

VERMONT LAW SCHOOL



**Environmental Advocacy Clinic
Vermont Law School
PO Box 96, 164 Chelsea Street
South Royalton, VT 05068
802-831-1630 (phone) • 802-831-1631 (fax)**

April 21, 2021

Via Electronic Mail to: FOIA.resource@nrc.gov

Executive Director for Operations Doane
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

FOIA Officer
U.S. Nuclear Regulatory Commission, Mail Stop T-6 A60M
Washington, DC 20555-0001

Re: Appeal from Initial FOIA Decision; NRC 2020-000123

Miami Waterkeeper, by and through its counsel, the Vermont Law School Environmental Advocacy Clinic, respectfully appeals the Nuclear Regulatory Commission's (NRC) initial decision concerning Miami Waterkeeper's Freedom of Information Act (FOIA) request referenced above. (Exhibit A – FOIA Request (Jan. 17, 2020)). This appeal is timely because it has been filed within 90 calendar days of the NRC's initial determination. (*See* Exhibit B – Response to Freedom of Information Act (FOIA) Request (Jan. 21, 2021)).¹ Miami Waterkeeper appeals the NRC's FOIA initial determination on four bases discussed below.

1. The NRC failed to conduct a reasonable search for responsive records.

FOIA requires the NRC to “conduct a search reasonably calculated to uncover *all* relevant documents.” *Steinberg v. U.S. Dep’t of Justice*, 23 F.3d 548, 551 (D.C. Cir. 1994) (emphasis added). The adequacy of the NRC's search “is generally not determined by the fruits of the search, but by the appropriateness of the methods used to carry out the search.” *Iturralde v. Compt. Of Currency*, 315 F.3d 311, 315 (D.C. Cir. 2003). Nevertheless, the evidence of an event or process for which the existence of communication would be expected, coupled with the nonexistence of

¹ We note there exists an apparent discrepancy in the NRC's terminology. The NRC's FOIA regulations use the term “initial determination” whereas correspondence received from the NRC use the term “final determination.” *Compare* 10 C.F.R. § 9.29 with Exhibit B at 1.

communication in the released material raises substantial—and common-sense—questions concerning the adequacy of the FOIA search. *Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, No. CV 17-1208, 2021 WL 918204 (D.D.C. Mar. 9, 2021); *see also DaVita Inc. v. U.S. Dep't of Health & Hum. Servs.*, No. CV 20-1798 (BAH), 2021 WL 980895, at *7 (D.D.C. Mar. 16, 2021) (accord).

Here, various circumstances give rise to “substantial doubt” about the adequacy of the NRC’s search. *See Reporters Committee for Freedom of Press v. FBI*, 877 F.3d 399, 402 (D.C. Cir. 2017); *see also Center for Biolog. Diversity*, No. 17-1208 at 12 (slip op). For example, the NRC produced a March 26, 2019 email that forwards an earlier email message dated June 6, 2018. (Exhibit C). The original 2018 message contains several terms that likely led the NRC to identify the 2019 email as responsive to the FOIA request. These terms include “Tetra Tech,” “hypersaline,” and variations of the word “model.” *See id.* But while the NRC released the 2019 email, it did not identify or release the original 2018 message. These circumstances suggest the search was inadequate because the NRC either did not search all files reasonably likely to contain responsive information, did not apply the same search methods consistently, or both. Otherwise, the search would have identified the original 2018 email as well as the 2019 version.

The search also appears unreasonable because it failed to produce *any* email communications between NRC and FPL. *See Ctr. for Biological Diversity*, 2021 WL 918204. At least one record produced in response to the FOIA request indicates such emails exist and that they are responsive to the FOIA request. (*See* Exhibit D - License Renewal Environmental Site Audit Regarding the Turkey Point Nuclear Generating Units 3 and 4 Subsequent License Renewal Application (EPID NO. L-2018-LNE-0001) (June 13, 2018) (ML18158A335)). This record indicates the NRC emailed a copy of the document to three people with fpl.com email address (Exhibit D at 2); however, the NRC did not identify or release these emails. Similarly, Miami Waterkeeper specifically sought all NRC electronic communications involving the NRC, Florida Power & Light (“FPL”), and its contractors related to salinity in the cooling canals. The NRC’s search failed to turn up a single responsive record, which again should have included, at a minimum, an email transmitting Exhibit D. *Id.* at PDF 7.

