

MEMO



To: Miami-Dade County Board of County Commissioners
Re: County Joint Partnership Agreement with Florida Power & Light

In February 2018, the Chairman’s Policy Committee reviewed a proposed resolution between Florida Power & Light Company and Miami-Dade County that would establish a Joint Partnership Agreement (JPA) providing for the development of an advanced reclaimed water project at Turkey Point Nuclear Power Plant. While County staff have presented the proposed JPA as merely an “agreement to keep discussing,” the JPA is a legal document enforceable by injunction and requires careful and cautious consideration on the part of the County.

If properly structured, this deal presents a wonderful opportunity to solve multiple issues plaguing the County and Biscayne Bay, including:

- (1) the need to treat and reuse 117 million gallons per day (MGD) of wastewater;
- (2) the need to find a long-term, sustainable water supply for FPL’s Turkey Point facility, Miami Dade County’s biggest water user; and
- (3) the need to deliver clean, fresh water to Biscayne Bay and our aquifer

However, the current deal leaves out key specifics that prevent it from achieving its full potential. It is vital that the County clearly and explicitly outline their goals for this agreement in order to achieve successful planning and design targets. Further, we believe that a “water for energy” deal can be struck to make water treatment goals more cost effective. The County should also pursue a federal cost partnership on the South Dade Wastewater Reuse project authorized in the Comprehensive Everglades Restoration Plan.

We ask the Commission require that the JPA:

- **Explicitly require reuse water be treated to meet Biscayne Bay anti-degradation water quality target standards identified by the Biscayne Bay Coastal Wetlands Rehydration Project Delivery Team¹**
- **Designate a meaningful supply of additional reuse water for Biscayne Bay restoration and/or aquifer recharge**
- **Insist on decommissioning the cooling canal system by 2032**

¹ Biscayne Bay Coastal Wetlands Rehydration Pilot Project: Pilot Plant Closeout Report. July 2011. Table 2-1.

- **Withhold support for an operating license extension until the application can be properly reviewed**
- **Ensure Miami-Dade County maintains operational and regulatory control of the plant and the wastewater**

Background:

- Biscayne Bay and the surrounding wetlands are desperately starved for fresh water and a new source of clean, fresh water must be identified for their restoration
- Biscayne Bay is exquisitely sensitive to pollution from nutrients (particularly Phosphorous)
- Our drinking water stored in the Biscayne aquifer is at risk from salt water intrusion and also requires more clean, fresh water for protection
- The County is under a mandate to treat and reuse 117 million gallons per day (MGD) of wastewater by 2025, as mandated by the 2008 Leah Schad Memorial Ocean Outfall legislation
- FPL's Turkey Point nuclear units are cooled by a system of unlined cooling canals that are hydrologically connected to the Biscayne Aquifer and Biscayne Bay. These canals have been, and currently are, contaminating the aquifer and the Bay
- FPL's cooling canal system needs a fresh water supply
- In 2011, a pilot study determined that wastewater can be treated a level high enough where it could be used in Biscayne Bay to meet anti-degradation water quality targets

Potential Pitfalls of the Current JPA:

As currently written, the JPA fails to achieve its potential multiple benefits because the JPA:

- Does not specify a treatment level for the reuse water, and therefore it is likely that water treatment targets will not meet the level in which water can be used for Biscayne Bay/aquifer/wetland purposes.²
 - Without strict water quality standards appropriate for Biscayne Bay, the JPA could allow for further pollution by adding excess nutrients into a hydrologically connected system. Wastewater is rich in nutrients such as nitrogen, phosphorus and ammonia. Biscayne Bay is a phosphorus-limited system and is extremely sensitive to the addition of excess nutrients, which can cause algae blooms.
 - It has been established that the cooling canals discharge directly into the Biscayne Aquifer and Biscayne Bay,³ therefore County reuse water used by FPL to freshen the cooling canals must meet standards required for discharge into Outstanding Florida Waters.

² As dictated by anti-degradation standards identified for Class III/Outstanding Florida Waters & the Biscayne Bay Coastal Wetlands Rehydration Pilot Project: Pilot Plant Closeout Report. July 2011. Table 2-1

³ The Cooling-Canal System at the FPL Turkey Point Power Station, Chin, 2015, University of Miami

- The County has been a leader in holding FPL accountable for the widespread environmental contamination caused by the cooling canals system at Turkey Point. It would be inconsistent to allow reuse water to further contribute to the pollution of the Biscayne Aquifer and Biscayne Bay.
- Does not specify an amount of reuse water designated for County purposes, and therefore it is unlikely that the County will obtain a meaningful amount of this reuse water for County purposes;
- Does not specify that the County will maintain regulatory control over the plant and the wastewater;
- Commits the County to supporting FPL’s second operating license extension for Turkey Point units 3 & 4 without having reviewed those license applications;
- Does not call for the decommissioning of the cooling canal system by 2032, as the Commission requested in a resolution on July 19, 2016;
- Does not outline water consumption requirements, allowing FPL to decide how much water they need, presumptively requiring the County to dispose of remaining water

Therefore, we ask that the Commission move forward with the JPA if the following conditions are added:

- Reuse water used in the cooling canal system (or for other beneficial uses such as aquifer recharge or wetland rehydration) be treated to the anti-degradation target standards identified in the 2011 Biscayne Bay Coastal Wetlands Rehydration Pilot Project⁴
- Explicitly require a meaningful supply of additional reuse water for Biscayne Bay restoration and/or aquifer recharge
- Insist on the decommissioning of the cooling canal system by 2032
- Withhold support for an operating license extension until the application can be properly reviewed
- Maintain County operational and regulatory control of the plant and the wastewater

We strongly urge the County to explore a “water for energy” trade with FPL to meet the energy demands of high level treatment of wastewater and to make this treatment more cost effective. Treatment of wastewater to a high enough level for use in Biscayne Bay has been considered cost-prohibitive due to high energy demands of the process. However, with the prospect of this

⁴ Biscayne Bay Coastal Wetlands Rehydration Pilot Project: Pilot Plant Closeout Report. July 2011. Table 2-1.

new partnership with FPL, we suggest that opportunities may exist to meet FPL's water demands and the County's energy needs concurrently.

Finally, **we also strongly urge** the County reinstate discussions with the U.S. Army Corps of Engineers regarding the South Dade Wastewater Reuse project and Biscayne Bay Coastal Wetlands, as authorized in CERP, to identify potential Federal cost-share opportunities for obtaining and meeting the County's reuse requirement.

We thank you for your time and consideration. We remain available for any further questions.

Best wishes,

A handwritten signature in black ink, appearing to read 'RS', with a long horizontal flourish extending to the right.

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Miami Waterkeeper is a Miami-based nonprofit organization that advocates for South Florida's watershed and wildlife. Our goal is to educate locals and visitors about the vital role of clean water in Miami's clean water economy, and to empower them to take an active role in community decision-making. We hope to ensure a clean and vibrant, water-based coastal culture and ecosystem for generations to come.