

July 19, 2012

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
Florida Power & Light Company)	Docket Nos. 52-040-COL
)	52-041-COL
(Turkey Point Units 6 and 7))	
)	ASLBP No. 10-903-02-COL
(Combined License))	

**FLORIDA POWER & LIGHT COMPANY’S MOTION FOR SUMMARY
DISPOSITION OF JOINT INTERVENORS’ AMENDED CONTENTION 2.1**

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.1205,¹ Applicant Florida Power & Light Company (“FPL”) moves the Atomic Safety and Licensing Board (the “Board”) for summary disposition of Amended Contention 2.1 (also known as “NEPA Contention 2.1”) submitted by intervenors Mark Oncavage, Dan Kipnis, Southern Alliance for Clean Energy, and National Parks Conservation Association (“Joint Intervenors”) in the above captioned proceeding. FPL asks for summary disposition of the contention on the grounds that no genuine issue as to any material fact exists and FPL is entitled to a decision as a matter of law. 10 C.F.R. § 2.710(d)(2). This Motion is supported by the Statement of Material Facts as to Which no Genuine Issue Exists (Attachment 1 hereto) and the Declaration of David

¹ 10 C.F.R. §2.1205(a) states: “(a) Unless the presiding officer or the Commission directs otherwise, motions for summary disposition may be submitted to the presiding officer by any party no later than forty-five (45) days before the commencement of hearing. The motions must be in writing and must include a written explanation of the basis of the motion, and affidavits to support statements of fact. Motions for summary disposition must be served on the parties and the Secretary at the same time that they are submitted to the presiding officer.”

M. Wagner in Support of Florida Power & Light's Motion for Summary Disposition of Joint Intervenor's Amended Contention 2.1 ("Wagner Decl.") (Attachment 2 hereto).

As amended by the Joint Intervenor and modified by the Board, Contention 2.1 alleges that the Environmental Report ("ER") submitted by FPL in support of its application (the "Application") for a combined license for Turkey Point Units 6 and 7 is deficient because it fails to identify the source data for the concentrations shown in Table 3.6-2 of Revision 3 to the ER ("ER Rev. 3") of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that will be part of the wastewater that is injected via deepwells into the Boulder Zone of the aquifer during operation of Turkey Point Units 6 and 7. Accordingly, the contention claims, the ER is deficient in concluding that the environmental impacts from FPL's proposed use of deep injection wells to dispose of wastewater will be "SMALL."

FPL is identifying the source of the data on the four chemicals' concentrations in ER Rev. 3 Table 3.6.2, and is providing a detailed description of how those concentrations were obtained. Moreover, FPL has performed an extremely conservative "bounding" analysis that demonstrates that the environmental impacts of injecting these chemicals into the aquifer are SMALL. For those reasons, no genuine dispute on a material fact exists with respect to the environmental impacts of the injection of these chemicals, and there are no deficiencies in the ER. Summary disposition should therefore be granted.

II. STATEMENT OF FACTS

In June 2009, FPL submitted its Application for a combined license (“COL”) for two AP1000 pressurized water nuclear reactors to be located adjacent to the existing Turkey Point power plants, Units 1 through 5, at the Turkey Point site near Homestead, Florida. The proposed nuclear reactors would be known as Turkey Point Units 6 and 7 (the “Turkey Point Units”). On September 4, 2009, the NRC staff (“Staff”) accepted the Application for docketing. 74 Fed. Reg. 51,621 (Oct. 7, 2009).

On June 14, 2010, the NRC issued a Notice of Hearing and Opportunity to Petition for Leave to Intervene, which provided members of the public sixty days from the date of publication to file a petition for leave to intervene in this proceeding. 75 Fed. Reg. 34,777 (June 18, 2010). The Joint Intervenors filed a timely petition to intervene. Joint Petitioners’ Petition for Intervention (Aug. 17, 2010) (“Petition”). In their Petition, the Joint Intervenors raised nine proposed contentions, some comprising several subparts, challenging various aspects of the ER.

The Board ruled that the Joint Intervenors had standing to participate in this proceeding and admitted for litigation a portion of their proposed Contention 2. The Board rejected the remaining contentions tendered in the Petition. *Florida Power & Light Co.* (Turkey Point Units 6 and 7), LBP-11-06, 73 NRC __ (Feb. 28, 2011), slip op. at 10-84.

Contention 2 broadly asserted that the Turkey Point ER “fails to adequately address the direct, indirect, and cumulative impacts of the reclaimed wastewater system on groundwater, air, surface water, wetlands, and CERP.” Petition at 26. Contention 2 was broken into three subparts, Contentions 2.1 through 2.3. The Board rejected subparts 2 and

3, but admitted a limited version of Contention 2.1 for adjudication. The version admitted by the Board claimed that six chemicals sometimes found in the wastewater had been omitted from consideration in the analysis of the impact of their injection via deepwater wells into the Boulder zone of the aquifer beneath the Turkey Point Units because their concentrations had not been included in Table 3.6.2 of the ER. As admitted by the Board, Contention 2.1 read:

[T]he ER fails to analyze and discuss the potential impacts on groundwater quality of injecting into the Floridan Aquifer via underground injection wells heptachlor, ethylbenzene, toluene, selenium, thallium, and tetrachloroethylene, which have been found in injection wells in Florida but are not listed in FPL's ER as wastewater constituent chemicals.

LBP-11-06, 73 NRC ___, slip op. at 36.

On December 16, 2011, FPL submitted to the NRC Revision 3 of its COL Application ("COLA Rev. 3"). See Letter from M. Nazar to NRC Document Control Desk, "Submittal of the Annual Update of the COL Application - Revision 3" (Dec. 16, 2011) (ADAMS Accession No. ML11361A102). That revision includes, *inter alia*, an amended ER Table 3.6.2.

Shortly thereafter, FPL filed a motion to dismiss Joint Intervenors' Contention 2.1 as moot.² FPL's Motion to Dismiss noted that, whereas Contention 2.1 claimed that "selenium" and "thallium" were among the chemicals whose concentrations were missing from the Table 3.6.2 of the ER, that Table has always included concentration values for both selenium and thallium. FPL also asserted that COLA Rev. 3 modified Table 3.6.2 to add the estimated concentrations of the deepwell injection of the remaining four chemicals (heptachlor, ethylbenzene, toluene, and tetrachloroethylene) that were not originally

² Florida Power & Light Company's Motion to Dismiss Joint Intervenors' Contention 2.1 as Moot (Jan. 3, 2012) ("FPL's Motion to Dismiss").

included in the ER. Accordingly, FPL moved the Board to dismiss Contention 2.1 as moot.

