

**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))	

**DECLARATION OF THOMAS HELTON, JR. IN SUPPORT OF FLORIDA POWER &
LIGHT COMPANY’S MOTION FOR SUMMARY DISPOSITION OF JOINT
INTERVENORS’ AMENDED CONTENTION 2.1**

Thomas Helton states as follows under penalties of perjury:

I. PERSONAL BACKGROUND

1. My name is Thomas Helton, Jr. I am the Quality Assurance and Quality Control Officer at Florida Power & Light Company’s (“FPL”) Central Laboratory. FPL’s Central Laboratory provides analytical services, including environmental testing, to NextEra Energy Companies, including its subsidiaries such as FPL.
2. The FPL Central Laboratory is a State of Florida certified laboratory under the National Environmental Laboratory Accreditation Conference (“NELAC”) program. It utilizes Environmental Protection Agency (“EPA”), American Society of Testing Methods (“ASTM”), and other accepted test procedures and methods in accordance with both federal and state regulations.
3. I am providing this Declaration in support of Applicant FPL’s motion for summary disposition of amended Contention 2.1. Contention 2.1 was submitted by intervenors Mark Oncavage, Dan Kipnis, Southern Alliance for Clean Energy, and National Parks Conservation Association (“Joint Intervenors”) in the above-captioned proceeding.

4. I have 24 years of experience in environmental testing. For the last ten years I have held positions in senior laboratory management and quality control with Genapure Analytical, XENCO Laboratories, and FPL.
5. I hold a Bachelor of Science degree, with a major in Chemistry, from Florida Atlantic University.
6. I have personal knowledge of the matters discussed in this Declaration, except as indicated herein.

II. INTRODUCTION

7. In 2013, FPL hired PACE Analytical Services, Inc. (“PACE”) to perform a year-long sampling campaign of effluent from the Miami-Dade Water and Sewer Department’s (“MDWASD”) South District Wastewater Treatment Plant (“SDWWTP”).
8. PACE is a privately held sampling and analytical testing firm. PACE provides analytical services, including environmental testing and sampling. PACE utilizes EPA, ASTM, National Institute of Occupation Safety and Health (“NIOSH”), and other accepted test procedures and methods in accordance with both federal and state regulations. PACE also provides specialty analytical support for air toxics, aquatic toxicity, bioassay, biota, dioxin/furans, low-level mercury, radiochemistry, vapor intrusion, environmental forensics, and industrial hygiene.
9. On behalf of FPL’s Central Laboratory, in February of 2014 I completed an audit of PACE’s Pompano Beach, Fla. facility, which conducted the sampling campaign that is the subject of my Declaration. I found PACE’s process and procedures acceptable and consistent with industry standards. PACE continually invests in a highly trained scientific staff, leading instrumentation, and new methodologies to ensure high accuracy

and efficiency. Their advanced training program includes an online learning management program and robust quality assurance and control programs to mitigate risk throughout all PACE laboratories.

10. PACE also has a facility in Ormond Beach, Florida, which analyzed the samples that are the subject of my Declaration. PACE's Ormond Beach and Pompano Beach facilities are State of Florida certified laboratories under the NELAC program. The Ormond Beach facility is also certified in multiple states, as well as Puerto Rico, Guam, The U.S. Virgin Islands, and U.S. EPA Region 8 (Wyoming) Tribal Lands.
11. On behalf of FPL, I reviewed PACE's sampling campaign, including its analyses of the samples. My review was based on information provided by PACE's Quality Control Department, PACE's field staff, and MDWASD-SDWWTP personnel.
12. PACE performed all sampling using appropriate Florida Department of Environmental Protection ("FDEP") sampling Standard Operating Procedures ("SOPs") and EPA methods. PACE's analyses were certified under PACE's quality control/quality assurance program to meet NELAC and EPA methods requirements.
13. During each quarter of the year, PACE completed sampling events to examine the concentration of the four Constituents at issue: heptachlor, ethylbenzene, tetrachloroethylene, and toluene.¹ PACE measured the Constituents from two locations at the SDWWTP. Thus, PACE took eight measurements for each Constituent over the course of a year.

¹ The dates for these samples were: April 16-17, 2013; July 25-26 and August 7-8, 2013; October 7-8, 2013; and March 2-3 and March 9-10, 2014. PACE initially took certain summer samples on July 25-26, 2013, but three of the samples had to be re-collected in August 2013 due to quality assurance concerns with the initial samples. Due to an equipment malfunction, one sample from early March 2-3, 2013 was resampled on March 9-10, 2013.

14. The results of this sampling are set forth in Exhibits 1-6 to this Declaration, which I prepared. Those Exhibits include a case narrative; a report of laboratory results for each sample taken; a summary of the quality control performed in conjunction with the testing of the samples; copies of the instrument data, including the initial calibrations, initial calibration verifications, continuing calibration verifications, sample results, and batch quality control data; Chain of Custody (“COC”) information, and the composite sampling report for each sampling point (east and west). The Miami-Dade Water and Sewer Department South District Wastewater Treatment Plant Auto-Sampler Field Log, the flow logs, the thermometer calibration logs, and the operating instructions for the HACH SIGMA 900 MAX auto samplers PACE used to collect certain samples are also included in Exhibit 1.

