



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

- Environmental Panel
- December 12, 2017



# 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

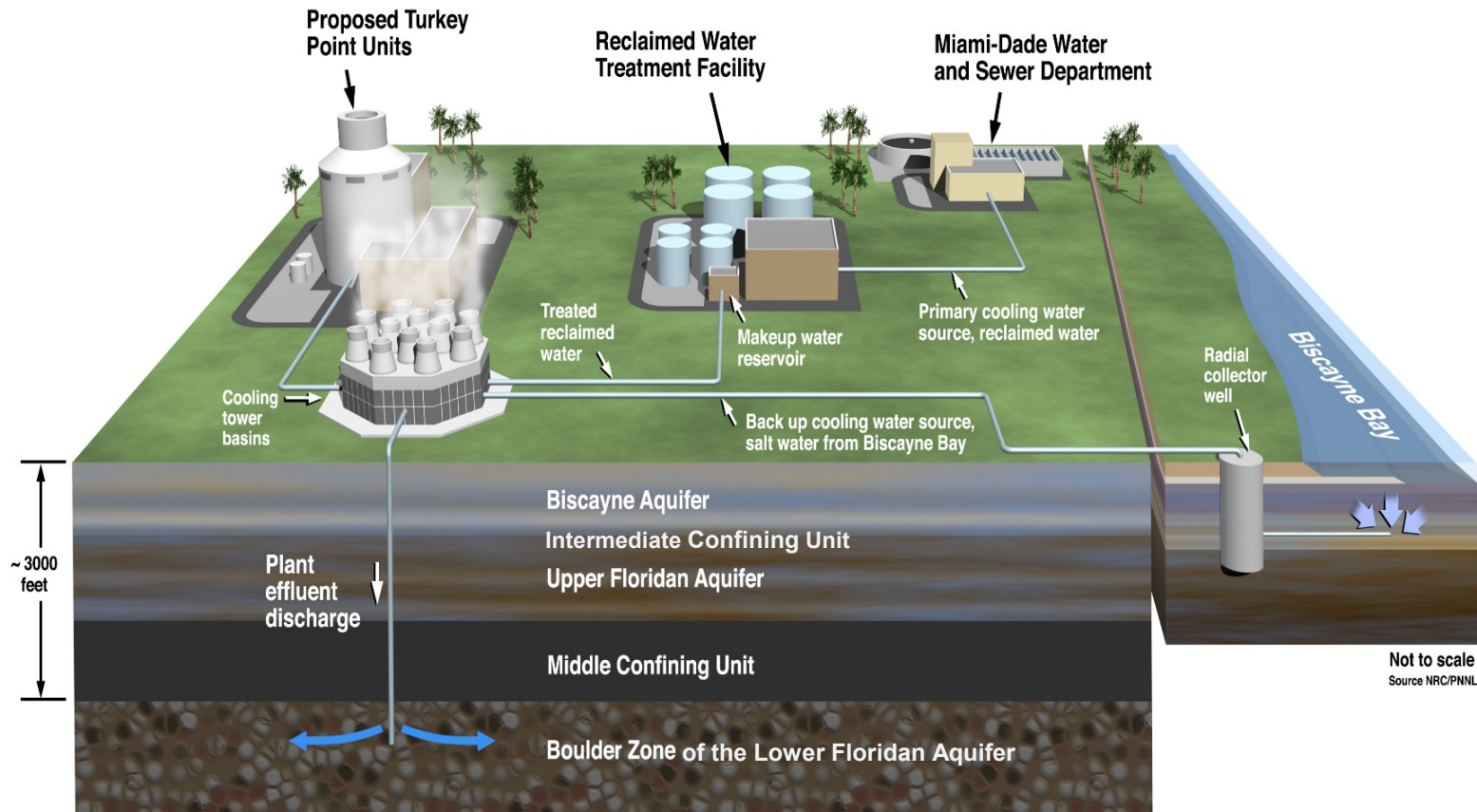
# Turkey Point Cooling Water Sources

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)

