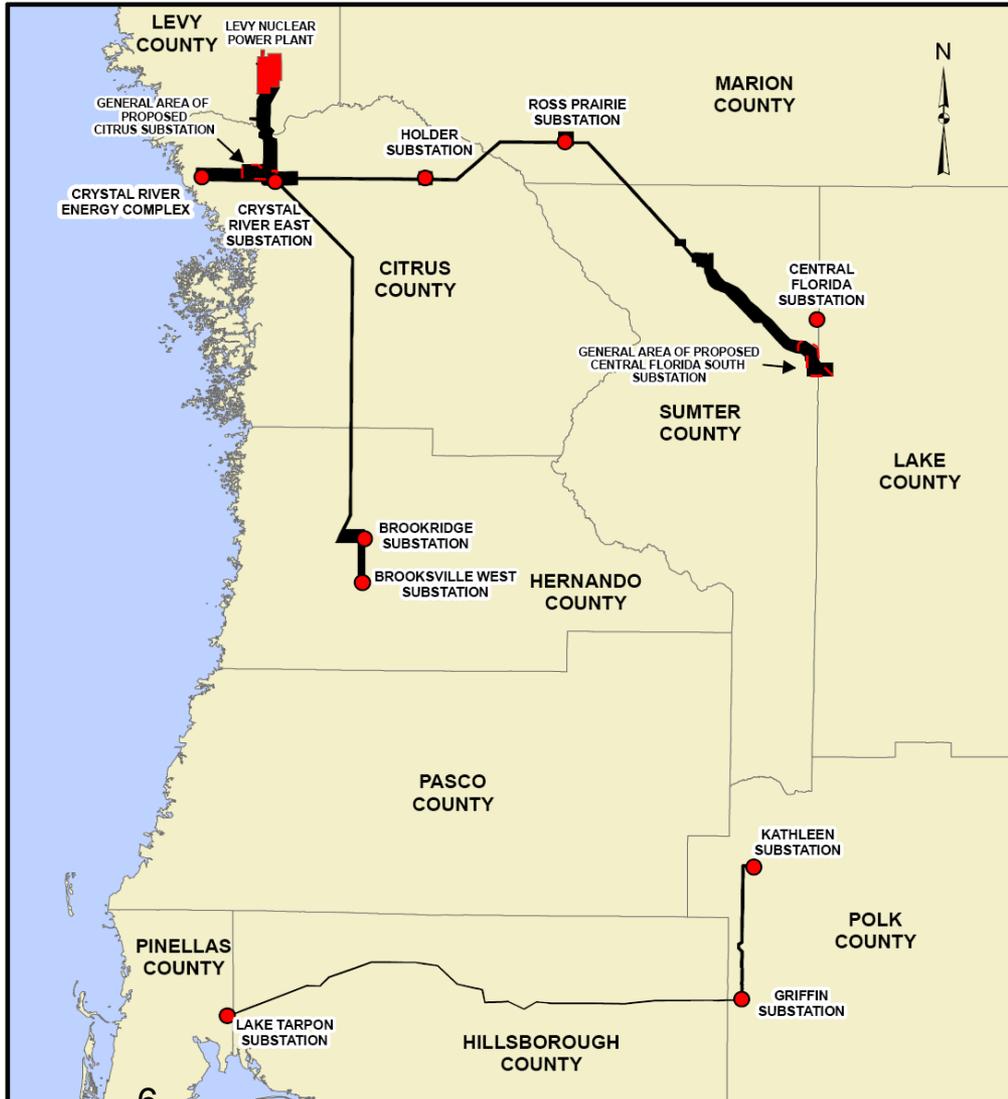


Project Background

Levy Site



Project Background



Proposed Transmission Lines

Facilities Include:

- Three new 500/230kV substations
- 91 miles of 500 kV lines
- 88 miles of 230 kV lines
- Upgrades to 5 transmission substations
- Two new distribution substations

Regulatory Approvals

- State of Florida

- ◆ Power Plant Site Certification – Issued August 2009

- Nuclear Regulatory Commission

- ◆ Draft Environmental Impact Statement (DEIS) - Issued August 2010
- ◆ Final Environmental Impact Statement (FEIS) – Scheduled April 2012

