

# PUBLIC SUBMISSION

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**Docket:** NRC-2009-0337

Notice of Receipt and Availability of Application for a Combined License

**Comment On:** NRC-2009-0337-0092

Combined License Application for Turkey Point Nuclear Plant, Units 6 and 7; Reopening of Comment Period

**Document:** NRC-2009-0337-DRAFT-0266

Comment on FR Doc # 2015-12935

254

## Submitter Information

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## General Comment

Comments and Recommendations for the Draft Environmental Impact Statement (DEIS) DEIS for Combined Licenses for Turkey Point Nuclear Plant, Units 6 and 7, Homestead, Florida - Docket ID NRC-2009-0337

## Attachments

Turkey Point Nuclear Plant, Units 6 and 7 - ER 15-0144

**SUNSI Review Complete**

Template = ADM - 013

E-RIDS= ADM-03

Add= D. Williamson (APWA)



# United States Department of the Interior



**OFFICE OF THE SECRETARY**  
Office of Environmental Policy and Compliance  
Richard B. Russell Federal Building  
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Atlanta, Georgia 30303

ER 15/0144  
9043.1

July 15, 2015

Cindy Bladey  
Office of Administration  
Mail Stop: OWFN 12 H8  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-000

Re: Comments and Recommendations for the Draft Environmental Impact Statement (DEIS)  
DEIS for Combined Licenses for Turkey Point Nuclear Plant, Units 6 and 7, Homestead,  
Florida - Docket ID NRC-2009-0337

Dear Ms. Bladey:

The United States Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement for Combined Licenses for Turkey Point Nuclear Plant, Units 6 and 7 located in Homestead Florida. We provide the following specific comments on several species and highlight additional concerns with project elements below.

## **Endangered Species**

The proposed project occurs within the geographic range of nine species protected by the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*), including: the endangered Bartram's scrub-hairstreak butterfly (*Strymon acis bartrami*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*; snail kite), Florida bonneted bat (*Eumops floridanus*; FBB), Florida leafwing butterfly (*Anaea troglodyte floridalis*), Florida panther (*Puma concolor coryi*; panther), Schaus swallowtail butterfly (*Heraclides aristodemus ponceanus* = *Papilio aristodemus ponceanus*), West Indian manatee (*Trichechus manatus*), beach jacquemontia (*Jacquemontia reclinata*), crenulate lead-plant (*Amorpha crenulata*), deltoid spurge (*Chamaesyce deltoidea deltoidea*), Florida brickell-bush (*Brickellia mosieri*), Small's milkpea (*Galactia smallii*), and tiny polygala (*Polygala smallii*) as well as the threatened American crocodile (*Croodylus acutus*; crocodile), Red Knot (*canutus rufa*), piping plover (*Charadrius melodus*), wood stork (*Mycteria americana*), and Garber's spurge (*Chamaesyce garberi*).

Everglade snail kite

If the Preferred corridor segment of the west transmission line is chosen as the preferred alternative, it will result in habitat loss for the snail kite and significantly increase the likelihood that snail kites are injured and killed due to collisions with transmission lines. Please indicate how FPL intends to minimize the adverse effects of the preferred segment of the west transmission line corridor to the snail kite. The Department notes that we have had discussions with FPL regarding moving the northern segment of west transmission line [*i.e.*, the currently proposed Preferred and Consensus corridors] much farther to the east, away from the Everglades National Park (ENP) and adjacent to existing development]. We believe that movement of this segment of the west transmission corridor as described will reduce potential adverse effects to the snail kite. We urge FPL to adopt this new corridor. If adoption of the new corridor does not occur, we recommend that FPL consider protecting currently unprotected wetlands habitat for the snail kite to minimize the adverse effects from the project.

Florida bonneted bat

The project will result in the loss of potential suitable roosting habitat for the FBB within the Department's focus area for the species. To better ascertain the status of the FBB on the project site, we request that a pedestrian survey of all suitable roosting habitat for the FBB be conducted within the entire project footprint, including the footprint of the proposed transmission lines. The results of the survey should be provided to the Department for our review. We also recommend that FPL include a survey of potential roosting habitat prior (no earlier than a month prior) to any clearing activities to ensure no FBB have recently begun roosting in the clearance areas.