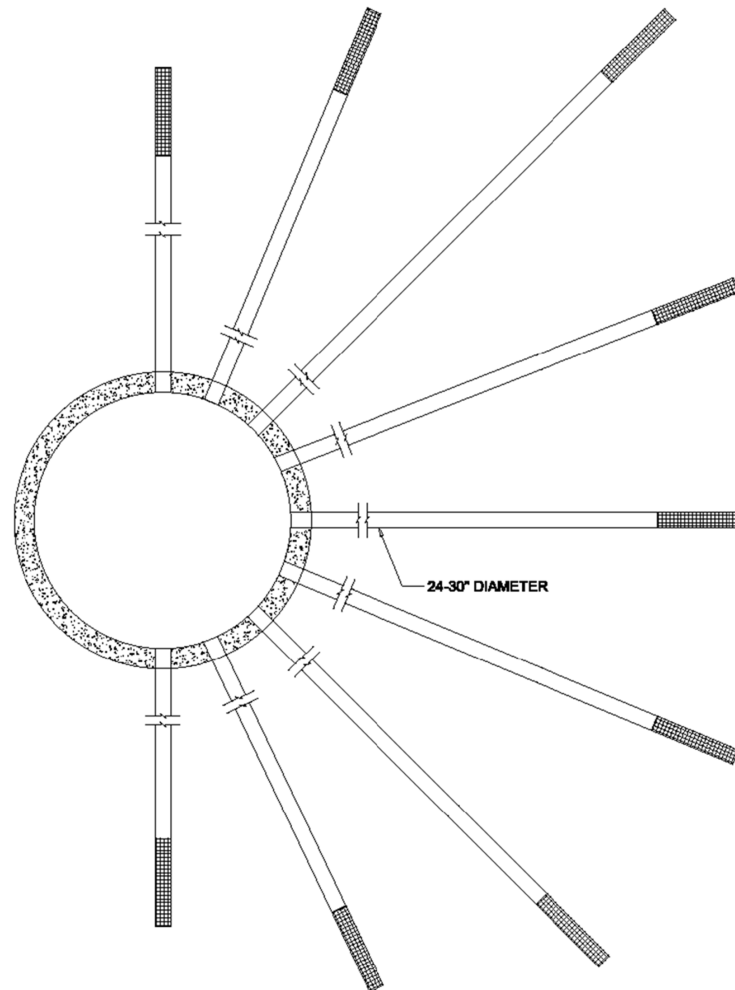
# Turkey Point Cooling Water Sources

## Simplified Diagram



# Turkey Point Cooling Water Sources

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



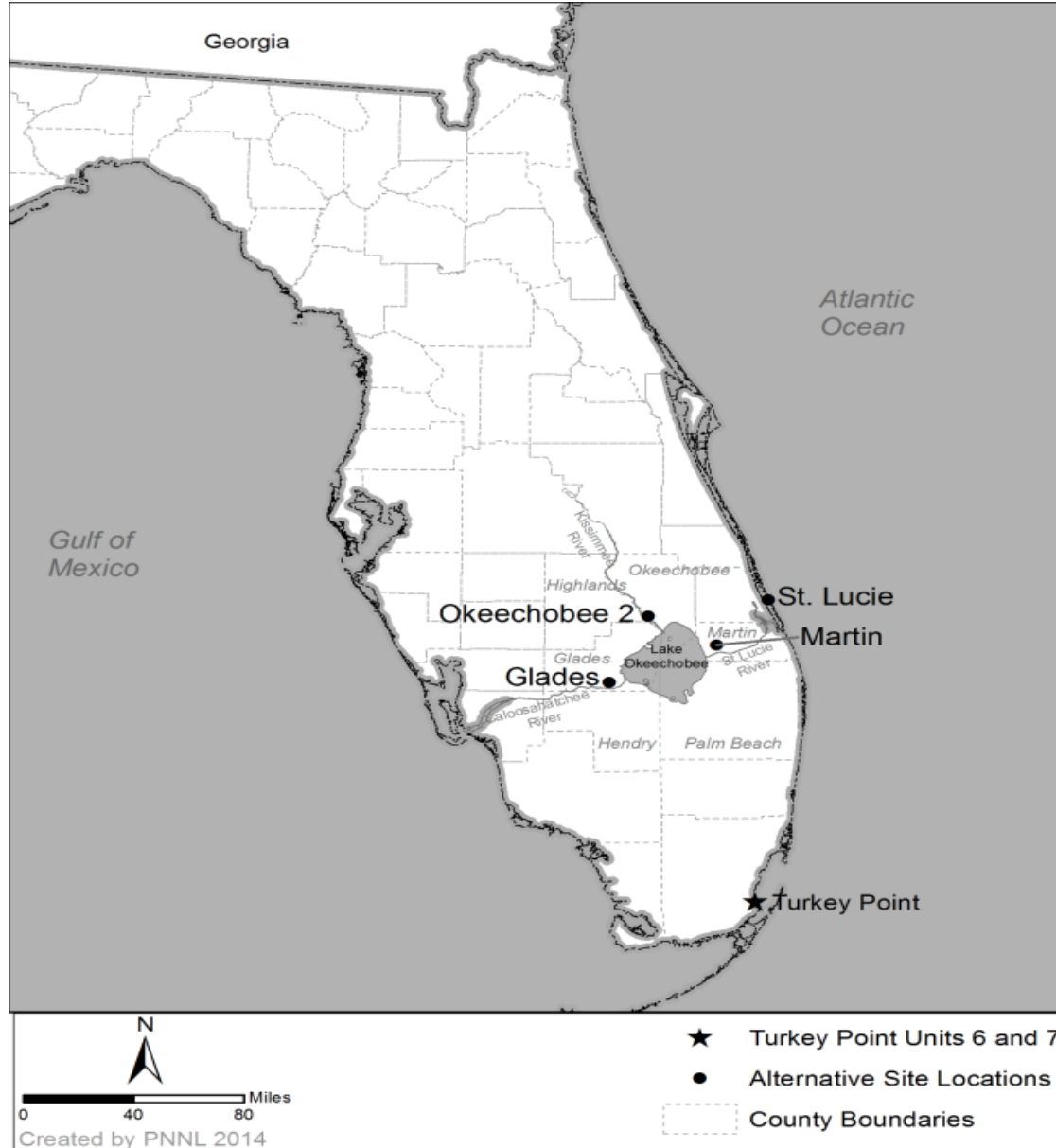