III. GRAB SAMPLING FOR THE THREE VOLATILES

15. During the sampling events described above, PACE collected a “grab sample” to test for the presence of the three Constituents that are volatiles -- ethylbenzene, tetrachloroethylene (also known as tetrachloroethene), and toluene -- using EPA Method 624. Exhibits 1, 3, 4, and 5 contain the sampling documentation and results for the grab samples.
16. A “grab sample” is an individual sample collected over a period of time, usually all in one motion and generally not exceeding 15 minutes. It was necessary to take only one grab sample each day during the sampling period because the grab samples were taken during a period of high flow, which would indicate that the concentration was most likely at its highest.

17. Collecting grab samples for volatile analysis is standard in the industry and meets FDEP sampling requirements. It was appropriate to take grab samples, rather than composite samples, to test for the volatiles because there is no permit requirement that a composite sample be collected for volatile analysis.
18. Consistent with federal and state requirements, the grab samples for the volatiles were collected with zero head space. See, e.g., Exhibit 1, p. 84. Specifically, on the “Sample Condition Upon Receipt Forms” PACE personnel noted that the receipt of the samples was satisfactory. In order to meet this condition, the samples had to arrive at the laboratory with all of the conditions satisfied, including but not limited to, “correct containers used,” “all containers needing preservation are found to be in compliance with EPA recommendations,” and “No Headspace in VOA Vials.”
19. In Exhibit 1, p. 82, the COC notes that the EPA 624 containers used for the volatiles were 40 mL. This is also an industry standard for volatile sample analysis.
20. Federal regulations require that approved test methods be used to perform measurements of pollutants to support certain Clean Water Act permits. 40 CFR Chapter 1, Part 136.1. These regulations identify and incorporate the approved test methods for certain constituents, including the Constituents measured during the sampling campaign.
21. The regulations provide that EPA Method 624 is an approved method for measuring ethylbenzene, tetrachloroethylene, and toluene. 40 CFR Chapter 1, Part 136, Table 1C. The full text of EPA Method 624 is set forth in 40 CFR Chapter 1, Part 136, Appendix A, Methods for Organic Chemical Analysis of Municipal Waste Water and Industrial Waste Water.

22. PACE followed EPA Method 624, which is incorporated into PACE's Analytical Standard Operating Procedure, when it performed the sampling campaign for the volatile Constituents. EPA Method 624 and FDEP protocols dictate that the sample containers be refrigerated (at a temperature of just above freezing to a maximum of 6 degrees Celsius) during the transport of samples from the field to the laboratory, unless the sample was delivered to the laboratory within 4 hours of collection. The Sample Condition Upon Receipt Forms in my Exhibits include the temperature at which the samples were received at the laboratory (see, e.g., Exhibit 4, p. 19).
23. In addition, the volatile samples were collected from a sampling point at which tubing was not needed in order to collect the samples. See Exhibit 1, p. 2; Exhibit 3, p. 1, Exhibit 4, p. 1, and Exhibit 5, pp. 1-2.
24. Furthermore, as demonstrated by the signed and counter-signed PACE EPA 624 GC/MS Volatile Data Checklist (PACE Document No. F-FL-O-201 rev.00), an example of which is attached to this Declaration in Exhibit 4 (10/07 - 08/2013 Sampling), pp. 34-37, the data PACE collected meets the Quality Control and Quality Assurance criteria listed in PACE's most current Analytical Standard Operating Procedure.
25. PACE also collected and tested separate grab samples in the field for Free Chlorine, Total Chlorine, pH, and Temperature.
26. The purpose of collecting separate samples for Free Chlorine and Total Chlorine was to determine if there was any residual chlorine in the wastewater. This was also done to satisfy the requirement in EPA Method 624 (Section 9.0 Sample Collection, Preservation, and Handling Subsection 9.1) that residual chlorine should be removed prior to putting samples into the Volatile Organic Compound ("VOC") sampling container.

27. EPA Method 330.4, EPA Method 330.5, or field kits may be used to determine if there is any residual chlorine in the wastewater stream. PACE utilized a field kit purchased from a third party for that purpose. Since residual chlorine was found in the SDWWTP's waste stream, as mandated under FDEP and EPA Method 624 requirements sodium thiosulfate was added to the sample bottles prior to collecting the grab sample to remove any residual chlorine in the waste stream. See Exhibit 5, p.14 (COC identifying the preservative code as "E/G", which is hydrochloric acid and sodium thiosulfate).
28. FDEP requirements also mandate that the pH and temperature of the wastewater samples in their natural state be determined. The results of that testing, which showed that the pH was in the neutral range and the temperature of the water was not so high that the pH testing results would be affected, can be found in the "Field Data as Received" section and on the COC of each of my Exhibits 1 through 6. See e.g., Exhibit 1, p. 10; Exhibit 3, p. 3.
29. As a quality assurance matter, PACE also collected and analyzed "trip blanks." A trip blank is a container of laboratory reagent water (also known as ultra-pure or purified water) that is shipped, unopened, to and from the field, with empty and full sample containers. Its purpose is to identify if any contaminants were introduced into samples during transit to and from the laboratory for the volatile Constituents. In other words, trip blanks are used to ensure that results are not erroneously high. Where, as described below, none of the volatile Constituents were identified in the sampling, trip blanks were not really necessary here because there was no volatile Constituent to account for that may have been improperly introduced.