Florida panther

The Biological Assessment states that the project will result in the loss of 69 acres of panther habitat located within the project footprint. This habitat is located in the Department's primary and secondary zones for the panther. FPL's consultant has applied the Department's panther habitat methodology (PHM) to the habitat types affected by the project and calculated that the 69 acres of panther habitat lost due to the project provide 412 Panther Habitat Units (PHUs). Based on the PHM, a total of 1,030 PHUs of panther habitat will need to be provided to offset the loss of panther habitat due to the project. We request a detailed habitat compensation plan indicating how FPL intends to provide 1,030 PHUs of panther habitat to offset the loss of panther habitat due to the project.

American crocodile

The proposed project will result in the loss of approximately 270 acres of designated critical habitat for the crocodile associated with the construction of Units 6 and 7. The project also has the potential to affect water quality in the cooling canal system at the Turkey Point site. The cooling canal system provides important habitat to crocodiles. Drift from the cooling towers from the use of reclaimed water is expected to deposit a small amount of chemical contaminants (*e.g.*, 1,4-dichlorobenzene, phenanthrene, copper *etc.*) into waters of the cooling canal system, although information provided in the DEIS indicate that the deposition rates of these contaminants is extremely low. Additional water quality testing in the canal system should be considered to address these contaminants. FPL intends to store the muck removed from the project footprint on the berms within the cooling canal system. This practice has the potential to

introduce organic matter and nutrients (*e.g.*, nitrogen, phosphorus *etc.*), and decrease the quality of the water in the cooling canal system. This will undoubtedly further exacerbate the poor water quality currently experienced in the cooling canal system and further adversely affect the crocodile that inhabit the system.

#### Wood Stork

The proposed west transmission line corridor for the project occurs within the core foraging areas (*i.e.*, all lands within 18.6 miles) of five active nesting colonies of the wood stork. As currently proposed the Preferred Corridor segment of west corridor transmission line occurs within about 1 mile or less of an active wood stork nest colony. Consequently, if this alternative is selected, it will likely result in injuries and deaths of wood storks and other bird species due to collisions with the transmission wires or towers during flight. If the transmission line cannot be re-sighted, we recommend considering additional compensation for impacts to wood stork above those currently being considered for wetland impacts. In addition, a wetlands mitigation plan that adequately compensates for the loss of wood stork foraging habitat due to the project should be developed. This should include a functional analysis of the loss of wood stork foraging habitat within the project footprint (including the transmission lines) through the application of the Fish and Wildlife Service's (FWS) Wood Stork Foraging Habitat Methodology (FWS, 2012). Please be aware that we consider all wetland types as suitable for wood stork foraging, and all wetland types lost due to the project should be included in the analysis.

#### Additional Species

The Department requests species surveys be conducted (in appropriate habitat) for the Bartram's scrub-hairstreak butterfly and Florida leafwing butterfly. Botanical surveys should be conducted for crenulate lead-plant, deltoid spurge, Florida brickell-bush, Small's milkpea, tiny polygala, and Garber's spurge.

#### Main plant area footprint

The construction footprint for the Unit 6 and 7 reactors and associated infrastructure (*i.e.*, cooling towers, make-up water reservoir, ancillary buildings *etc.*) is currently comprised largely of occasionally flooded mudflats that provide important habitat for shorebirds and wading birds. These trust resources are protected under the Migratory Bird Treaty Act (MBTA), 16 U.S.C. 703. According to the DEIS, the project will result in the loss of 182.05 acres of mud flats (listed as non-vegetated in Table 4-1) that provide habitat for shore birds and wading birds. To minimize the impacts of the project to migratory birds, the Department has requested that FPL compensate for the loss of mud flats (migratory bird habitat) that will be lost from project construction. In past discussions with the Department, FPL has indicated that they may be able to create and maintain the same acreage of mud flat habitat in perpetuity on FPL-owned lands north of the project site. These lands are currently being leased for agricultural purposes. We request that FPL provide the Department with a detailed plan on how they intend to minimize and compensate for the loss of the migratory bird habitat. We further request that the NRC and U.S. Army Corps of Engineers include this plan, once approved by the Department, as a condition of any permit or authorization to offset the loss of habitat for shorebirds and wading birds.