On January 23, 2012, Joint Intervenors filed an answer opposing FPL's Motion to Dismiss and moving, in the alternative, to modify the contention to allege that the estimates of the releases of the chemicals in question were inaccurate and the assessment of the environmental impact of their injection into the Boulder Zone was inadequate.³

On January 26, 2012, the Board granted FPL's motion to dismiss Contention 2.1, ruling that it was a contention of omission which FPL's Revision 3 of the Application had rendered moot. Memorandum and Order (Granting FPL's Motions to Dismiss Joint Intervenors' Contention 2.1 and CASE's Contention 6 as Moot) (Jan. 26, 2012) (unpublished) at 4-5. The Board, however, directed FPL and the Staff to file responses to Joint Intervenors' motion to amend the contention. *Id.* at 7.

On February 10, 2012, FPL filed an answer opposing admission of amended Contention 2.1, and on the same day, the NRC Staff filed an answer opposing in part admission of the amended contention.⁴ On February 17, 2012, Joint Intervenors filed a reply to these answers.⁵

³ Joint Intervenors' Answer to FPL's Motion to Dismiss Joint Intervenors' Contention 2.1 as Moot, and Alternatively, Joint Intervenors' Motion to Amend Contention NEPA 2.1 (Jan. 23, 2012) ("Joint Intervenors' Answer").

⁴ Florida Power & Light's Response to Joint Intervenors' Motion to Amend Contention 2.1 (Feb. 10, 2012); NRC Staff's Answer to Joint Intervenors' Motion to Amend Contention NEPA 2.1 (Feb. 10, 2012).

⁵ Joint Intervenors' Reply to [FPL's] and [NRC] Staff's Responses to Joint Intervenors' Motion to Amend Contention 2.1 (Feb. 17, 2012) ("Joint Intervenors' Reply").

The Board granted in part Joint Intervenor's motion to amend Contention 2.1. Memorandum and Order (Granting, In Part, Joint Intervenor's Motion to Admit Amended Contention NEPA 2.1), LBP-12-09, 75 NRC__ (May 2, 2012). The Board excluded from further consideration the two chemicals (selenium and thallium) whose concentrations in the deepwell releases had been included in Table 3.6.2 since the original filing of the Application. LBP-12-09, slip op. at 9. The Board admitted, however, an amended Contention 2.1:

The ER is deficient in concluding that the environmental impacts from FPL's proposed deep injection wells will be "small" because the ER fails to identify the source data of the chemical concentrations in ER Rev. 3 Table 3.6-2 for ethylbenzene, heptachlor, tetrachloroethylene, and toluene.

Id. at 11 (footnote omitted). This amended contention is the subject of FPL's current Motion.

III. ARGUMENT

A. Legal Standards for Summary Disposition

Motions for summary disposition are available in 10 C.F.R. Part 2, Subpart L proceedings like the instant one. They may be filed up to 45 days before the commencement of a hearing, unless the presiding officer orders otherwise. 10 C.F.R. § 2.1205(a). In ruling on motions for summary disposition, the Board is to apply the standards in Subpart G of 10 C.F.R. Part 2. *Id.*, § 2.1205(c). The standards for summary disposition under Subpart G are defined in 10 C.F.R. § 2.710, which states that the "presiding officer shall render the decision sought if . . . there is no genuine issue as to any material fact and . . . the moving party is entitled to a decision as a matter of law." 10 C.F.R. § 2.710(d)(2). The Commission's requirements for summary disposition are

satisfied with respect to Joint Intervenors' Amended Contention 2.1 because there is no genuine issue of disputed fact that would require a hearing and FPL is entitled to a favorable decision as a matter of law.

Under the NRC Rules of Practice, a moving party is entitled to summary disposition of a contention as a matter of law if the filings in the proceeding, together with the statements of the parties and any relevant affidavits, demonstrate that there is no genuine dispute as to any material issues of fact. The Rules "long have allowed summary disposition in cases where there is no genuine issue as to any material fact and where the moving party is entitled to a decision as a matter of law." *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 NRC 370, 384 (2001) (internal quotations omitted); *Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102-03 (1993). The Commission has held that summary disposition is appropriate "[a]bsent any probative evidence supporting [a party's] claims" *Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 44041), CLI-94-6, 39 NRC 285, 308 (1994), *aff'd*, *Advanced Med. Sys., Inc. v. NRC*, 61 F.3d 903 (6th Cir. 1995) (Table). Commission case law is clear that for there to be a genuine issue, "the factual record, considered in its entirety, must be enough in doubt so that there is a reason to hold a hearing to resolve the issue." *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), LBP-83-46, 18 NRC 218, 223 (1983). Summary disposition "is a useful tool for resolving contentions in short order that . . . are shown by undisputed facts to have nothing to commend them." *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-01-39, 54 NRC 497, 509 (2001). "[D]emonstrably insubstantial issues' . . . should be decided pursuant to summary disposition procedures . . .

.” *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), LBP-81-48, 14 NRC 877, 883 (1981) (*citing Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 550 (1980)).

Those principles apply here. Lacking a genuine dispute as to any material facts, Joint Intervenors’ Amended Contention 2.1 has “nothing to commend” it for further litigation in this proceeding and should be dismissed.

B. The Source Data for the Concentrations in ER Rev. 3 Table 3.6-2 for Ethylbenzene, Heptachlor, Tetrachloroethylene, and Toluene Have Been Properly Identified

The source data used to determine the estimated concentrations of ethylbenzene, heptachlor, tetrachloroethylene, and toluene reported in ER Rev. 3 Table 3.6-2 were provided in the Miami-Dade Water and Sewer Department (“MDWASD”), South District Wastewater Treatment Plant (“SDWWTP”) annual reports for the years 2007 through 2011. Wagner Decl. ¶ 6. FPL selected as source data the highest concentrations of each of those constituents found in the reclaimed water from the SDWWTP during this most recent five year period. *Id.*

FPL estimated the final effluent concentration of each constituent to be released to the Boulder Zone via underground injection wells by evaluating the path of the reclaimed water throughout its use in the Turkey Point Units and accounting for the effects of concentration in the cooling system and dilution from other water sources that combine with the reclaimed water to determine the final concentration at the point of discharge. *Id.* ¶ 7.

To determine the final effluent concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene in the discharge to the aquifer through the underground injection wells, FPL's analysis assumed that none of these constituents is removed or concentrated in the reclaimed water treatment facility or makeup water reservoir. Furthermore, the chemical addition that will be made to the makeup water supply to control biofouling, scaling, and suspended matter was assumed to have no impact on the concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene. All losses to the atmosphere due to volatilization were also neglected. Therefore, only the dilution and concentration of these constituents in the reclaimed water makeup supply were considered. *Id.* ¶ 9.