- US Army Corps of Engineers

- ◆ Clean Water Act - Section 404 Permit

LNP Site Evaluation

- Evaluation began with review of high-resolution aerial imagery from several different years
- Review included GIS information on land use, soils, habitat connectivity, occurrence of listed species, and data from environmental resource agencies (e.g., Florida Natural Areas Inventory)
- Experienced ecologists have spent 100s of hours on the site, recording observations of vegetation, landforms, habitats, wildlife, water features, land use patterns, and relationships to adjacent lands
- Most of the site was historically pine flat wood uplands and depressional wetlands
- A small area of higher and drier (xeric) land lies at the extreme northern edge of the site
- Upland and wetland areas have been used for silviculture for over 100 years

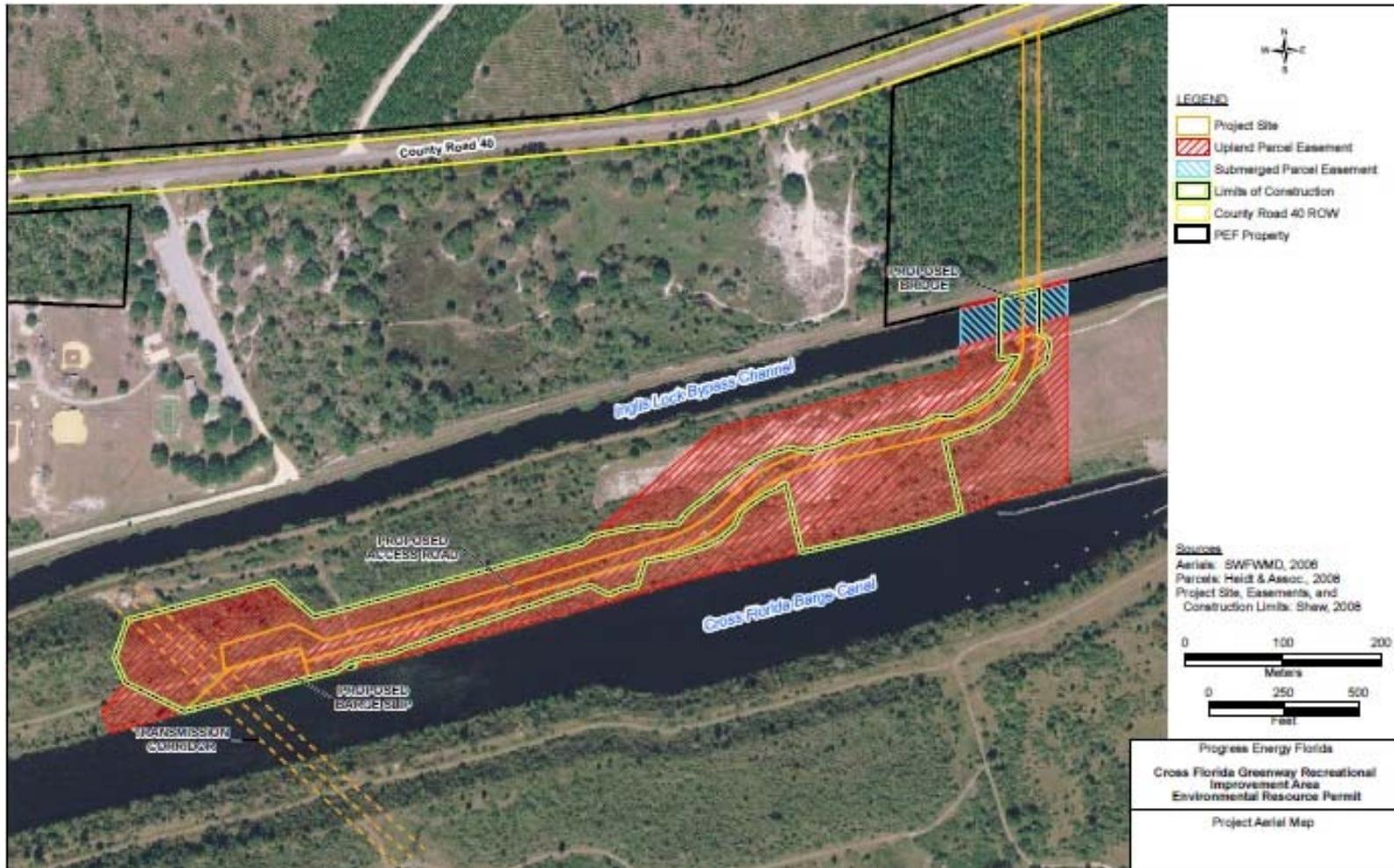
LNP Site Listed Species

- The dense pine monoculture of the site, with harvesting before the trees become very large, nearly eliminates any potential for most listed wildlife to use the uplands
- Gopher tortoise burrows were seen in the drier area near the north edge of the property and the south edge of the property – consideration will be given to their presence in site planning and activities
- Wetlands may provide some foraging habitat for listed wading birds, but appropriate habitats are not present for significant nesting colonies to occur
- Alteration of the site for silviculture, and the dense pine canopy with little ground cover or understory, leave little opportunity for listed plant species to be present
- Active eagle nest on the property– avoidance during construction/operation

Closed Cycle Cooling

- The Levy Nuclear Plant proposes to have a makeup water intake structure on the Cross Florida Barge Canal and use salt water drawn up the canal from the Gulf of Mexico for the closed cycle mechanical draft cooling towers
- The cooling water intake structure will be designed to meet CWA 316(b) Phase I rules to minimize impingement and entrainment of aquatic organisms
- The blowdown from the cooling towers is proposed to be routed to the Gulf of Mexico via the discharge canal at the Crystal River Energy Complex

LNP Barge Slip



Cross Florida Barge Canal looking West



LNP Site Conditions

- Uplands
 - Dominated by densely planted pines, and areas where recent harvesting has left little or no vegetation.
