UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Commission

In the Matter of	)	Docket Nos. 52-040
	)	52-041
Florida Power & Light Co.	)	
Turkey Point Units 6 & 7	)	ASLBP No. 10-903-02-COL-BD01
	)	
Combined Construction and License	)	
Application	)	
_____	)	July 2, 2015

CITY OF MIAMI'S
NOTICE OF APPEAL OF LBP-15-19

Pursuant to 10 C.F.R. §§ 2.311(a) and (c), City of Miami files this Notice of Appeal of the Atomic Safety and Licensing Board's Memorandum and Order, dated June 10, 2015, which denied three contentions in the above-captioned proceeding proffered by the City of Miami. Attached hereto is a brief in support of this appeal.

Respectfully Submitted,

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BRIEF IN SUPPORT OF CITY OF MIAMI'S APPEAL OF LBP-15-19

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I. BACKGROUND

In February 2015, the Nuclear Regulatory Commission ("the Commission" or "NRC") published the Draft Environmental Impact Statement ("DEIS") for Turkey Point Units 6 & 7. On April 13, 2015, the City of Miami ("the City") filed a petition for leave to intervene in a hearing on Florida Power & Light Company's ("FPL" or "the company") combined construction and operating license ("COL") application for Turkey Point Units 6 & 7, or in the alternative, participate as a non-party local government. In its petition, the City submitted three contentions challenging the adequacy of the environmental review conducted in the DEIS.

On May 8, 2015, both FPL and NRC Staff filed answers opposing the City's petition to intervene. On June 10, 2015, the NRC issued a Memorandum and Order ("the Order") denying the City's petition to intervene, but granting its request to participate as an interested local governmental body pursuant to 10 C.F.R. § 2.315(c). The City submits this appeal pursuant to 10 C.F.R. § 2.311(b).

II. STANDING

The City's standing to intervene is not contested. The City of Miami is a Florida municipality located 25 miles from Turkey Point. FPL's proposed transmission corridor is located directly within the limits of the City of Miami. Further, the City of Miami has an interest in preserving the health and safety of its residents. Under the 'proximity

presumption' and under 10 C.F.R. § 2.315(c), the City of Miami has sufficient standing to intervene as an interested local governmental body proximately located to Turkey Point. The order's denial of party status was based solely on the admissibility of the City's contentions. The NRC has granted the City's unopposed request to participate in this proceeding pursuant to 10 C.F.R. § 2.315(c) as a non-party participant.

III. LEGAL STANDARD

The Order states that the City did not support its contentions with "any documentary or expert opinion." Order at 11. However, expert opinion is not a required part of the admissibility standard. As noted in the Order, the six factor standard is contained in 10 C.F.R. § 2.309(f)(1), which states that a petitioner proposing a new contention must:

(i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;

(ii) Provide a brief explanation of the basis for the contention;

(iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;

(iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;

(v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; [and]

(vi) [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.

A petitioner seeking leave to intervene after the initial deadline for the filing of contentions must demonstrate good cause for the belated filing by showing that:

(i) The information upon which the filing is based was not previously available;

(ii) The information upon which the filing is based is materially different from information previously available; and

(iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.

IV. RULINGS ON THE CITY'S CONTENTIONS 2 & 3

The NRC, in its review of the City's petition to intervene, denied the admission of the City's three Contentions. The City of Miami disputes the order's denial of the admissibility of Contentions 2 & 3.

Contention 2 was denied admission as untimely under 10 C.F.R. § 2.309(c)(1) by the Atomic Safety and Licensing Board ("ASLB" or "the Board"). The Board ruled that the City did not show its contention was based on new information that is materially different from that which was previously available. Further, Contention 2 was deemed

inadmissible because the Board held that the City did not raise an issue material to the findings the NRC must make as required by 10 C.F.R. § 2.309(f)(1)(iv). The Board found the Contention failed to explain why the DEIS must assess the possibility that the radial collector wells will change the contaminant plume dynamics. Contention 2 was not admitted because the Board found that the City did not provide adequate factual or expert support for the contention as required by 10 C.F.R. § 2.309(f)(1)(v). Finally, the Board concluded that the City failed to identify specific inadequacies in the DEIS and therefore did not demonstrate a genuine dispute with the DEIS as required by 10 C.F.R. § 2.309(f)(1)(vi).