Effluent streams from plant water systems that are supplied with MDWASD potable water combine with the blowdown from the circulating water cooling towers and serve to dilute the concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene. *Id.* ¶ 10. Effluents from the following plant water systems contribute to the dilution process: blowdown from the service water system; sanitary waste treatment effluent; wastewater retention basin effluent; and liquid radwaste treatment effluent. *Id.*

The diluting effect of combining various effluent streams on the overall concentration of each of the four constituents was obtained by performing a mass balance using the concentration of each of the constituents (ethylbenzene, heptachlor, tetrachloroethylene, and toluene) in each stream with its corresponding flow rate to calculate the concentration in the combined stream. *Id.*

On the other hand, the circulating water system cooling towers will increase the concentration of the four constituents as evaporation of the circulating water occurs. Note (j) of Table 3.3-1 in ER Rev. 3 states that the circulating water system cooling towers operate at four cycles of concentration when reclaimed water is used as the makeup water source. *Id.* ¶ 11. Thus, but for the dilution effects of the blowdown from the circulating water cooling towers and the effluents from other plant water systems, the concentrations of the four constituents that would be injected into the aquifer would be four (4) times the source concentrations in the reclaimed water from the SDWWTP. *Id.*

The result of concentration in the circulating cooling towers, dilution from the service water cooling tower blowdown, and further dilution from mixing with other effluent streams, is that the injected concentrations are approximately 3.3 times the source concentrations. *Id.* ¶ 12.

The values of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that were included in Table 3.6-2 of Rev. 3 of the ER were properly computed (or, in the case of ethylbenzene, overstated) and are conservatively high estimates of the concentrations of these chemicals that will be injected into the aquifer during the operations of Turkey Point Units 6 & 7. *Id.* ¶ 16.

In short, FPL has provided an identification of the conservatively-chosen source of the data on the four chemicals' concentrations in ER Rev. 3 Table 3.6.2, as well as a detailed description of how those concentrations were obtained.

C. **FPL's Bounding Analysis Demonstrates that the Environmental Impacts of the Injection of Ethylbenzene, Heptachlor, Tetrachloroethylene, and Toluene into the Boulder Zone of the Aquifer are SMALL**

FPL has performed an extremely conservative, bounding analysis to determine the maximum possible concentrations of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that, after injection into the Boulder Zone of the aquifer, could return to the upper layer of the aquifer (Upper Floridan Aquifer, or "UFA") and be available for consumption in the potable water. *Id.* ¶ 14. The bounding analysis assumes that: (1) all dilution effects that would reduce the concentrations of ethylbenzene, heptachlor, tetrachloroethylene, and toluene to be injected into the aquifer are to be neglected, so that the concentration of each of the constituents injected into the Boulder Zone is four times the source value; (2) the source values include the detection limit for the source concentration of ethylbenzene, even though that constituent was actually undetected; (3) the same concentrations that are injected are returned instantaneously to the UFA, undiluted; (4) the full amount of each constituent is available in the UFA groundwater for use as potable water; and (5) groundwater containing those constituents is used for consumption at some location in Florida.⁶ *Id.* Under those extreme assumptions, the concentrations of each constituent available for consumption as potable water are four times the source concentrations in the reclaimed water supplied by the SDWWTP. *Id.*

The bounding analysis shows that the concentrations of all four constituents available for consumption as potable water always remain below (in most cases, well

⁶ The assumptions in the bounding analysis envelop all claims raised by Joint Intervenors and their consultant in their various filings. *See, e.g.,* Joint Intervenors' Reply at 12-24.

below) the drinking water Maximum Contaminant Levels established by the U.S. Environmental Protection Agency. *Id.* ¶ 15.

Based on the results of this bounding analysis, FPL confirmed that, as concluded in Section 5.2.3.2.4 of the ER, the environmental impact on the underground source of drinking water from the use of deep injection wells at the Turkey Point Units would be SMALL. *Id.* ¶ 17.

D. FPL is Entitled to a Favorable Decision as a Matter of Law

As demonstrated in the above discussion, there is no genuine dispute as to any material fact regarding Joint Intervenors' Amended Contention 2.1 that could result in the denial of FPL's Application. Accordingly, FPL is entitled to summary disposition of the contention as a matter of law.

IV. CONCLUSION

For the reasons stated above, the Board should grant FPL's Motion for Summary Disposition of Joint Intervenors' Amended Contention 2.1.

V. CERTIFICATION

In accordance with 10 C.F.R. §2.323(b), counsel for FPL has made a sincere effort to contact the other parties in this proceeding to resolve the issue raised in this motion but has not been successful. Joint Intervenors stated that they will oppose the motion. The NRC Staff indicated that it does not currently have enough information to take a position on FPL's motion.

Respectfully submitted,

/Signed electronically by Matias F. Travieso-Diaz/

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July 19, 2012

Counsel for FLORIDA POWER & LIGHT COMPANY

ATTACHMENT 1

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**UNITED STATES OF AMERICA
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**STATEMENT OF MATERIAL FACTS AS TO WHICH NO GENUINE ISSUE
EXISTS, IN SUPPORT OF FLORIDA POWER & LIGHT COMPANY'S
MOTION FOR SUMMARY DISPOSITION OF
JOINT INTERVENORS' AMENDED CONTENTION 2.1**

Applicant Florida Power & Light Company ("FPL") provides, in support of its Motion for Summary Disposition of Amended Contention 2.1 submitted by intervenors Mark Oncavage, Dan Kipnis, Southern Alliance for Clean Energy, and National Parks Conservation Association ("Joint Intervenors"), this Statement of Material Facts as to which FPL contends there is no genuine issue to be heard.

1. In June 2009, FPL submitted to the U.S. Nuclear Regulatory Commission ("NRC") its application ("Application") for a combined license ("COL") for two AP1000 pressurized water nuclear reactors, to be known as Turkey Point Units 6 and 7 (the "Turkey Point Units").
74 Fed. Reg. 38,477 (Aug. 3, 2009).

2. On September 4, 2009, the NRC staff (“Staff”) accepted the Application for docketing. 74 Fed. Reg. 51,621 (Oct. 7, 2009).
3. On June 14, 2010, the NRC issued a Notice of Hearing and Opportunity to Petition for Leave to Intervene, which provided members of the public sixty days from the date of publication to file a petition for leave to intervene in this proceeding. 75 Fed. Reg. 34,777 (June 18, 2010).
4. The Joint Intervenors filed a timely petition to intervene and raised nine proposed contentions. Joint Petitioners’ Petition for Intervention (Aug. 17, 2010).
5. The Atomic Safety and Licensing Board herein (“Board”) ruled that the Joint Intervenors had standing to participate in this proceeding, admitted for litigation a portion of one of their proposed contentions, and rejected the remaining contentions. *Florida Power & Light Co.* (Turkey Point Units 6 and 7), LBP-11-06, 73 NRC __ (Feb. 28, 2011), slip op. at 10-84.
6. The contention admitted by the Board, identified as NEPA Contention 2.1 (“Contention 2.1”) claimed that six chemicals sometimes found in the wastewater had been omitted from consideration in the analysis of the impact of their injection via deepwater wells into the Boulder Zone of the aquifer beneath the Turkey Point Units because their

concentrations had not been included in Table 3.6.2 of the Environmental Report (“ER”) that is part of the Application.

