UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket Nos. 52-040-COL
Florida Power & Light Co.	)	52-041-COL
Turkey Point Units 6 & 7	)	
	)	
Combined Construction and License	)	
Application	)	March 23, 2017
_____	)	

THE CITY OF MIAMI'S ("CITY") RESPONSE TO INITIAL STATEMENTS OF POSITION AND DIRECT TESTIMONY FOR CONTENTION 2.1

NOW BEFORE THE UNITED STATES NUCLEAR REGULATORY COMMISSION'S ATOMIC SAFETY AND LICENSING BOARD, through undersigned counsel, comes the CITY OF MIAMI ("City"), pursuant to 10 C.F.R. Section 2.1207(a)(1), hereby submits the City's Response to Initial Statements of Position and Direct Testimony for Contention 2.1.

Background

On June 30, 2009, FPL filed a Combined License Application under 10 C.F.R. Part 52, for Turkey Point Units 6 and 7 in Miami-Dade County, Florida. The NRC docketed the case on September 4, 2009.

This proceeding concerns a challenge by Mark Oncavage, Dan Kipnis, Southern Alliance for Clean Energy, and National Parks Conservation Association ("Joint Intervenors") to Florida Power & Light Company's ("FPL") Combined Operating License Application ("COLA") for two new nuclear reactors, Turkey Point Units 6 and 7, to be constructed at FPL's facility near Homestead, Florida. In February 2011, the ASLB found that Joint Intervenors established

standing to intervene in the COLA proceedings, and proffered one admissible contention, Contention 2.1. *Turkey Point Units 6 & 7*, Memorandum and Order (Ruling on Petitions to Intervene), LBP-11-06 (February 28, 2011). On April 21, 2016, the ASLB issued an Order granting in part and denying in part FPL's Motion for Summary Disposition. *Turkey Point Units 6 & 7*, Memorandum and Order (Granting in Part and Denying in Part FPL's Motion for Summary Disposition), LBP-16-03 (April 21, 2016). In its April 21, 2016 Order, the ASLB identified the sole remaining contention as follows:

> The DEIS is deficient in concluding that the environmental impacts from FPL's proposed deep injection wells will be "small." The chemicals ethylbenzene, heptachlor, tetrachloroethylene, and toluene in the wastewater injections at concentrations listed in DEIS Table 3-5 may adversely impact the groundwater should they migrate from the Boulder Zone to the Upper Floridan Aquifer.

Id.

The City was granted the ability to participate in the proceedings involving FPL's COLA as an Interested Local Government Body pursuant to 10 C.F.R. Section 2.315 on June 10, 2015. *See Turkey Point Units 6 & 7*, Memorandum and Order (Denying the City of Miami's Petition to Intervene, But Granting Its Request to Participate as an Interested Local Governmental Body), LBP-15-19 (June 10, 2015). The NRC and U.S. Army Corps of Engineers made available the Final Environmental Impact Statement ("FEIS") on October 28, 2016 and published a notice of availability of the FEIS on November 2, 2016 in the Federal Register. The Final Safety Evaluation Report ("FSER") was made available on November 10, 2016. NRC Staff, FPL, Joint Intervenors, and the City filed Initial Statements of Position and Testimony on March 1, 2017.

Pursuant to the ASLB's Amended Scheduling Order issued on February 24, 2017, the deadline for the City, an Interested Local Government Body, to submit its Response and Rebuttal Testimony is March 23, 2017.

I. NRC Staff and FPL Have Failed to Demonstrate that an Adequate Geologic Confining Layer with Sufficient Aerial Extent, Thickness, or Lithological and Hydraulic Conditions Does Not Exist on the Turkey Point Site to Prevent Upward Migration of Injected Wastewater into an Underground Source of Drinking Water ("USDW")

The NRC Staff and FPL have failed to demonstrate that an adequate geologic confining layer with sufficient aerial extent, thickness, or lithological and hydraulic conditions exists on the Turkey Point site to prevent the upward migration of injected wastewater into the Upper Floridan Aquifer, an Underground Source of Drinking Water ("USDW"). The FEIS acknowledges that upward migration of wastewater has occurred at other sites and that "it is possible that an unknown vertical pathway could exist within the area of influence of the injection wells and could lead to eventual upward migration of wastewater into the USDW." FEIS at 5-40.