Contention 3 was similarly denied admission as untimely under 10 C.F.R. § 2.309(c)(1)(i)-(iii). The Board determined that the City did not show that the contention was based on materially different information from that which was previously made available. The Board also ruled that the City did not raise an issue material to the findings the NRC must make as required by 10 C.F.R. § 2.309(f)(1)(iv) because the City did not explain why the DEIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility. As with Contention 2, the Board held that the City did not provide adequate support for the contention as required by 10 C.F.R. § 2.309(f)(1)(v) because the City did not provide facts or expert opinion to support the admission of Contention 3. Finally, the Board determined that the City of Miami did not demonstrate a genuine dispute with the DEIS as required by 10 C.F.R. § 2.309(f)(1)(vi) because did not address the USGS model in sufficient depth.

The City of Miami addresses these rulings on Contentions 2 & 3 below.

V. APPEALED CONTENTIONS

A. CONTENTION 2 ANALYSIS

Contention 2: The draft EIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that the radial collector wells will change the plume dynamics of the Industrial Wastewater Facility/Cooling Canal contaminant plume.[1]

1. INFORMATION WAS NOT PREVIOUSLY AVAILABLE

Contention 2 was dismissed because the contention was not shown to be based on new information that is materially different from that which was previously available. However, the analyses of groundwater elevations near the Turkey Point site for the period 2005-2013 show that these elevations are statistically different from the baseline period of 1996-2004 used in the USGS model. These analyses were not previously available. Thus, Contention 2 should be admitted.

Further, the Board concluded that the City did not demonstrate that Contention 2 could not have been filed in response to the NRC's original June 2010 notice. Such a filing would have been impossible at that time. The USGS model was developed after

[1] The City recognizes that "preclude" may have been poor word choice. Nevertheless, Contention 2 highlights the need for a more thorough analysis of the possibility that the radial collector wells will change the plume dynamics of the Industrial Wastewater Facility/Cooling Canal contaminant plume. This analysis serves the public interest and is necessary to accurately disclose and analyze the impacts to the water quality of the sole source aquifer.

2010 and the model report was published in 2014. Therefore, the contention could not have been filed previously. For this reason, Contention 2 should be admitted.

2. STATEMENT OF THE ISSUE OF FACT

The USGS model has inadequate spatial resolution and is inadequately formulated to predict the salinity redistribution at the Turkey Point site that will result from the operation of the radial collector wells. The USGS model is not a new model that was developed to address the response of the Turkey Point site to the operation of the radial collector wells. Rather, the USGS model is a minimally modified previous model (Lohmann et al., 2012) that was originally developed to predict regional groundwater conditions at the county scale and associated Biscayne Bay salinity during 1996-2004.

3. BRIEF EXPLANATION OF THE BASIS FOR THE CONTENTION

The individual cell sizes in the USGS model are too coarse to adequately resolve the groundwater response to the operation of the radial collector wells on the Turkey Point site. The horizontal dimensions of each cell are 500 m x 500 m (about 0.3 mi x 0.3 mi), and so any changes in groundwater conditions on these scales are simply averaged out. Groundwater and salinity variations over these scales cannot be resolved at all. Drawdowns near the radial collector wells (which are expected to be on the order of meters) cannot be determined accurately. Likewise, the distribution of flow along the

radial collector wells cannot be modeled at all and individual cooling canals cannot be separated.

4. SCOPE OF THE PROCEEDING

Contention 2 concerns the adequacy of the groundwater models in predicting impacts caused by the proposed radial collector wells. This contention is within the scope of the proceeding because the Board is presently evaluating the environmental review process under NEPA.

5. CONTENTION IS MATERIAL TO THE FINDINGS

Contention 2 raises an issue material to the findings because the USGS model does not provide an accurate representation of the hydrologic response to the operation of the radial collector wells.

6. FACTS ALLEGED TO SUPPORT CONTENTION

The USGS model does not adequately represent the presence of the cooling canals, which are major hydrologic features at the Turkey Point site. In reality, the water surface elevations in the cooling canals will fluctuate in tandem with the groundwater elevations at the site, and the groundwater elevations will respond to the operation of the radial collector wells. In contrast to this reality, the USGS model represents the water surface elevations in the cooling canals as having a pre-specified elevation regardless of pumping from the radial collector wells. This approach precludes the model from

determining actual water surface elevations in the cooling canals and actual groundwater elevations that will occur on the site in response to operation of the radial collector wells.