The NRC’s failure to identify or release various records further demonstrates the search was unreasonable because the nonexistence of these “defies credulity.” *See Ctr. for Biological Diversity*, 2021 WL 918204 at *8. Missing records include those related to the NRC’s June 2018 environmental site audit at Turkey Point. (Exhibit D at PDF 7) (referencing audit meetings on modeling studies and projections of cooling canal salinities). It is implausible that the NRC conducted a site audit and met with FPL on topics directly responsive to the FOIA request without generating a single responsive agency record such as, for example, meeting notes or internal email correspondence about information learned at the meeting.

The NRC's failure to identify or release clearly responsive records stored in the ADAMS database further demonstrate the search was unreasonable. For example, the NRC followed up the 2018 environmental site audit with a Request for Additional Information ("RAI"). Email from Lois James to Mano Nazard re: Requests for Additional Information for the Environmental Review of the Turkey Point Subsequent License Renewal Application – Set 1 (EPID No. L-2018-LNE-0001) (July 9, 2018) (ML18190A499). The RAI sought, among other things, information related to FPL's audit presentation. *Id.* at PDF 15. FPL then provided the NRC with a copy of the presentation. *See* Tetra Tech, Variable Density Ground Water Flow and Salinity Transport Model Analysis (June 19, 2018) (ML18247A566). While the RAI and FPL presentation are available in ADAMS, their absence from NRC's FOIA response is further evidence the search was not reasonable.

Finally, the search is unreasonable because there are virtually no drafts, notes, communications, or other information regarding the NRC's review of the topics identified in the FOIA requests.² For example, the Final Supplemental Environmental Impact Statement for Turkey Point Units 3 and 4 ("FSEIS") states: "The NRC staff and its contractors reviewed the underlying assumptions that formed the basis of the Tetra Tech CCS model and did not identify any significant issues." FSEIS at 3-58; FOIA Request at 3. One would anticipate the NRC staff created agency records that at a minimum specifically identify the foregoing "assumptions" and conclude that no "significant issues" were identified. Yet the NRC did not identify or produce any such records. Likewise, the NRC identified several records from ADAMS relating to the potential impact of flooding at Turkey Point. However, the failure to identify any other records on the topic of flooding at Turkey Point, which sits adjacent to Biscayne Bay, "defies credulity." *See Center for Biological Diversity*, 2021 WL 981204 at *8 (rejecting government's reasonable search claim when other responsive documents must have existed).

2. The NRC cannot withhold allegedly "personal" records that were made during the course of, and in furtherance of, agency business.

FOIA begins with the presumption that all agency "records are presumptively disclosable unless the government can show that one of the enumerated exemptions applies." *Edelman v. Sec. Exch. Comm'n*, 172 F. Supp. 3d 133, 151 (D.D.C. 2016) (internal quotation marks omitted). Whether a responsive record is a personal document or an agency record generated in the "course of . . . official duties" is a question of facts and circumstances. *Id.* ("[T]he Court must consider the totality of the circumstances, including the creation, possession, control, and use of the document

² The FOIA request defined "record" to have the same meaning as defined by 10 C.F.R. § 9.13: "any information that would be an agency record subject to the requirements of the Freedom of Information Act when maintained by the NRC in any format, including an electronic format. Record also includes a book, paper, map, drawing, diagram, photograph, brochure, punch card, magnetic tape, paper tape, sound recording, pamphlet, slide, motion picture, or other documentary material regardless of form or characteristics."

by the agency.”) (internal quotation marks omitted); *see also Judicial Watch, Inc. v. Fed. Hous. Fin. Agency*, 646 F.3d 924, 926–27 (D.C. Cir. 2011).

On March 29, 2021, we held a conference call with NRC staff regarding the NRC’s search process. Based on that call, we understand that the NRC may have withheld responsive records it deemed “personal” when in fact they are actually “agency records.” These allegedly “personal” records may include notes that were made during agency business including, for example, the 2018 environmental site audit. Notes taken by agency personnel during the course, and in furtherance of agency business, are not “personal” records subject to a blanket FOIA exemption. *Edelman*, 172 F. Supp. 3d at 153. This includes notes created for one’s personal convenience. *Id.* “[P]ermit[ting] agency officials to evade FOIA simply by locking away the notes they use to conduct agency business, regardless of their content or their importance . . . is inconsistent with the spirit and the letter of the law.” *Id.* Thus, the NRC should have identified and released these records in response to the FOIA request.