### **Radial collector wells**

The Department is concerned that the operation of the radial collector wells (CWs), installed to provide a backup source of cooling water for Units 6 and 7,) has the potential to affect the salinity of Biscayne Bay (Bay). The lateral pipes associated with the CWs will be located 25 to 40 feet beneath the bottom of the Bay, but will draw water from the Bay itself. During operation of the CWs, the water withdrawn from the Bay will be replaced mostly by ocean water containing a typical ocean salinity of about 35 practical salinity units (psu). Consequently, operation of the CWs could negatively affect salinity (mesohaline; 5-18 psu) in this area of the Bay, and may undermine efforts of the Comprehensive Everglades Restoration Plan (CERP) in the region. Results from U.S. Geological Survey (USGS) salinity modeling of the effects of CWs, as provided in the DEIS, indicate that under the most conservative scenario (continuous pumping) the maximum salinity increase was +2.3 psu above the base condition in the immediate vicinity of the lateral pipes of the CWs. However, most of the time salinity was within  $\pm 1$  psu of the baseline condition. If the modelling is correct, the magnitude of change in salinity is not likely to be ecologically significant (*i.e.*, the flora and fauna probably will not be affected). Salinity in the Bay is frequently falls outside of the Restoration Coordination and Verification (RECOVER) performance measures targets established by CERP. Therefore, we are concerned that any further increases in the Bay's salinity may have adverse effects to the flora and fauna in area including the American crocodile. We recommend that FPL develop a monitoring plan to ensure that salinity in the Bay is consistent with the predicted modeling and develop an adaptive management plan to address what steps will be taken if salinity level exceed the  $\pm 1$  psu.

We are also concerned that the operation of the CWs may exacerbate the hypersaline plume of ground water underneath the existing cooling canal network. The USGS modeling indicates that some hypersaline water beneath the cooling canals will be drawn into the CWs during extended periods of pumping. The increased gradient during CW pumping will likely increase the flow velocity of hypersaline water eastward under the Bay and may change the area affected by the hypersaline plume. It is unclear how this might affect salinity in the Bay; however, as previously indicated increased salinity in the Bay would have undesirable ecological effects to the Bay's ecosystem.

Finally, operation of the CWs has the potential to adversely affect the local biota within the Bay due to the increase in downward vertical flow of water in the Bay's water column. The calculated average velocity of 0.0003 ft/min or about 0.4 ft/day is probably insignificant. However, a worst case modelling scenario presented in the DEIS, using an ultra-conservative approach, resulted in a vertical velocity of 0.43 ft/minute. This velocity could entrap small, weak-swimming organisms. Based on the design of the CW system, impingement and entrapment of organisms due to the operation of the CWs is unlikely. However, it could occur in a limited manner if the limestone above the CW laterals fractures and increase downwelling. Animals susceptible to impingement and entrapment include the eggs and larval forms of several species of fish and invertebrates. Also, a downward vertical flow would also likely replace high-nutrient pore water with low nutrient Bay water, and result in adverse effects to seagrasses. Other species potentially influenced by changes in sediment pore-water characteristics include

polychaetes, amphipods, mollusks, and other benthic macro-invertebrates present in near shore locations above the CW laterals.

Based on the potential adverse effects of the operation of the CWs, we recommend that a rigorous water monitoring program be employed in the Bay in association with the project. The Department supports the monitoring described in Section B of the Florida Department of Environmental Protection's Certificate of Conditions issued in May 2014.