7. As admitted by the Board, Contention 2.1 read: “[T]he ER fails to analyze and discuss the potential impacts on groundwater quality of injecting into the Floridan Aquifer via underground injection wells heptachlor, ethylbenzene, toluene, selenium, thallium, and tetrachloroethylene, which have been found in injection wells in Florida but are not listed in FPL’s ER as wastewater constituent chemicals.” LBP-11-06, 73 NRC ___, slip op. at 36.
8. On December 16, 2011, FPL submitted to the NRC Revision 3 of its Application (“COLA Rev. 3”). Letter from M. Nazar to NRC Document Control Desk, “Submittal of the Annual Update of the COL Application - Revision 3” (Dec. 16, 2011) (ADAMS Accession No. ML11361A102). That revision includes, *inter alia*, an amended ER Table 3.6.2. ER, Chapter 3: Plant Description (Rev. 3), ADAMS Accession No. ML11362A163, at 3.6-7 (“ER Rev. 3 Table 3.6.2”).
9. On January 3, 2012, FPL filed a motion to dismiss Joint Intervenors’ Contention 2.1 as moot. Florida Power & Light Company’s Motion to Dismiss Joint Intervenors’ Contention 2.1 as Moot (Jan. 3, 2012) (“FPL’s Motion to Dismiss”).
10. On January 23, 2012, Joint Intervenors filed an answer opposing FPL’s Motion to Dismiss and moving, in the alternative, to modify the

contention to allege that the estimates of the releases of the chemicals in question were inaccurate and the assessment of the environmental impact of their injection into the Boulder Zone was inadequate. Joint Intervenor's Reply to [FPL's] and [NRC] Staff's Responses to Joint Intervenor's Motion to Amend Contention 2.1 (Feb. 17, 2012) ("Joint Intervenor's Reply").

11. On January 26, 2012, the Board granted FPL's motion to dismiss Contention 2.1, ruling that it was a contention of omission which FPL's Application, Rev. 3 had rendered moot. Memorandum and Order (Granting FPL's Motions to Dismiss Joint Intervenor's Contention 2.1 and CASE's Contention 6 as Moot) (Jan. 26, 2012) (unpublished) at 4-5.
12. The Board, however, directed FPL and the Staff to file responses to Joint Intervenor's motion to amend Contention 2.1 contained in the Joint Intervenor's Reply. *Id.* at 7.
13. On February 10, 2012, FPL filed an answer opposing admission of amended Contention 2.1, and the NRC Staff filed an answer opposing in part admission of the amended contention. Florida Power & Light's Response to Joint Intervenor's Motion to Amend Contention 2.1 (Feb. 10, 2012); NRC Staff's Answer to Joint Intervenor's Motion to Amend Contention NEPA 2.1 (Feb. 10, 2012).

14. The Board granted in part Joint Intervenors' motion to amend Contention 2.1. Memorandum and Order (Granting, In Part, Joint Intervenors' Motion to Admit Amended Contention NEPA 2.1), LBP-12-09, 75 NRC__ (May 2, 2012).
15. The Board excluded from further consideration two chemicals (selenium and thallium) whose concentrations in the deepwell releases had been included in Table 3.6.2 since the original filing of the Application. LBP-12-09, slip op. at 9. The Board admitted, however, an Amended Contention 2.1, which alleges: "The ER is deficient in concluding that the environmental impacts from FPL's proposed deep injection wells will be 'small' because the ER fails to identify the source data of the chemical concentrations in ER Rev. 3 Table 3.6-2 for ethylbenzene, heptachlor, tetrachloroethylene, and toluene." *Id.* at 11.
16. The source data used to determine the estimated concentrations of ethylbenzene, heptachlor, tetrachloroethylene, and toluene reported in ER Rev. 3 Table 3.6-2 were provided in the Miami-Dade Water and Sewer Department ("MDWASD"), South District Wastewater Treatment Plant ("SDWWTP") annual reports for the years 2007 through 2011. Declaration of David M. Wagner in Support of Florida Power & Light's Motion for Summary Disposition of Joint Intervenors' Amended Contention 2.1 ("Wagner Decl.") ¶ 6.

17. FPL selected as source data the highest concentrations of each of those constituents found in the reclaimed water from the SDWWTP during this most recent five year period. *Id.*
18. FPL estimated the final effluent concentration of each constituent to be released to the Boulder Zone of the aquifer via underground injection wells by evaluating the path of the reclaimed water throughout its use in the Turkey Point Units and accounting for the effects of concentration in the cooling system and dilution from other water sources that combine with the reclaimed water to determine the final concentration at the point of discharge. *Id.* ¶ 7.
19. To determine the final effluent concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene in the discharge through the underground injection wells, FPL's analysis assumed that none of these constituents is removed or concentrated in the reclaimed water treatment facility or makeup water reservoir. Furthermore, the chemical addition that will be made to the makeup water supply to control biofouling, scaling, and suspended matter was assumed to have no impact on the concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene. All losses to the atmosphere due to volatilization were also neglected. Therefore, only the dilution and concentration of these constituents in the reclaimed water makeup supply were considered. *Id.* ¶ 9.

20. Effluent streams from plant water systems that are supplied with MDWASD potable water combine with the blowdown from the circulating water cooling towers and serve to dilute the concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene. *Id.* ¶ 10.
21. Effluents from the following plant water systems contribute to the dilution process: blowdown from the service water system; sanitary waste treatment effluent; wastewater retention basin effluent; and liquid radwaste treatment effluent. *Id.*
22. The circulating water system cooling towers will increase the concentration of the four constituents as evaporation of the circulating water occurs. The circulating water system cooling towers operate at four cycles of concentration when reclaimed water is used as the makeup water source. *Id.* ¶ 11; Note (j) of ER Rev. 3, Table 3.3-1.
23. The diluting effect of combining various effluent streams on the overall concentration of each of the four constituents was obtained by performing a mass balance using the concentration of each of the constituents (ethylbenzene, heptachlor, tetrachloroethylene, and toluene) in each stream with its corresponding flow rate to calculate the concentration in the combined stream. Wagner Decl. ¶ 11.
24. But for the dilution effects of the blowdown from the service water cooling towers and the effluents from other plant water systems, the concentrations of the four constituents that would be injected into the

aquifer would be four (4) times the source concentrations in the reclaimed water from the SDWWTP. *Id.*