IV. COMPOSITE SAMPLING FOR HEPTACHLOR

30. Due to the fact that the flow at the SDWWTP is not consistent over a 24-hour period, PACE collected 24-hour flow-based composite samples to test for heptachlor during each sampling event, using an automated sampler machine (“auto sampler”) and EPA Method 608. PACE collected a flow-based composite sample for heptachlor, but not for the three volatile Constituents because trace amounts of volatiles can be lost to the atmosphere through composite sampling since samples are left open to the atmosphere during the collection period.
31. Federal regulations provide that EPA Method 608 is an approved method for measuring chlorinated pesticides, including heptachlor, in municipal and industrial discharges. 40 CFR Chapter 1, Part 136, Table 1D. The full text of EPA Method 608 is set forth in 40 CFR, Chapter 1, Part 136, Appendix A, Meth. 608.
32. PACE followed EPA Method 608, which is incorporated into PACE’s Analytical Standard Operating Procedure, when it performed the sampling campaign for FPL. As demonstrated by the signed and counter-signed PACE SW-846/8081A/8082 Semivolatile Data Checklist (PACE Document No. F-FL-O-198 rev. 01), an example of which is attached to this Declaration in Exhibit 4 (10/07 - 08/2013 Sampling) pp. 170–172), the data meets the Quality Control and Quality Assurance criteria listed in PACE’s most current Analytical Standard Operating Procedure.
33. In order to conduct this sampling, PACE set up two flow-based HACH SIGMA 900 MAX auto-samplers at the SDWWTP. These auto samplers are used by SDWWTP to collect samples for their regulatory purposes, and meet or exceed applicable FDEP requirements.

34. One auto sampler was set up at the SDWWTP's east side collection point, and a second auto sampler was set up at the SDWWTP's west side collection point.
35. Each auto sampler collected and placed four individual 85mL samples into four separate 10 liter jugs, which were later combined at the conclusion of the sampling period. While the PACE field personnel were still on site, the separate 4 liter jugs were combined into one composite sample. Each sample was taken after a set amount of flow -- as calculated in the HACH SIGMA 900 MAX auto-samplers' operating manual -- had passed through the system. The amount of flow between each sample and the volume of each individual sample that makes up the composite sample is based on the total volume needed to do the testing and the total flow that will pass through the system in a 24-hour period. The auto-samplers were programmed by Miami-Dade County personnel to collect enough of a sample to complete EPA Method 608, including all additional quality control analyses required by that Method and FPL.
36. Composite jugs were kept within a refrigerated area. As the composite sample reports for each composite point shows (see, e.g., Exhibit 1, pp. 1626 - 1629 (04/16-17/2013 sampling)), the proper EPA and FDEP required temperature of <6.0°C was maintained throughout the collection process.

IV. RESULTS

37. As shown in my Exhibit 1, pp. 11, 13, 21, and 29 (04/16-17/2013 Sampling); Exhibit 2, p. 3 (07/25-26/2013 Sampling); Exhibit 3, pp. 4-9 (08/07-08/2013 Sampling); Exhibit 4, pp. 4-10 (10/07-08/2013 Sampling); Exhibit 5, pp. 4-8 (03/02-03/2014 Sampling); and Exhibit 6, p. 3 (03/09-10/2014 Sampling), none of the four Constituents was found in any of PACE's sampling events above the method detection limit. This is shown by a

“U” -- which stands for not detected at or above the method detection limit -- in the “result” column.

38. As reflected in the documentation associated with each Exhibit, and as explained above, the sampling was conducted in accordance with standard quality control requirements.
39. Based upon my experience and knowledge of quality assurance for water sampling, Exhibits 1-6 to my Declaration reflect a sampling protocol that is reasonable, thorough, and consistent with industry practice and applicable regulations. Accordingly, the sampling reports and their results are accurate and reliable.
40. In light of these results, and notwithstanding the Joint Intervenors’ criticisms of the Constituent concentrations derived from SDWWTP reports of testing completed from 2007 to 2011, it is my conclusion that the Constituent concentrations derived from those reports and cited in the Turkey Point Environmental Report and the Nuclear Regulatory Commission’s Turkey Point Combined License Draft Environmental Impact Statement are conservative.

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



Thomas Helton, Jr.

Executed on December 14, 2015