3. The NRC may not withhold responsive agency records it did not “rely” on in its decision-making.

We also understand from the March conference call that the NRC may have withheld responsive records because NRC staff may not have relied on those records in the decision-making process. FOIA, however, does not create a blanket exemption for records an agency did not rely on in conducting agency business. *See Berry v. Dep’t of Justice*, 733 F.2d 1343, 1350 n.10 (9th Cir. 1984) (“[C]onsiderations other than reliance by an agency in its decision-making process may suffice to trigger the FOIA.”). As noted above, FOIA presumes the disclosure of all agency records unless they fall within one or more of the enumerated exemptions. The NRC should have identified and released all nonexempt records, including those it may not have relied on in reaching a decision.

4. The NRC has not met its burden to demonstrate the applicability of FOIA exemptions or that segregable portions of those records cannot be disclosed.

FOIA exempts from disclosure agency records that fall within the deliberative process exemption. To qualify, a record must be both predecisional and deliberative. *Petroleum Info. Corp. v. United States Dep’t of Interior*, 976 F.2d 1429, 1434 (D.C. Cir. 1992) (quoting 5 U.S.C. § 552(a)(4)(B)). An agency must also release reasonably segregable nonexempt information. *Nat’l Ass’n of Criminal Def. Lawyers v. United States DOJ Exec. Office for United States Attys.*, 844 F.3d 246, 257 (D.C. Cir. 2016). The burden is on the agency to demonstrate withheld documents are exempt. *Petroleum Info. Corp.*, 976 F.2d at 1433. Here, the NRC withheld information in part from 15 records under a claim of deliberative process and two under attorney-client privilege. The NRC withheld in full six records under a claim of deliberative process. However, the NRC did not

explain why the withheld information is both predication and deliberative.³ The NRC has therefore not met its burden under FOIA to withhold information under the claimed exemptions.

We look forward to learning of your final determination with respect to this appeal within 20 working days. Please contact the undersigned counsel should you have any questions or concerns. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ken Rumelt', with a stylized flourish at the end.

Ken Rumelt
Senior Attorney

Andrew Cliburn
Student Clinician

Exhibits.

³ Miami Waterkeeper addressed this issue in its FOIA request, asking the NRC to “Explain in full the basis on which nondisclosure is sought.” Exhibit A at 3.

Exhibit A

VERMONT LAW SCHOOL



Environmental Advocacy Clinic
Vermont Law School
PO Box 96, 164 Chelsea Street
South Royalton, VT 05068
(802) 831-1630 (Phone) | (802) 831-1631 (Fax)

January 17, 2020

Via Electronic Mail and Certified Mail

Freedom of Information Act and Privacy Act Officer
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
foia@nrc.gov
Certified Mail No. 70060810000181385288

Office of the Chief Information Officer
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
foia@nrc.gov
Certified Mail No. 70060810000181385295

**Re: Requests for Records Under the Freedom of Information Act and
Request for Fee Waiver**

Miami Waterkeeper hereby requests records under the Freedom of Information Act (“FOIA”), 5 U.S.C. § 552, relating to the Florida Power & Light Co.’s Turkey Point Nuclear Generating Station located in Homestead, Florida. As set out more fully below, these requests generally seek records related to environmental impacts at the Turkey Point plant.

A. Background

Florida Power & Light (“FPL”), a subsidiary of NextEra Energy Inc., owns and operates the Turkey Point Nuclear Generating Station, Unit Nos. 3 & 4 (“Turkey Point”). On January 30, 2018, FPL submitted a subsequent license renewal application (“SLRA”) to extend its current license for those units for an additional twenty years. The SLRA triggered the Nuclear Regulatory Commission’s (“NRC”) responsibility under the National Environmental Policy Act to analyze the environmental impacts of granting FPL’s application. Consequently, the NRC Staff issued a Draft Supplemental Environmental Impact Statement (“DSEIS”) and Final Environmental Impact Statement (“FSEIS”). Both identified Turkey Point’s cooling canal system as the cause and source of a hypersaline groundwater plume and various ongoing efforts to reduce salinity in the cooling canals by “freshening” them with groundwater from the Biscayne Aquifer and by using groundwater extraction wells to retract the hypersaline plume.