 - Much of the site has been bedded - altering the terrain (microtopography) and soil profile of those areas
- Wetlands
 - Forested and non-forested wetlands are present
 - Most forested systems were historically cypress swamps – most have been logged, and portions have become dominated by other trees
 - Non-forested wetlands have been altered by the change in the adjacent uplands
 - Silviculture has degraded onsite wetlands through logging, bedding, fire suppression, road construction, and planting
- Wildlife Habitat
 - In spite of its size and rural setting, the active silviculture operation on the site has dramatically diminished the potential its historic biodiversity to be expressed
 - Parts of the site are suitable for some common bird, mammal and reptile species, but most species with specialized habitat requirements have little or no opportunity to use the site

LNP Site Listed Species

Terrestrial

- Florida Scrub Jay (LT)
- Wood Stork (LE)
- Red-cockaded Woodpecker (LE)
- Eastern Indigo Snake (LT)

Aquatic

- West Indian Manatee (LE)
- Gulf Sturgeon (LT)
- Smalltooth Sawfish (LE)
- Green Sea Turtle (LE)
- Leatherback Sea Turtle (LE)
- Loggerhead Sea Turtle (LT)
- Kemp's Ridley Sea Turtle (LE)

Plants

- None

- Per the USFWS county listing

LNP Site Listed Species Conditions of Certification

- Includes the blow down pipeline and barge slip
- Negotiated with state agencies based on knowledge of site and local agency biologists knowledge
 - ◆ Includes:
 - ◆ Specific Species Surveys
 - ◆ If impacts cannot be avoided, appropriate permits and mitigation needed
 - ◆ Preparation of an Avian Protection Plan for plant site
 - ◆ Florida Manatee Conditions
 - ◆ Standard Manatee Conditions for In-Water Work (revision 2005)
 - ◆ Prior to inwater work FWC will be consulted to determine if manatee observers will be required during construction
 - ◆ Review of Cooling Water Intake Structure Final Design including review of vertical bar screens and trash rack/rake

LNP Site Listed Species Conditions of Certification

General Listed Species Surveys

1. Obtain and follow the current survey protocols, develop survey plan in consultation with FWC.
2. Surveys will be conducted prior to clearing and construction. Survey results provided to FWC. Coordination on appropriate impact mitigation methodologies if impacts cannot be avoided.