Additionally, the NRC Staff noted that "the most likely fate of blowdown injected into the Boulder Zone would be to spread horizontally in the Boulder Zone no more than five miles in any direction, and to migrate vertically at most about 300 feet into the Middle Confining Unit, where it would not impact users of the Upper Floridan Aquifer." NRC Staff Initial Statement of Position, at 11, ML17060B051 (March 1, 2017). However, the FEIS relied on studies that estimate that injected wastewater can spread horizontally from four (4) miles to thirteen (13) miles from the point of injection. FEIS at 5-26 – 5-27. The area that the injected wastewater will potentially span will be expansive given that FPL intends to use up to thirteen (13) wastewater wells, each with a potential of allowing injected waste water to spread horizontally up to thirteen (13) miles.

While FPL's witness, David McNabb, noted that the geology of Southeast Florida does not vary significantly within a few miles, the potential range of the horizontal flow of thirteen (13) wastewater wells would be larger than simply "a few miles." Even though all thirteen (13)

wells will be located within a radius of less than one mile from well EW-1, the area that will be affected by the injected water will be greater than "a few miles." Assuming that the injected wastewater will only travel horizontally four (4) miles (the low estimate in the FEIS) from the injection point, the radius of the injected water will be greater than "a few miles," not to mention that the close proximity of the wells will increase the concentration of the four chemicals at issue in these proceedings (ethylbenzene, heptachlor, tetrachloroethylene, and toluene).

A 2015 study from the U.S. Geological Survey ("USGS") and the Miami-Dade Water and Sewer Department, stated that:

> Recent studies by [USGS] of seismic-reflection profiles acquired in onshore canals and offshore in Biscayne Bay and the Atlantic continental shelf have indicated the presence of tectonic faults (one strike-slip fault and multiple reverse faults) and karst collapse structures, and these studies substantiate the utility of this approach for locating feasible vertical-fluid flow pathways. The strike-slip fault and karst collapse structures span confining units of the Floridan aquifer system and could provide high permeability passageways for groundwater movement. If present at or near wastewater injection utilities, *these features represent a plausible physical system for the upward migration of effluent injected into the Boulder Zone to overlying U.S. Environmental Protection Agency designated underground sources of drinking water in the upper part of the Floridan aquifer system.*

INT-009 at 24. The presence of tectonic faults and karst collapses is present in Southeast Florida and the FEIS acknowledges the presence of these faults and karst collapses. *See* FEIS at 2-55. These faults and karst collapses provide a vertical-fluid flow pathway. The use of thirteen (13) wells in close proximity will allow the injected wastewater to travel horizontally beyond the predicted low end of four (4) miles, beyond a few miles, and find these faults and karst collapses allowing the injected wastewater to flow vertically into a USDW.

Therefore, FPL has failed to demonstrate that an adequate geologic confining layer with sufficient aerial extent, thickness, or lithological and hydraulic conditions exists on the Turkey

Point site to prevent the upward migration of injected wastewater into the Upper Floridan Aquifer, a USDW.

II. Initial Statements of Position and Direct Testimony of Joint Intervenors

The City of Miami adopts by reference the filings of the Joint Intervenors in these proceedings.

Conclusion

For the aforementioned reason, the City of Miami submits that the environmental impacts from FPL's proposed deep injection wells will not be "small." Further, the chemicals ethylbenzene, heptachlor, tetrachloroethylene, and toluene in the wastewater injections at concentrations listed in DEIS Table 3-5 may adversely impact the groundwater because they will be concentrated and migrate from the Boulder Zone to the Upper Floridan Aquifer. The City of Miami respectfully requests that the United States Nuclear Regulatory Commission's Atomic Licensing and Safety Board find that an adequate geologic confining layer with sufficient aerial extent, thickness, or lithological and hydraulic conditions does not exist on the Turkey Point site to prevent the upward migration of injected wastewater into the Floridan Aquifer.

Respectfully Submitted,

Signed electronically by: *<u>/s/ Xavier E. Albán</u>*

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Certificate of Service

I hereby certify that on March 23, 2017, I electronically filed the foregoing statement with the electronic filing system of the U.S. Nuclear Regulatory Commission and that persons and parties of record were electronically served.