25. The result of concentration in the circulating cooling towers, dilution from the service water cooling tower blowdown, and further dilution from mixing with other effluent streams, is that the injected concentrations are approximately 3.3 times the source concentrations. *Id.* ¶ 12.
26. The values of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that were included in Table 3.6-2 of Revision 3 of the ER were properly computed (or, in the case of ethylbenzene, overstated) and are conservatively high estimates of the concentrations of these chemicals that will be injected into the aquifer during the operations of Turkey Point Units 6 & 7. *Id.* ¶ 16.
27. FPL performed an extremely conservative, bounding analysis to determine the maximum possible concentrations of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that, after injection into the Boulder Zone of the aquifer, could return to the upper layer of the aquifer (Upper Floridan Aquifer, or “UFA”) and be available for consumption in the potable water. *Id.* ¶ 14.
28. The bounding analysis assumes that: (1) all dilution effects that would reduce the concentrations of the ethylbenzene, heptachlor, tetrachloroethylene, and toluene to be injected into the aquifer are to be

neglected, so that the concentration of each of the constituents injected into the Boulder Zone is four times the source value; (2) the source values include the detection limit for the source concentration of ethylbenzene, even though that constituent was actually undetected; (3) the same concentrations that are injected are returned instantaneously to the UFA, undiluted; (4) the full amount of each constituent is available in the UFA groundwater for use as potable water; and (5) groundwater containing those constituents is in fact used for consumption at some location in Florida. *Id.*

29. Under the bounding analysis' assumptions, the concentrations of each constituent available for consumption as potable water are four times the source concentrations in the reclaimed water supplied by the SDWWTP. *Id.*
30. The bounding analysis shows that the concentrations of all four constituents available for consumption as potable water always remain below (in most cases, well below) the drinking water Maximum Contaminant Levels established by the U.S. Environmental Protection Agency. *Id.* ¶ 15.
31. The results of the bounding analysis confirm that, as concluded in Section 5.2.3.2.4 of the ER, the impact on the underground source of drinking water from the use of deep injection wells at the Turkey Point Units will be SMALL. *Id.* ¶ 17.

ATTACHMENT 2

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In the Matter of)	
)	
Florida Power & Light Company)	Docket Nos. 52-040-COL
)	52-041-COL
(Turkey Point Units 6 and 7))	
)	ASLBP No. 10-903-02-COL
(Combined License))	

**DECLARATION OF DAVID M. WAGNER IN SUPPORT OF FLORIDA POWER &
LIGHT COMPANY’S MOTION FOR SUMMARY DISPOSITION OF JOINT
INTERVENORS’ AMENDED CONTENTION 2.1**

David M. Wagner states as follows under penalties of perjury:

I. PERSONAL BACKGROUND

1. My name is David M. Wagner. I am the Environmental/Nuclear Engineering Group Supervisor on the Turkey Point Units 6 & 7 Combined License Project at Bechtel Power Corporation (“Bechtel”). I am providing this Declaration in support of Applicant Florida Power & Light Company’s (“FPL”) motion for summary disposition of amended Contention 2.1, submitted by intervenors Mark Oncavage, Dan Kipnis, Southern Alliance for Clean Energy, and National Parks Conservation Association (“Joint Intervenors”) in the above captioned proceeding.
2. My professional and educational experience is summarized in the *curriculum vitae* attached as Exhibit 1 to this Declaration. Briefly summarized, I have over 20 years of engineering experience on a variety of power, industry, and government projects,

including nuclear site investigations, cost studies, environmental engineering and remediation projects. In particular, I have over 5 years of specific experience as the environmental/ nuclear supervisor in the preparation of combined license applications (“COLAs”). I have personal knowledge of the matters discussed in this Declaration, except as indicated herein.

II. DISCUSSION

3. Joint Intervenors’ amended Contention 2.1, as admitted by the Atomic Safety and Licensing Board, alleges as follows:

The ER is deficient in concluding that the environmental impacts from FPL’s proposed deep injection wells will be “small” because the ER fails to identify the source data of the chemical concentrations in ER Rev. 3 Table 3.6-2 for ethylbenzene, heptachlor, tetrachloroethylene, and toluene. Such information is necessary to ensure the accuracy and reliability of those concentrations, so it might reasonably be concluded that those chemicals will not adversely impact the groundwater by migrating from the Boulder Zone to the Upper Floridan Aquifer.

Memorandum and Order (Granting, in Part, Joint Intervenors’ Motion to Admit Amended Contention NEPA 2.1), LBP-12-09 (May 2, 2012), slip op. at 16.

4. I will address in this Declaration, *first*, the portion of the contention that alleges that the Environmental Report (“ER”) that is part of FPL’s application for a combined license for Turkey Point Units 6 & 7 “fails to identify the source data of the chemical concentrations in ER Rev. 3 Table 3.6-2 for ethylbenzene, heptachlor, tetrachloroethylene, and toluene,” and *second*, the results of a bounding analysis of the environmental impacts of the injection of these four constituents into the Boulder Zone of the aquifer beneath Turkey Point Units 6 & 7.

5. I oversaw the preparation of the ER and amendments thereto, as such, had responsibility for the relevant revisions in ER Revision 3 to Table 3.6-2. I, therefore, oversaw Bechtel's analysis conducted to determine the concentrations of the four constituents in question now reflected in the revised ER Table 3.6-2.
6. The source data used to determine the estimated concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene reported in ER Revision 3 Table 3.6-2 were provided in the South District Wastewater Treatment Plant ("SDWWTP") annual reports for the years 2007 through 2011 prepared by the Miami-Dade Water and Sewer Department ("MDWASD") and filed with the Underground Injection Control Program of the Florida Department of Environmental Protection. These official reports were used for the water quality analysis for the SDWWTP effluent which will supply reclaimed water to Turkey Point Units 6 & 7. The table in Exhibit 2 to this Declaration shows the highest detected concentrations of each of these four constituents for the reported sampling years (2007-2011). We selected the highest concentrations of each of those constituents found in the reclaimed water from the SDWWTP during this most recent five year period, and assumed them to be the source concentration for each constituent in the reclaimed water makeup supply to the circulating water system. The use of highest detected source concentrations for all constituents of interest served to produce analytical results representing their worst-case concentrations.
7. An analysis was performed under my direction to estimate the final effluent concentration of each constituent to be discharged to the underground injection wells. The analysis consisted of evaluating the path of the reclaimed water throughout its

use in the plant, while accounting for the effects of concentration in the cooling system and dilution effects from other water sources that combine with the reclaimed water to determine the final concentration at the point of discharge. This analysis is described next.