- Gopher frog
- **Eastern indigo snake**
- Florida pine snake
- Short-tailed snake
- Gopher tortoise
- **Florida scrub jay**
- Little blue heron
- White ibis
- Southeastern American kestrel
- Florida sandhill crane
- Bald Eagle
- **Red-cockaded woodpecker**
- **Snail kite**
- Florida mouse
- Sherman's fox squirrel
- Florida black bear
- **Florida manatee**

Federally listed species in bold

Transmission Corridor Selection Process

- Establish and Define the Project Study Area
- Regional Screening and Mapping
 - ◆ Including review of listed species and their habitats
- Selection and Evaluation of Candidate Corridors
 - ◆ Quantitative Evaluation
 - ◆ Detailed Evaluation (quantitative and qualitative considerations)
- Selection of the Preferred Corridor
- Refinement of the Preferred Corridor

Same process was followed in selecting the preferred rights of way

Majority of transmission lines are adjacent or within existing rights of way

LNP Transmission Line Listed Species Conditions of Certification

- State licensing process under the Power Plant Siting Act included requirements for listed species surveys
- Negotiated with state agencies based on knowledge of corridor area and local FWC biologists knowledge
 - ◆ Includes
 - ◆ Specific Species Surveys
 - ◆ If impacts cannot be avoided, appropriate permits and mitigation needed
 - ◆ Preparation of an Avian Protection Plan for transmission lines

LNP Transmission Line Listed Species Conditions of Certification

General Listed Species Surveys

1. Obtain and follow the current survey protocols, develop survey plan in consultation with FWC.
2. Surveys will be conducted prior to clearing and construction. Survey results provided to FWC. Coordination on appropriate impact mitigation methodologies if impacts cannot be avoided.

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- Gopher tortoise
- **Florida scrub jay**
- Little blue heron
- White ibis
- Southeastern American kestrel
- Florida sandhill crane
- **Whooping crane**
- Bald Eagle
- **Red-cockaded woodpecker**
- **Snail kite**
- Florida mouse
- Sherman's fox squirrel
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Federally listed species in bold

Transmission Line Activities

- Selection of Preferred Right of Way
- Much narrower than the certified corridors
 - ◆ Levy Common Corridor (Between LNP and Citrus Substation) – New Right of Way
 - ◆ Levy-Citrus (2 Lines)
 - ◆ Levy-Central Florida South
 - ◆ Levy-CREC
 - ◆ South Admin Substation line from Cross Florida Barge Canal to Substation on LNP site
 - ◆ Levy-Central Florida South
 - ◆ From Citrus-SR200 - Co-located within existing unimproved ROW
 - ◆ From SR200-Florida Turnpike – co-located with existing transmission line in new ROW
 - ◆ From Florida Turnpike to CFS – co-located with Florida Turnpike in new ROW
 - ◆ Citrus-Brookridge
 - ◆ Rebuild in existing transmission line ROW
 - ◆ Brookridge-Brooksville West
 - ◆ Rebuild in existing transmission line ROW
 - ◆ Polk-Hillsborough-Pinellas
 - ◆ Rebuild in existing transmission line ROW except for short distance at Lake Tarpon Substation

Transmission Line Activities

- Field Delineations of Jurisdictional Wetlands
- Field Review and Update of Land Use/Land Cover
- Pedestrian Surveys of Preferred ROW's for Listed Species
- Developed Tables of Habitats within Preferred ROW

Transmission Consolidated USFWS Listed Species List

Animals

- Florida grasshopper sparrow
- Florida scrub-jay
- Ivory-billed woodpecker
- *Audubon's crested caracara*
- Piping plover
- Wood stork
- Red-cockaded woodpecker
- Everglade snail kite
- Florida salt marsh vole
- Florida panther
- West Indian manatee
- American alligator
- Loggerhead sea turtle
- Green sea turtle
- Leatherback sea turtle
- Eastern indigo snake
- Bluetail mole skink
- Kemp's ridley sea turtle
- Sand skink
- Gulf sturgeon

Plants

- Florida bonamia
- Brooksville bellflower
- Pygmy fringe-tree
- Florida golden aster
- Pigeon wings
- Short-leaved rosemary
- Avon Park harebells
- Scrub mint
- Longspurred mint
- Scrub buckwheat
- Highlands scrub hypericum
- Cooley's water-willow
- Florida blazing star
- Scrub lupine
- Britton's beargrass
- Papery whitlow-wort
- Lewton's polygala
- Wireweed
- Sandlace
- Scrub plum
- Wide-leaf warea
- Carter's mustard
- Florida ziziphus