### **New paved roads**

The project will result in the construction of new paved roadways to provide the main construction access to the project site and allow the delivery of fill, equipment, and construction materials. New paved roadways will be constructed within the footprint of existing dirt roadway at: SW 137<sup>th</sup> Avenue from SW 344<sup>th</sup> Street/Palm Drive to SW 359<sup>th</sup> Street (three lanes); SW 117<sup>th</sup> Avenue from SW 344<sup>th</sup> Street/Palm Drive to SW 359<sup>th</sup> Street (three lanes); and SW 359<sup>th</sup> Street from SW 137<sup>th</sup> Avenue/Tallahassee Road to the Turkey Point Power Plant site (three lanes from SW 137<sup>th</sup> Avenue to SW 117<sup>th</sup> Avenue and four lanes from SW 117<sup>th</sup> Avenue to the Turkey Point Power Point site, including a new bridge over the L-31E Canal). Consequently, the project will introduce significant motor vehicle traffic (consisting largely of trucks) within an area that seldom experiences motor vehicle traffic and increase the likelihood of injuries and deaths to the panther and other wildlife resulting from collisions with vehicles. We note the proposed paved roadways described above will result in a significant loss of wetlands and fish and wildlife habitat and the impacts to the environment will be great. We recommend that the NRC require FPL to use a less environmentally damaging route to access the project site, such as the use of Palm Drive. We understand that this will increase motor vehicle traffic on this roadway but we believe that this problem could be overcome through road widening, the use of a shuttle bus system for FPL employees, and the judicious construction of new access roads near the project site.

In the event that the proposed new paved roadways are implemented. FPL has agreed to several protective measures to reduce the potential for vehicle collisions, including installing continuous barrier fencing on both sides of the new roadways (*i.e.*, SW 137<sup>th</sup> Avenue from SW 344<sup>th</sup> Street/Palm Drive to SW 359<sup>th</sup> Street, SW 117<sup>th</sup> Avenue from SW 344<sup>th</sup> Street/Palm Drive to SW 359<sup>th</sup> Street, and SW 359<sup>th</sup> Street from SW 137<sup>th</sup> Avenue/Tallahassee Road to the Turkey Point Power Plant site), and installation of a large underpass structure and several smaller culvert structures along SW 359<sup>th</sup> Street that will allow Florida panthers and other wildlife to pass safely under the roadway. In addition, FPL has agreed to remove these paved roadways following construction and return the area to its original condition (*i.e.*, lime dirt road and wetlands).

### **Barge unloading facility**

To support construction activities, the equipment barge unloading area, located at the northeastern portion of the Turkey Point Power Plant site, will be enlarged by 0.75 acres. This activity will require the dredging of approximately 0.1 acre of marine bottoms in the turning basin, and the installation of sheet piling to support building activities. Surveys conducted in 2008 indicate that at least some seagrasses occur in the area to be affected. We recommend that

FPL resurvey the area to be affected to determine the extent of seagrasses and provide mitigation for the loss of these valuable marine resources.

### **Reclaimed water treatment facility**

The project will require the construction of a facility to treat reclaimed water used in cooling of Units 6 and 7. The proposed site for the facility is located immediately north of the northern border of the cooling canal system and west of the test canal system. The proposed treatment facility will result in the loss of 42.82 acres of dwarf mangroves and 0.78 acres of mixed wetland hardwoods. Wetlands provide important habitat for fish and wildlife, aid in flood control, and perform a number of other vital ecosystem functions. Consequently, the location of the water treatment facility, as proposed, will result in a significant loss of valuable wetland resources. To minimize the loss of wetlands resulting from the project, we recommend that FPL relocate the reclaimed water treatment facility to a site with minimal or no impacts to wetlands or to a disturbed uplands closer to the Miami-Dade Water and Sewer Department's South District Wastewater Treatment Plant. We understand that FPL has stated security concerns as a reason to site this facility in its current location. However, the Department asserts that those concerns can be addressed with adequate fencing and other safeguards, and that these concerns do not warrant the destruction of wetlands within the current preferred site. We recommend that the NRC require the reclaimed water treatment facility to be moved from the currently proposed location.