8. As shown in ER Figure 3.3-1 (Exhibit 3 to this Declaration) and discussed in Subsection 3.3.2.1 of ER Revision 3, the reclaimed water supply from the SDWWTP to Turkey Point Units 6 & 7 will be treated at the FPL reclaimed water treatment facility prior to storage in the makeup water reservoir and used as makeup for the circulating water system cooling towers. Blowdown from the circulating water cooling towers will be combined with other streams in the blowdown sump and then discharged to the underground injection wells.
9. To determine the final effluent concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene in the discharge to underground injection wells, our analysis assumed that none of these constituents is removed or concentrated in the FPL reclaimed water treatment facility or makeup water reservoir. Furthermore, the chemical addition that will be made to the makeup water supply to control biofouling, scaling, and suspended matter was assumed to have no impact on the concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene. All losses to the atmosphere due to volatilization were also neglected. Therefore, only the dilution and concentration of these constituents in the reclaimed water makeup supply were considered.
10. Effluent streams from plant water systems that are supplied with MDWASD potable water combine with the blowdown from the circulating water cooling towers and

serve to dilute the concentration of ethylbenzene, heptachlor, tetrachloroethylene, and toluene because none of these constituents were detected in the potable water supply.

As shown in ER Figure 3.3-1 (Exhibit 3), the following streams supplied by MDWASD potable water dilute the concentration of these four constituents present in the effluent that is ultimately discharged to the underground injection wells:

- blowdown from the service water system (ER Figure 3.3-1, Stream 35)
- sanitary waste treatment effluent (ER Figure 3.3-1, Stream 5)
- wastewater retention basin effluent (ER Figure 3.3-1, Stream 34)
- liquid radwaste treatment effluent (ER Figure 3.3-1, Stream 22)

The diluting effect of combining streams on the overall concentration of each of the four constituents was obtained by performing a mass balance using the concentration of each of the four constituents (ethylbenzene, heptachlor, tetrachloroethylene, and toluene) in each stream with its corresponding flow rate (provided in Table 3.3-1 of ER Revision 3) to calculate the concentration in the combined stream. These concentrations are reported in ER Revision 3 Table 3.6-2.

11. On the other hand, the circulating water system cooling towers will increase the concentration of these constituents as evaporation of the circulating water occurs. Note (j) of Table 3.3-1 in ER Revision 3 states that the circulating water system cooling towers operate at four cycles of concentration when reclaimed water is used as the makeup water source. In the circulating water system cooling tower basin, the reclaimed water supply will be combined with blowdown from the service water system cooling towers, which

will serve to dilute the concentration of each of the four constituents. This concentration will then be increased four times due to the cycling effects in the cooling tower.

Therefore, the circulating water cooling tower blowdown discharged to the blowdown sump will have a concentration of each of the four constituents that is slightly less than four times the reclaimed water supply (source) concentration. But for the dilution effects of the blowdown from the service water system cooling towers and the above mentioned effluents from other plant water systems, the concentrations of the four constituents that would be injected into the aquifer would be four (4) times the source concentrations in the reclaimed water from the SDWWTP.

12. Exhibit 4 to this Declaration is a table that compares the source concentrations of each of the four chemicals with the injected concentrations shown in ER Revision 3 Table 3.6-2.

As can be seen from the exhibit, the result of concentration in the circulating water cooling towers, dilution from the service water cooling tower blowdown, and further dilution from mixing with other effluent streams, is that the injected concentrations are approximately 3.3 times the source concentrations.

13. It should be noted that an additional, inadvertent degree of conservatism was included in the concentration of one of the chemicals, ethylbenzene, reported in ER Revision 3 Table 3.6-2, because the estimated concentration of ethylbenzene included in the table (0.001045 mg/L) was based on the highest observed method detection limit (0.00032 mg/L) for the source concentration of that chemical, considering concentration in the circulating cooling towers and other dilution effects, as depicted in Exhibit 3.

Ethylbenzene was actually not detected above its method detection limit and therefore the next revision of the ER will remove the present value and indicate it was not detected.

14. FPL has performed a further bounding analysis to determine the maximum possible concentrations of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that, after injection into the Boulder Zone of the aquifer, could instantaneously return, undiluted, to the upper layer of the aquifer (Upper Floridan Aquifer, or “UFA”) and be available for consumption in the potable water at the calculated final effluent concentrations (Exhibit 5). In my opinion, the FPL bounding analysis is extremely conservative for the following reasons. The analysis assumes that: (1) all dilution effects that would reduce the concentrations of the ethylbenzene, heptachlor, tetrachloroethylene, and toluene to be injected into the aquifer are to be neglected, so that the concentration of each of the constituents discharged into the Boulder Zone is only affected by the concentration effects (cycling) in the circulating water cooling towers (the cooling towers operate at four cycles of concentration, therefore the discharge concentration, under this scenario, would be four times the source value); (2) the source values include the maximum observed detection limit (2007-2011 sampling events) for the source concentration of ethylbenzene, even though that constituent was actually undetected; (3) the same concentration of each of the four constituents that is discharged is transported instantaneously to the UFA, undiluted; (4) the full amount of each constituent is available in the UFA groundwater for use as potable water at the calculated final effluent concentration (Exhibit 5); and (5) groundwater containing those constituents is used for consumption at some location in Florida. Under these extreme assumptions, the concentration of each constituent available for consumption as potable water is four times the source concentrations in the reclaimed water supplied by the SDWWTP.

15. The results of this further, extremely conservative, bounding analysis show that the concentrations of all four constituents available for consumption in the drinking water always remain below the Maximum Contaminant Levels (MCLs) established by the U.S. Environmental Protection Agency. The MCLs are drinking water standards.
16. In my professional opinion, the values of ethylbenzene, heptachlor, tetrachloroethylene, and toluene that were included in Table 3.6-2 of the Revision 3 of ER were properly computed (or, in the case of ethylbenzene, overstated) and are conservatively high estimates of the concentrations of these chemicals that will be injected into the Floridan Aquifer during the operations of Turkey Point Units 6 & 7.
17. Based on the results of its bounding analysis, FPL confirmed that, as concluded in Section 5.2.3.2.4 of the ER, the impact on the underground source of drinking water from the use of deep injection wells would be SMALL.

I declare under penalty of perjury that the foregoing is true and correct.

/s/ David M. Wagner

David M. Wagner

Executed on July 12, 2012

Exhibit 1 – David M. Wagner Resume

DAVID M. WAGNER, PE ENVIRONMENTAL/NUCLEAR EGS

EXPERIENCE OVERVIEW (BECHTEL UNLESS NOTED OTHERWISE)

2007–Present	Environmental/Nuclear Lead, FPL Turkey Point Units 6 & 7 Combined Construction and Operating License Project
2006–2007	Environmental Engineer, South Texas COL Project
2005–2006	Senior Environmental Engineering Lead, PEER Consultants, PC
2004–2005	Project Manager, Cabrera Services, Inc.
2002–2004	Senior Environmental Engineer, Tetra Tech NUS, Inc.
1999–2002	Lead Hydrologist, Bechtel
1994–1999	Project Engineer, Bechtel Environmental, Inc.
1992–1994	Staff Engineer, Envirogen, Inc.