A review of the USGS model results for the baseline conditions shows that the volume of water withdrawn from the cooling canals is approximately 28% of the volume pumped from the radial collector wells. Although not all of the water leaking from the cooling canals ends up being pumped by the radial collector wells, the upper limit of 28% of the pumpage volume gives further support to the significant influence that the cooling canals have on the geohydrology and underline the need to accurately represent both the cooling canals and the radial collector wells in the model.

Additionally, the USGS model uses baseline conditions as those that occurred in the period 1996-2004, and assesses the impact of the operation of the radial collector wells relative to conditions that existed in this 9-year time period. However, the USGS model report does not demonstrate that the 9-year time period used in the model is representative of more recent hydrologic conditions. Such an analysis is essential to validate applying the model results to the future hydrologic environment in which the radial collectors will likely be operating.

This validation could have been done by showing that groundwater levels in a more recent 9-year time period is statistically indistinguishable from the 1996-2004 period. Statistical analyses performed by Miami's consultant on groundwater elevations near the site, at wells G-1183 and G-3356 using the *t*-test for population differences as described in Chin (2013), show that wet-season and annual groundwater fluctuations in

the 9-year period of 2005-2013 are statistically different at the 90% confidence level from the fluctuations in the 1996-2004 baseline period, thereby calling into question the validity of using 1996-2004 conditions as a baseline for assessing the impact of the radial collector wells at the Turkey Point site.

In addition, the USGS report does not compare the more recent salinity fluctuations (e.g., 2005-2013) to the 1996-2004 salinity fluctuations to establish that the assumed baseline salinities are representative of current or future baseline conditions. Further, the USGS model shows that the 1996-2004 discharges from the Mowry Canal can significantly affect the salinities in the area of Biscayne Bay that recharges the radial collector wells, yet there is no demonstration that the quantity and timing of the Mowry Canal discharges used in the model are representative of later (e.g., 2005-2013) or even future conditions. This particular issue could be quite important since, as reported by USGS, the radial collector wells could withdraw sufficient fresh canal-discharge water so as to lead to significantly increased salinities in Biscayne Bay, which would otherwise be the recipient of this fresh water.

Aside from the aforementioned major issues with the USGS model, there are several other model limitations each of which could negatively impact the accuracy of the model. These limitations include: (1) The use of the 1-year (2008-2009) correlation between water levels in the L31E canal and the cooling canals to establish the elevations in the cooling canals without demonstrating that that this correlation does not vary temporally or even recognizing that this correlation will almost certainly be different

when the radial collector wells are in operation; (2) artificially limiting the leakage rates from the cooling canals; (3) assigning the same salinity to all cooling canals and setting the salinity based on data available before 2011; and (4) adding cooling canals to the model without recalibrating the model, especially at the Turkey Point site, to account for the presence of the cooling canals. Given the strong influence of the cooling canals on the salinity of the underlying groundwater the Turkey Point site, it is particularly important that the cooling canals be modeled accurately.

The USGS has self-reported many of the limitations of their model as it pertains to the City of Miami's contentions. Key model limitations explicitly self-reported by USGS (Lohmann, 2014) are: (1) the discretization of the model may be too coarse to accurately represent characteristics of interest for potential groundwater pumping in the Turkey Point area; (2) the model simulates the surface water as a single layer with a single salinity value, effectively representing it as completely mixed column water, which is not realistic in the coastal zone, (3) the size of the model cells, 500 m by 500 m, is too large to accurately represent the individual cooling canals (4) spatial averaging may result in more subdued effects than would be simulated at a finer scale, (5) to estimate and evaluate the water sources for the radial collector wells more fully, finer spatial discretization and additional evaluation tools, such as particle tracking, are needed, (6) the model period represents a recent 9-yr period with limited variability of hydrologic conditions, and (7) in order to fully represent the effects of the radial collector wells on

the system, additional simulations of extreme dry periods, wet periods, sea-level rises, and effects from regional restoration efforts would need to be evaluated.

7. GENUINE DISPUTE ON A MATERIAL ISSUE OF FACT

Given all of the aforementioned limitations of the USGS model, it is apparent that the salinity of the cooling canals at the Industrial Wastewater Facility will exert a significant influence on the salinity distribution and groundwater flow that will occur in response to the operation of the radial collector wells. Further, since the USGS model is not able to accurately resolve the spatial variations in salinity and groundwater flows at the Turkey Point site, and the USGS model does not demonstrate that 1996-2004 baseline conditions adequately represents the conditions under which the radial collector wells are likely to operate (and noting that groundwater levels in 2005-2013 were significantly different than in 1996-2004) it must be concluded that the salinity effects of the cooling canals in the Turkey Point site are not adequately represented in the USGS model as claimed in Contention 2.