# Turkey Point Cooling Water Sources

- 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

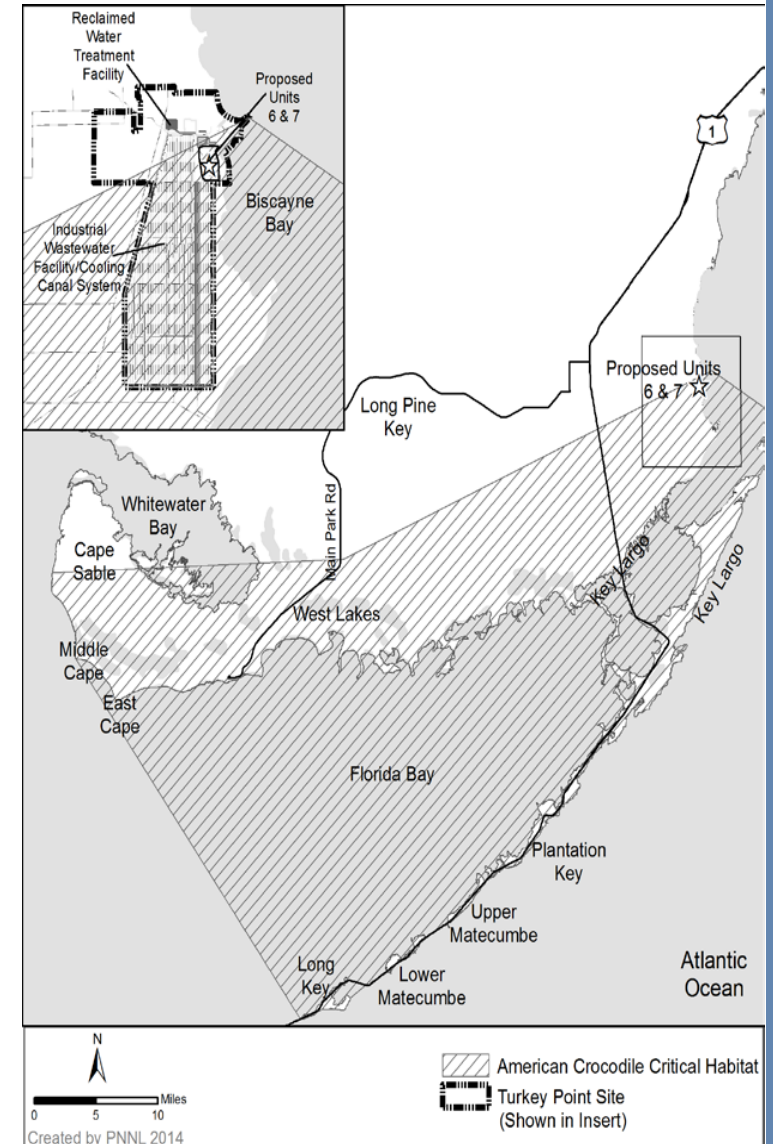
# Turkey Point Critical Habitat

- 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