TECHNICAL QUALIFICATIONS

- ▶ Registered Professional Engineer in Georgia, Maryland, and Virginia
- ▶ Project Management Professional
- ▶ Diplomate of Environmental Engineering (DEE)
- ▶ Member, American Nuclear Society
- ▶ Member, American Academy of Environmental Engineers
- ▶ Member, American Society of Mechanical Engineers
- ▶ Member, Project Management Institute

EDUCATION

- ▶ M.S., Environmental Engineering, University of Buffalo
- ▶ M.E., Nuclear Engineering, University of Maryland
- ▶ B.S., Geomechanical Engineering, University of Rochester

SUMMARY OF EXPERIENCE

Dave Wagner has over 20 years of environmental/nuclear engineering experience on a variety of power, industry, and government projects, including environmental/nuclear site investigations, environmental/ nuclear feasibility studies and cost studies, and environmental /nuclear remediation projects. He has over 5 years of specific experience on COLs as the environmental/ nuclear supervisor. He has also had lead roles in nuclear historical site assessment and environmental baseline studies for both private transportation and government projects.

WORK HISTORY—DETAILED CONTRIBUTIONS

- ▶ **Environmental/Nuclear Supervisor, FPL Turkey Point Units 6 & 7 COL Project (AP1000)**
Currently responsible for data collection, hazards evaluation, meteorological data validation and dispersion calculations, meteorological analyses, nuclear dose assessment and related calculations. He performs air dispersion modeling for cooling towers, including solids deposition and fogging analysis, and serves as lead for the Environmental Report. He also served as lead for State Historic Preservation Office (SHPO) work plans.
- ▶ **Environmental Engineer, South Texas COL Project (ABWR)**
Responsible for initial data coordination, management, and review of the Environmental Report. He performed as lead author on several Environmental Report sections, as well as technical lead on the FSAR hazards analysis. He managed the subcontractor for Environmental Report, including schedule and budget, and he presented Environmental Report sections to the Licensing Review Board for approval.
- ▶ **Senior Environmental Engineering Lead, PEER Consultants**
Lead on an environmental site assessment project for the proposed light rail system in Miami-Dade County. His responsibilities included oversight of over 100 individual sites assessments performed according to ASTM Standard Practice E1527. He was the technical lead for the Air National Guard federal contract, responsible for developing technical and cost proposals for environmental work at nationwide active/inactive bases.
- ▶ **Project Manager, Cabrera Services, Inc.**
Responsibilities included developing erosion and sediment control plan for project based on base and state requirements and determining disposal options for environmental/ radioactive waste. He was the technical lead on a major site investigation for radioactive/chemical contamination. Project engineer/project manager on firm fixed price project in southern New Jersey, developing budget and schedule for several field events involving the investigation of radioactive contaminants in soil and groundwater.
- ▶ **Senior Environmental Engineer, Tetra Tech NUS, Inc.**
Responsible for environmental feasibility studies. Duties included development of alternatives, analysis of local, state, and federal applicable or relevant and appropriate requirement (ARARs), cost estimating, permitting requirements, and conceptual design of engineered systems.
- ▶ **Project Engineer, Bechtel Environmental, Inc.**
Responsible for the subsurface investigation and analysis for the siting of a spent fuel storage site at a nuclear facility currently undergoing decommissioning.

Exhibit 2 – Maximum Detected Concentration of Each Constituent Reported by SDWWTP for 2007-2011

Constituent	Maximum Detected Value (µg/L)
Ethylbenzene	Not Detected ¹
Toluene	0.534
Tetrachloroethylene	1.10
Heptachlor	0.007

¹ Ethylbenzene was not detected at its method detection limit for any of the 2007-2011 sampling events. The highest method detection limit for those years was 0.32 µg/L.

Exhibit 3 – Environmental Report Figure 3.3-1 (Sheet 1 of 2)

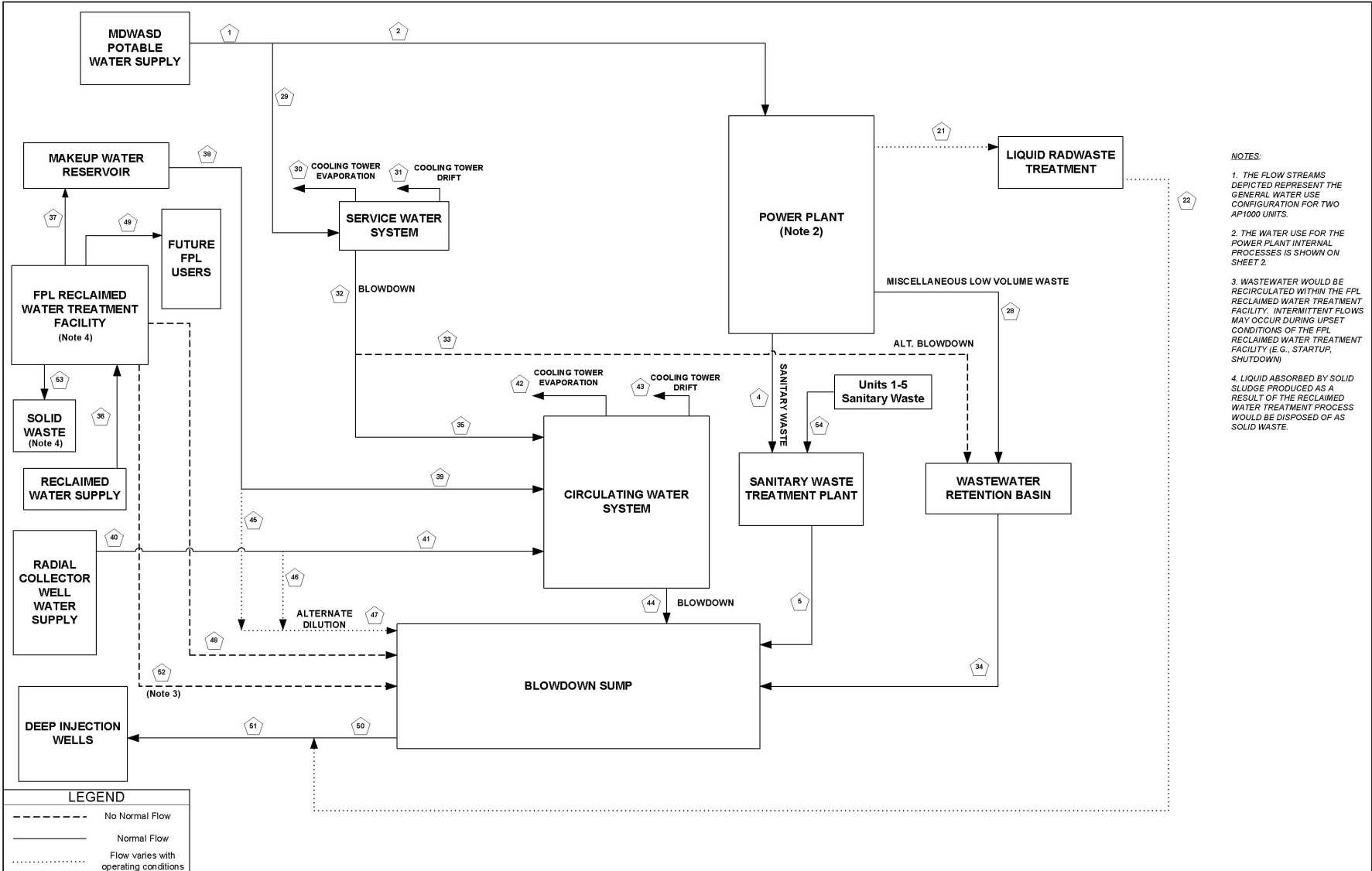


Exhibit 3 – Environmental Report Figure 3.3-1 (Sheet 2 of 2)