The NRC Staff determined that these salinity mitigation efforts would succeed in meeting their goals, or if not, that oversight by state and county regulators would ensure that if these current efforts do not succeed, that future ones will. The Staff based its conclusions in part on computer modeling. One of these models is identified in the DSEIS and FSEIS as Tetra Tech 2014a, "Evaluation of Required Floridan Water for Salinity Reduction in the Cooling Canal System," and was assigned the ADAMS Accession No. ML18102A521.

Following its review of the DSEIS, FPL submitted public comments indicating that there is an update to the Tetra Tech 2014a model and corresponding results. This updated modeling effort indicates that drier climatic conditions will require "more freshening water or longer timeframes . . . to offset the drought related evaporative losses from the [cooling canal system]." (*See* Exhibit A). Miami Waterkeeper is seeking records relating to this updated modeling effort and other records concerning the NRC Staff's review.

B. Requests

For purposes of these requests, the term "record" has the same meaning as under 10 C.F.R. § 9.13. Also for purposes of these requests, the term "related to" means pertaining to, referring to, relevant to, supporting, constituting, contradicting, mentioning, evidencing, discussing, or otherwise involving, whether directly or indirectly, the subject matter of the request. When used herein, the term "Florida Power & Light" means the Florida Power & Light Company, its past or present officers, employees, agents, contractors, consultants, representatives, and attorneys.

Miami Waterkeeper makes the following requests:

1. All records related to the "updated" modeling and corresponding results described at A-103 in the FSEIS for Turkey Point. (*See* Exhibit A)
2. All records related to measured salinity levels in the Turkey Point cooling canal system since November 1, 2016.
3. All records related to the NRC Staff and its contractors' review of "the Tetra Tech CCS model" identified at 3-58 of the FSEIS for Turkey Point. (*See* Exhibit B). This request includes their review of "the underlying assumptions that formed the basis of the Tetra Tech model" or any other aspect of the model including climatic conditions.
4. All records related to the NRC Staff and its contractors' review of Tetra Tech modeling identified on pages 3-58 to 3-60 of the FSEIS. (*See* Exhibit C).
5. All records of electronic communications between or among Florida Power & Light and the NRC Staff or its contractors since January 1, 2017 related to salinity measurements in the cooling canal system and/or the hypersaline plume emanating from the same.

6. All records related to the impacts of sea level rise on the Turkey Point Nuclear power station. The scope of this request is limited to sea level rise impacts on nuclear safety, plant operations, flooding, and any related environmental impacts.

Individuals likely to possess this information or know where to locate it are identified in the List of Preparers at Table 7-1 of the FSEIS. (*See* Exhibit D)

To the extent the NRC believes that records responsive to these requests are subject to one or more of FOIA's nine exemptions, we ask the NRC to exercise its discretion in favor of releasing the information in its entirety.

C. Record Format and Delivery

Please release responsive records on a rolling basis. If you determine that any of the records described above are already publicly available, please provide the location of where to find them.

Pursuant to 10 C.F.R. § 9.15, Miami Waterkeeper asks that the records be made available in their native electronic formats (e.g., ".xls" file format for Microsoft Excel records). This is particularly important for records that include large amounts of data and computer models. If that is not possible, we ask that records be made available as PDF files.

To save resources and mailing expense, we request electronic copies of these documents, if available. If the NRC chooses not to disclose any of the requested records, we request that the agency: 1) Identify each such document with particularity (including title, subject, date, author, recipient, and parties copied); 2) Explain in full the basis on which nondisclosure is sought; and 3) Provide us with any segregable portions of the records for which it does not claim a specific exemption.

