


Combined License Application Mandatory Hearing Florida Power & Light Company Turkey Point Units 6 and 7

- Environmental Panel
- December 12, 2017

United States Nuclear Regulatory Commission Official Hearing Exhibit			
In the Matter of:		FLORIDA POWER & LIGHT CO.	
		(Turkey Point Nuclear Generating Units 6 and 7)	
	Commission Mandatory Hearing		
	Docket #:	05200040 05200041	
	Exhibit #:	NRC-011-MA-CM01	Identified: 12/12/2017
	Admitted:	12/12/2017	Withdrawn:
	Rejected:		Stricken:
	Other:		



Panelists

- Alicia Williamson – Environmental Project Manager
- Mohammad Haque – Cooling Water Sources
- Andrew Kugler – Alternative Sites
- J. Peyton Doub – Critical Habitat and Endangered Species Act Consultation

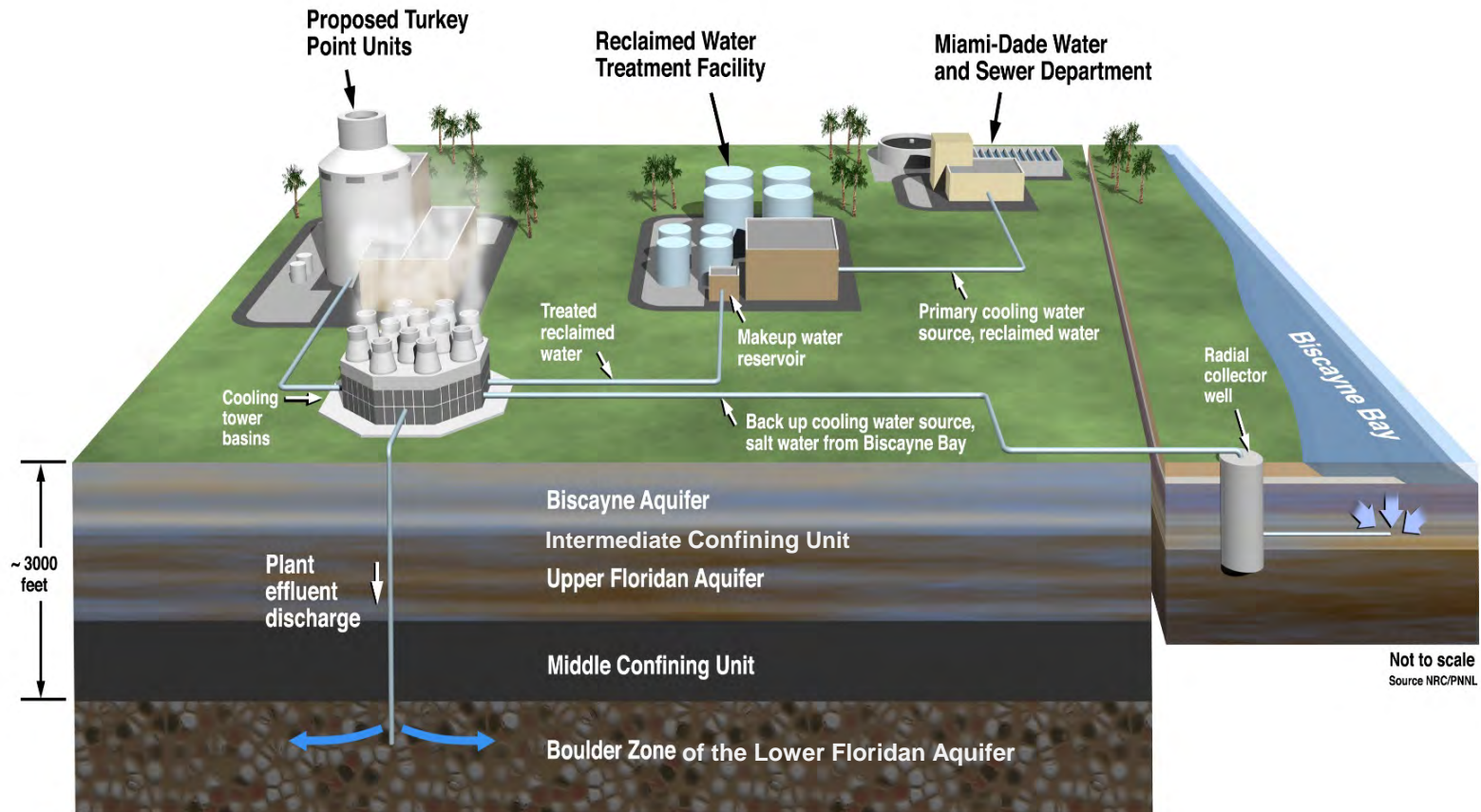
Turkey Point Cooling Water Sources

There will be two cooling water sources for the Turkey Point Units 6 and 7:

- Primary Source – reclaimed water from the South District Wastewater Treatment Plant (South District Plant)
- Backup Source – salt water through a radial collector well system from beneath Biscayne Bay (Limited Use)

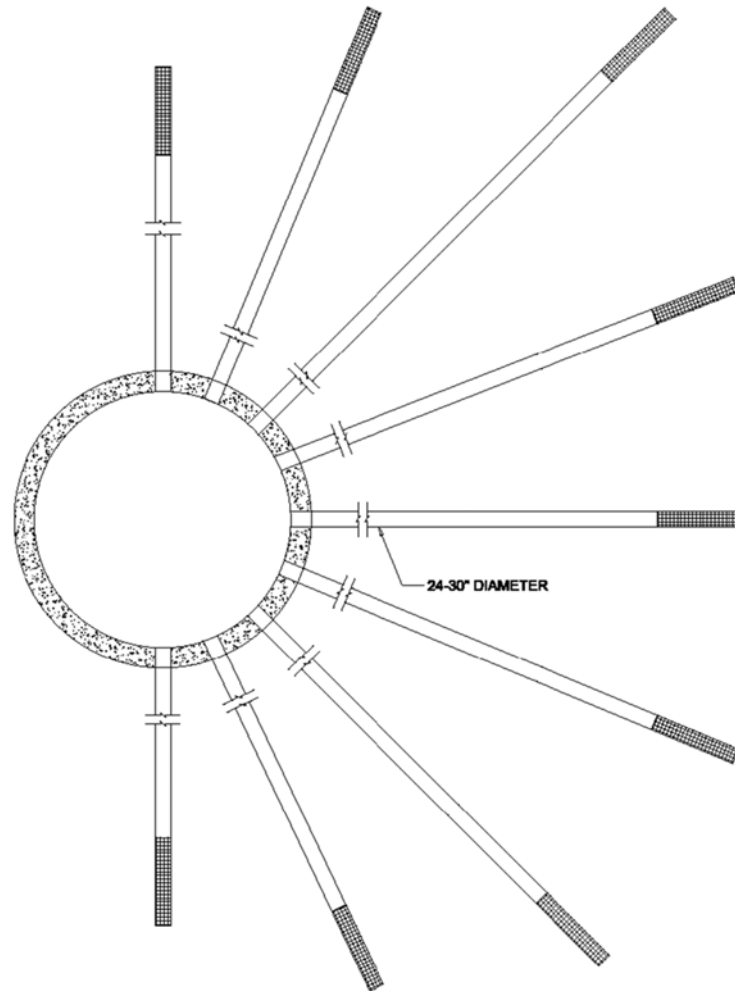
Turkey Point Cooling Water Sources

Simplified Diagram



Turkey Point Cooling Water Sources

Plan View of a Typical Radial Collector Well System (FPL 2014-TN4058)



Turkey Point Cooling Water Sources

- Staff concluded that impacts to surface and ground water use and quality during construction and operation would be SMALL when primary source reclaimed water would be used.
- Staff also concluded that impacts to surface and ground water use and quality during construction and operation would be SMALL when backup source saltwater would be used.

Turkey Point Alternative Sites

- Analysis typically uses same type of cooling water source at all sites
- Sufficient treated wastewater not available at alternative sites
- Different cooling water source for alternative sites

Turkey Point Alternative Sites



Turkey Point Alternative Sites

- New units at St Lucie site would use seawater
- For inland sites, FPL proposed:
 - Excess surface water with a reservoir
 - Use of saline groundwater (GW) when surface water not available
 - Desalination to reduce GW salt content

Turkey Point Alternative Sites

- To evaluate minimum impacts at the inland sites, staff evaluated:
 - Excess surface water without a reservoir
 - Increased use of saline GW
 - No desalination plant

Turkey Point Alternative Sites

- Staff concluded no alternative site was environmentally preferable
- Staff acknowledged in the EIS that permitting for such an approach was uncertain
 - Novel use of deep aquifer
 - Made qualitative assessment of adding the reservoir