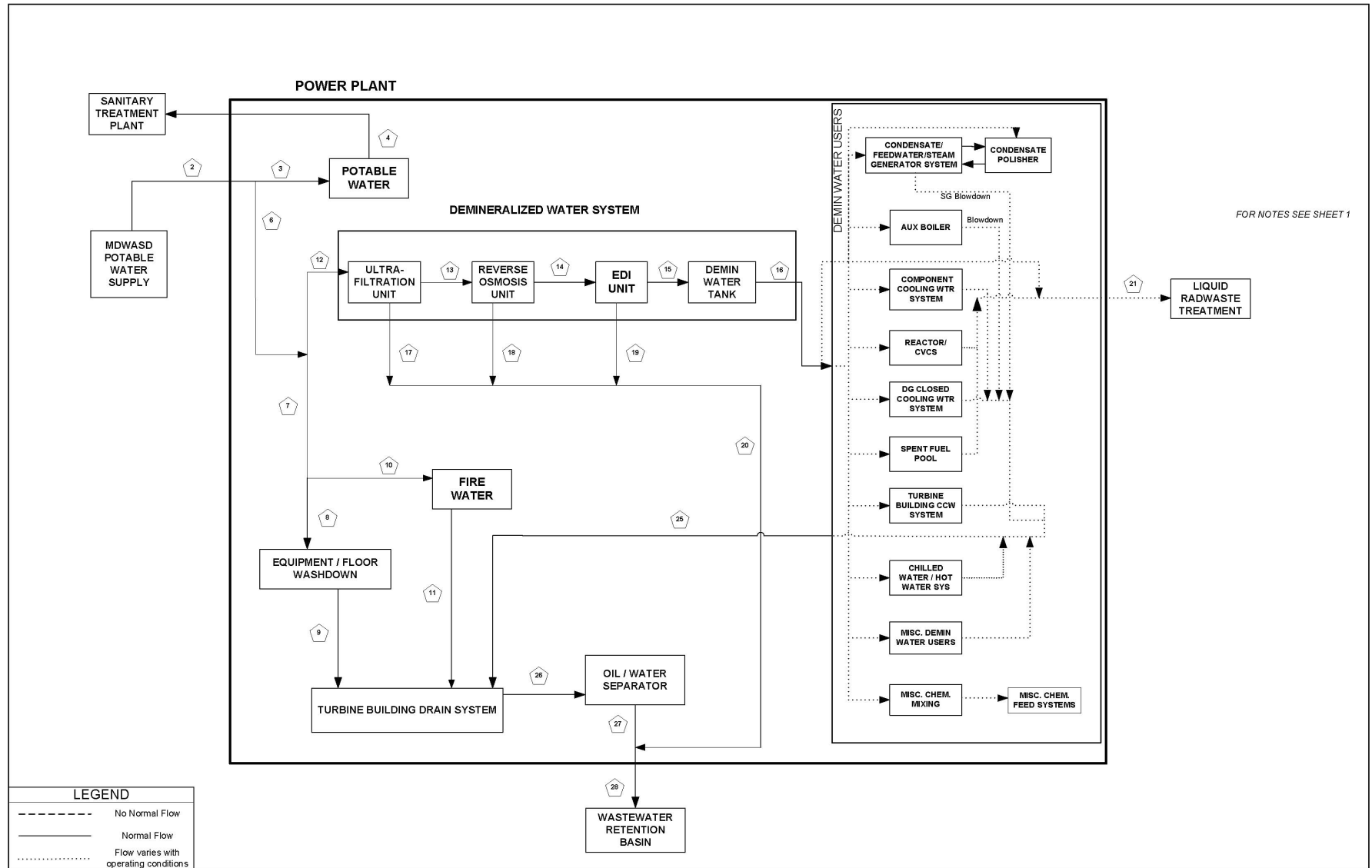


Exhibit 4 - Comparison of Source Concentration against Final Discharge Concentration

Constituent	Source Concentration (mg/L) ¹	Final Effluent Concentration (mg/L) ²
Ethylbenzene	Not Detected	Not Applicable
Toluene	0.000534	0.00174
Tetrachloroethylene	0.0011	0.00359
Heptachlor	0.000007	0.000023

¹ From Exhibit 2

² Calculated based on four cycles of concentration and dilution

**Exhibit 5 - “Bounding Analysis” Comparison of Limiting Discharge Concentrations
(four times the Source Concentrations), Assumed to be Available for Consumption,
versus EPA’s Maximum Contaminant Levels (MCLs)**

Constituent	Source Concentration (mg/L)¹	Final Effluent Concentration (mg/L)²	Assumed Bounding Final Effluent Concentration Available for Consumption (mg/L)³	EPA’s MCL for Constituent (mg/L)⁵
Ethylbenzene	Not Detected	Not Applicable	0.00128 ⁴	0.7
Toluene	0.000534	0.00174	0.00214	1.0
Tetrachloroethylene	0.0011	0.00359	0.0044	0.005
Heptachlor	0.000007	0.000023	0.000028	0.0004

¹ From Exhibit 2

² From Exhibit 4

³ Source concentration multiplied by four cycles of concentration, assuming no dilution

⁴ Based on highest observed method detection limit (0.32 µg/L from Exhibit 2) multiplied by four cycles of concentration, assuming no dilution

⁵ Ref: <http://water.epa.gov/drink/contaminants/index.cfm>

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
Florida Power & Light Company)	Docket Nos. 52-040-COL
)	52-041-COL
(Turkey Point Units 6 and 7))	
)	ASLBP No. 10-903-02-COL
(Combined License))	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing “Florida Power & Light Company’s Motion For Summary Disposition of Joint Intervenors’ Amended Contention 2.1” were provided to the Electronic Information Exchange for service to those individuals listed below and others on the service list in this proceeding, this 19th day of July, 2012.

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/Signed electronically by Matias F. Travieso-Diaz/

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