B. CONTENTION 3 ANALYSIS

Contention 3: Concerning the radial collector wells, Appendix G, page G-28, of the draft EIS states that "[t]he base case model predicted that 1.9 percent of the water extracted by the RCW would come from the industrial wastewater facility. A 'worst' case of 3.3 percent of the extracted water coming from the industrial wastewater facility was predicted by cutting the vertical conductivity of all layers in half." This portion of the draft EIS is deficient because it does not address what percentage of water would come from under the IWF. Due to differences in vertical and horizontal transmissivity, it can be assumed that a greater quantity of

water would come from deeper ground waters under the IWF, including the hypersaline plume, than from the surface waters in the IWF.

1. INFORMATION WAS NOT PREVIOUSLY AVAILABLE

The NRC's commissioned USGS modeling is deficient as mentioned in the Contention 2 analysis. These deficiencies could not have been revealed with the information previously available and Contention 3 is therefore based on materially different information.

2. STATEMENT OF THE ISSUE OF FACT

For the reasons noted above, the USGS model is not capable of accurately determining what percentage of the water pumped from the radial collector wells will be derived from the cooling canals.

3. BRIEF EXPLANATION OF THE BASIS FOR THE CONTENTION

The basis of support for Contention 3 is derived mostly from the previously described limitations of the USGS model relating to Contention 2.

4. SCOPE OF THE PROCEEDING

Contention 3 also concerns the groundwater models' adequacy in predicting impacts caused by the proposed radial collector wells. This contention is within the scope of the proceeding because the Board is presently evaluating the environmental review process under NEPA.

5. CONTENTION IS MATERIAL TO THE FINDINGS

Contention 3 raises an issue material to the findings because the USGS model does not provide an accurate representation of the hydrologic response to the operation of the radial collector wells.

6. FACTS ALLEGED TO SUPPORT CONTENTION

The USGS model is not capable of determining what percentage of the water pumped from the radial collector wells is derived from the cooling canals. This percentage is relevant since the cooling canals are the primary source of hypersaline water to the aquifer and therefore have the potential to significantly affect the distribution of salinity in the groundwater that will result from the operation of the radial collector wells. The USGS model shows that the volume of water leaking from the cooling canals is equal to 28% of the volume of water pumped by the radial collector wells, thereby providing an estimated upper limit on the volume of cooling-canal water pumped by the collector wells.

7. GENUINE DISPUTE ON A MATERIAL ISSUE OF FACT

Contention 3 identifies the need for a more appropriate model to more accurately account for the volumetric contribution of the cooling canals relative to the pumping rates of the radial collection wells.

VI. CONCLUSION

Analyses of groundwater elevations near the Turkey Point site for the period 2005-2013 demonstrate that these elevations are statistically different from the baseline

period of 1996-2004 used in the USGS model. The City's Contentions 2 and 3 are based on these inaccuracies that are inherent to the USGS model. This new information was not previously available and is materially different from that which was previously available.

Therefore, the City should be granted leave to intervene as a full party and granted a hearing on its contentions. The City's standing has not been contested in this proceeding and it has further explained Contentions 2 and 3 as supported by an expert opinion. Should the City's contentions be found inadmissible, the City will continue to participate as an interested non-party local government pursuant to 10 C.F .R. § 2.315(c).

VII. NOTICE OF APPEARANCE OF DESIGNATED REPRESENTATIVE

For the purposes of compliance with 10 C.F.R. §§ 2.314(b) and 2.315(c), the City designates as its representative at hearing:

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Mr. Haber, appearing in a representative capacity for the City, when necessary, shall be the person designated to introduce evidence, interrogate witnesses where cross-examination by the parties is permitted, advise the Commission with respect to issues raised in the proceeding, file proposed findings of fact if any be permitted, and petition for review by the Commission under § 2.341 with respect to admitted contentions.

Signed (electronically) by: */s/ Matthew Haber*

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_____	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "City of Miami's Notice of Appeal of LBP-15-19," and "Brief in Support of City of Miami's Appeal of LBP-15-19," were provided to the Electronic Information Exchange for service to those individuals listed below and others on the service list in this proceeding, and via e-mail to those marked with an asterisk.

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Dated at Miami, Florida

This 2nd Day of July, 2015

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