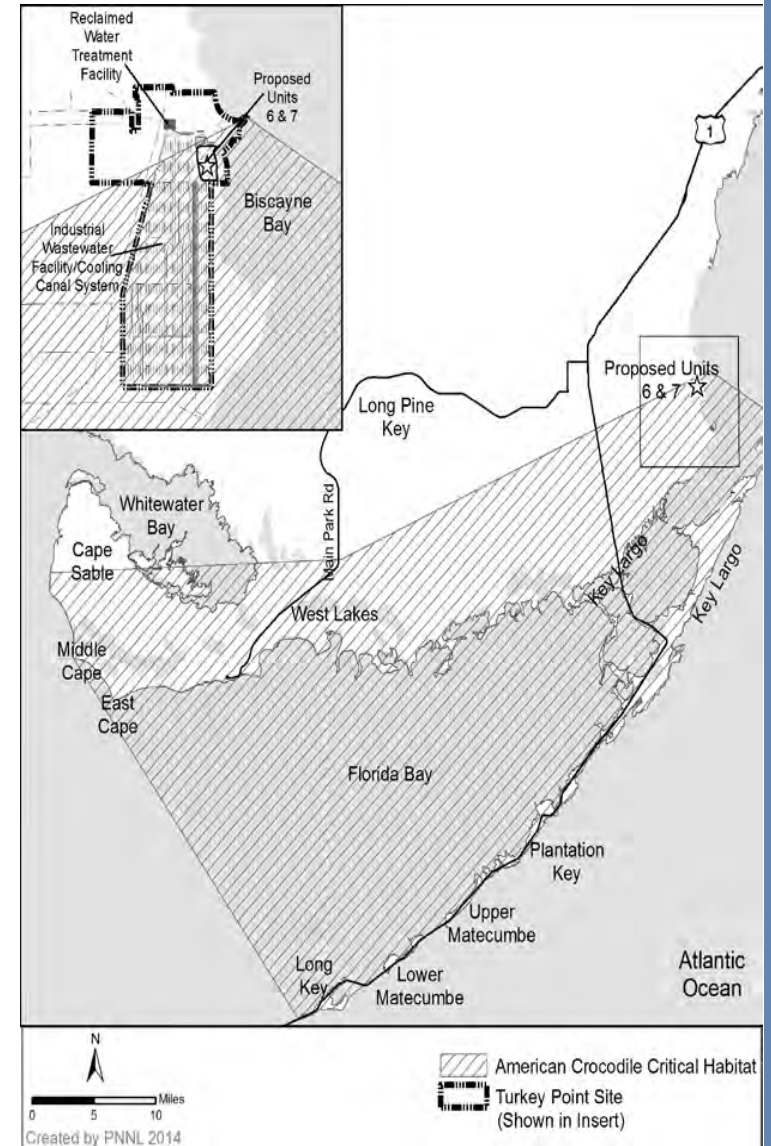
Turkey Point Critical Habitat

- Building of TP Units 6 and 7 will occur on designated critical habitat for the threatened American crocodile, but will not adversely modify designated critical habitat.



Turkey Point Critical Habitat

- Plant area does not have suitable nesting habitat and represents a small fraction of the total designated critical habitat.
- Higher quality foraging and nesting habitat exist south and west of the proposed site.



Turkey Point Critical Habitat

- US Fish and Wildlife Service Biological Opinion issued on June 23, 2017.
- Incidental take limits set for construction and post construction activities.
- Construction and operation of Units 6 and 7 will not result in adverse modification to designated critical habitat for the American crocodile.

Turkey Point ESA Consultation Effort

- Separate Biological Assessments submitted to National Marine Fisheries Service and US Fish & Wildlife Service in February 2015.
- NMFS concluded no adverse effects.
- FWS Biological Opinion found adverse effects to 6 species.
- FWS established incidental take limits that will not jeopardize survival of these adversely affected species.

Acronyms

- AZ – Arizona
- BO – Biological Opinion
- COC's – Conditions of Certification
- COLA – Combined License Application
- EIS – Environmental Impact Statement
- FDEP – Florida Department of Environmental Protection
- FPL – Florida Power & Light Company

Acronyms

- FT – feet
- GW – Ground water
- IWF – Industrial Waste Facility or Cooling Canals
- MGD – Millions of Gallons per Day
- NMFS – National Marine Fisheries Service
- SDWWTP – South District Wastewater Treatment Plant

Acronyms

- SW – Surface water
- US FWS – United States Fish and Wildlife Service
- USGS – United States Geological Survey