



**Environmental Review of a First-of-a-Kind  
Combined License Water Cycle**

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Agenda

- Overview of Site
- Cooling Water Supply
- Wastewater Disposal
- Conclusions





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Overview of Site





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**Water use review requires effective information coordination between city, county, state and Federal authorities**

**Cooling Water Supply**

- **Reclaimed wastewater effluent**
  - Primary supply of up to 90 million gallons per day (MGD) through nine mile-long pipeline(s) temporarily affecting 43.6 wetland acres
  - Onsite treatment facility for proper cooling tower water chemistry control informed by extensive studies of water constituents
  - Supply reliability (quality and quantity) of utmost importance
- **Radial collector wells (saltwater)**
  - Secondary (backup) supply from four caissons fed by up to 900 foot-long lateral wells advanced at a 25 to 40 foot depth below the bottom of the Biscayne Bay Aquatic Preserve
  - Restricted use duration (90 days per year)
  - Multiple groundwater flow and aquatic ecology reviews
- **Rigorous state (Governor's Board) site certification process**



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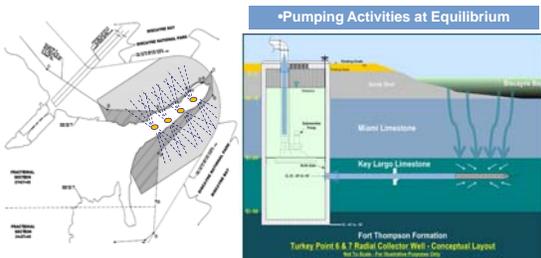
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**Conceptual Radial Collector Well Design**



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**Work proactively to identify and resolve regulator needs, particularly where guidance is being followed in a new setting**

**Wastewater Disposal**

- **Due to site conditions, plant wastewater (18 MGD max) will be disposed and confined approximately 3000 feet below ground surface by up to three underground injection control (UIC) program wells**
- **The exploration, construction and operation of UIC program wells has an extensive regulatory record in Florida**
- **A 100-year UIC program operations performance assessment (2D radial/3D vertical) was completed to demonstrate compliance with 10 CFR 20.2002 requirements**
  - For the duration of normal operations, a 'zero dose' accounting of injectate is supported
  - Worst case (intruder well) impacts are below dose standards



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**Conclusion**

- Establish and maintain frequent communication ties with stakeholders
- When 'out of the box,' be proactive, but flexible, and anticipate regulator solutions
- Siting a nuclear power facility adjacent to two national parks near extensive wetland areas without the typical water cycle can be accomplished



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