### **Transmission lines**

Electricity produced by the proposed Units 6 and 7 will be distributed to the existing power grid through two new transmission line corridors: the east corridor and the west corridor. The northern segment of west corridor will be located either in the Preferred Corridor or the Consensus Corridor. The Department notes that the Preferred Corridor will be located immediately adjacent to the (ENP). As such the installation of this new transmission line will adversely affect the aesthetic experience of visitors to the ENP. Moreover, active nesting colonies of the wood stork are located near both the Preferred Corridor and the Consensus Corridor. Locating new transmission lines near these colonies will increase the potential for injuries and deaths of wood storks from collisions with power lines and transmission towers. The Department has had discussions with FPL about moving this segment of the west corridor eastward in order to abut existing development to the greatest extent practicable. FPL may be amenable to this approach. We recommend that the NRC require the location of the west corridor to be relocated eastward along existing developed areas.

Information provided in the Biological Assessment and DEIS indicate that parcels of the rare pine-rockland habitat type are located within or near the west corridor. Pine rocklands are a globally imperiled ecosystem, which has been reduced by 95 percent of its historical range in Miami-Dade County, and is home to sixteen candidate and listed species. We recommend that these habitat parcels be avoided when siting the west corridor transmission line.

The transmission towers and wires of the proposed transmission lines will be greatly elevated above the ground (80 to 150 feet). Consequently, they represent a hazard to migratory birds flying through the area, especially at night. Migratory birds may have difficulty avoiding these

structures, and may be injured or killed due to collisions with these structures. These trust resources are protected under the MBTA. Therefore, FPL should develop a Department approved avian protection plan to avoid, minimize impacts to bird species and compensate for the loss of their habitat.

**Western laydown area**

A storage or laydown area for the stockpiling of construction materials and equipment will be established just east of the northeast portion of the cooling canal system and immediately east of the footprint for Units 6 and 7. This area is largely disturbed but is located immediately east of canal and berm habitat inhabited by the crocodile in the cooling canal system. To reduce the likelihood that crocodiles and other wildlife are hit by motor vehicles or crushed during movement and storage of materials, we recommend FPL install continuous barrier fencing along both sides of SW 359 Street where it borders the reclaimed water treatment facility, cooling canal system, and test canal system. The continuous fencing should also extend southward along the western edge of the heavy haul road and along the western boundary of the laydown area to a point about 500 feet south of the land utilization building. The fence should be constructed of at least 6-foot tall galvanized chain-link type material (or a similar material that will exclude crocodiles). If needed, a barrier material of some type should be installed along the bottom two to three feet of the fence to prevent small crocodiles and other small species of wildlife from passing through the fence. The proposed fence will connect with the barrier fencing the FPL has agreed to install along both sides of SW 359th Street from SW 137th Avenue/Tallahassee Road to the L-31E Canal, SW 137th Avenue from SW 344th Street/Palm Drive to SW 359th Street, and SW 117th Avenue from SW 344th Street/Palm Drive to SW 359th Street to protect wildlife in the area.

Thank you for the opportunity to provide comments on this project. If you have questions, please contact John M. Wrublik on (772) 469-4282 or via email at [john\\_wrublik@fws.gov](mailto:john_wrublik@fws.gov). I can be reached on (404) 331-4524 or via email at [joyce\\_stanley@ios.doi.gov](mailto:joyce_stanley@ios.doi.gov).

Sincerely,



Joyce Stanley, MPA  
Regional Environmental Protection Specialist

cc:

Christine Willis – FWS  
Gary Lecain - USGS  
Anita Barnett – NPS  
Chester McGhee – BIA  
OEPC – WASH

**Literature Cited**

U.S. Fish and Wildlife Service. 2012. Wood Stork Foraging Habitat Assessment Methodology. U.S. Fish and Wildlife Service; South Florida Ecological Services Office; Vero Beach, Florida.