We anticipate a determination within twenty working days. 10 C.F.R. § 9.25(a). We appreciate your expeditious help in obtaining the requested information. Failure to comply within the regulatory timeframe may result in the Miami Waterkeeper taking additional steps to ensure timely receipt of the requested materials. Please promptly mail or email copies of all requested records to:

Ken Rumelt, Professor of Law and Senior Attorney
Environmental Advocacy Clinic
Vermont Law School
PO Box 96, 164 Chelsea Street
South Royalton, VT 05068
Email: krumelt@vermontlaw.edu

D. Miami Waterkeeper is Entitled to a Fee Waiver

FOIA dictates that requested records be provided without charge "if disclosure of the information is in the public interest because it is likely to contribute significantly to public

understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester.” 5 U.S.C. § 552(a)(4)(A)(iii); *see also* 10 C.F.R. §§ 9.11-9.45. As explained below, Miami Waterkeeper’s requests meet both requirements.¹

1. Describe the purpose for which the requester intends to use the requested information. 10 C.F.R. § 9.41(b)(1).

Miami Waterkeeper intends to use the requested information for the purpose of understanding the impacts of the continued operation of the Turkey Point cooling canal system on groundwater quality, groundwater availability, and related impacts under climate change conditions, i.e., hotter temperatures and rising sea levels. Miami Waterkeeper also intends to use this information for the purpose of evaluating the extent to which this information was considered in connection with the subsequent license renewal review process for Turkey Point Units 3 & 4.

2. Explain the extent to which the requester will extract and analyze the substantive content of the agency record. 10 C.F.R. § 9.41(b)(2).

Miami Waterkeeper intends to extract and analyze as much information as possible from the requested records. The requests seek data and models in their native file formats when available. With native files in hand, Miami Waterkeeper can extract and analyze the substantive information contained therein. For example, if the NRC releases a Microsoft Excel file, Miami Waterkeeper can extract and analyze the data and formulas, and perform additional model runs under different scenarios.

3. Describe the nature of the specific activity or research in which the agency records will be used and the specific qualifications the requester possesses to utilize information for the intended use in such a way that it will contribute to public understanding. 10 C.F.R. § 9.41(b)(3).

Miami Waterkeeper intends to use the information obtained through this FOIA request to evaluate the environmental impacts of the continued operation of Turkey Point’s cooling canal system in climate change conditions such as higher temperatures and sea levels. This likely will involve the review of such information by members of Miami Waterkeeper’s staff and other experts who have worked with Miami Waterkeeper to evaluate the same. These individuals include Dr. Rachel Silverstein, Ph.D and Elizabeth Kelly. (*See* Exhibit F, CVs).

¹ Miami Waterkeeper has received fee waiver requests in the past from other federal agencies. (*See* Exhibit E).

4. Describe the likely impact on the public's understanding of the subject as compared to the level of public understanding of the subject before disclosure. 10 C.F.R. § 9.41(b)(4).

The public will likely understand the environmental impacts from the continued operation of the cooling canal system at Turkey Point far better than before disclosure. To the best of Miami Waterkeeper's knowledge, the Nuclear Regulatory Commission has not provided access to all available records within the scope of these requests. During subsequent license renewal application review for Turkey Point Units 3 & 4, Turkey Point's owner, Florida Power & Light, commented on the NRC's Draft Supplemental Environmental Impact Statement ("DSEIS") for its application. Those comments stated that it had performed "updated modeling" that indicated that under drier climatic conditions, "more freshening water or longer timeframes will be needed to offset the drought related evaporative losses from the [cooling canal system]." (ML19141A047). Presumably Florida Power & Light provided these updated results to the NRC, however, to the best of Miami Waterkeeper's knowledge, these "updated modeling" results were not discussed in the draft or final EIS for the subsequent license renewal.

If the NRC has these records and produces them in response to this FOIA request, then Miami Waterkeeper can review, analyze, and/or publicly disseminate the information. If the NRC does not have this information, then the public will understand that the information exists and was not considered before the NRC granted the subsequent license renewal. Either way, public's understanding of projected impacts from the cooling canal system, the extent of the NRC's review of Florida Power & Light's projected impacts, or both, will be far greater than before disclosure.

The information will also shed light on the depth of the Staff's review. The DSEIS and FSEIS indicate that the NRC Staff independently assess the reliability and reasonableness of the models. Here, the NRC Staff concluded the modeling was reliable, including the Tetra Tech 2014a modeling. But the details of the Staff's review of modeling are not explicit in the DSEIS or FSEIS. The release of these records under FOIA will allow the public to understand how thoroughly the NRC Staff reviewed this information.

5. Describe the size and nature of the public to whose understanding a contribution will be made. 10 C.F.R. § 9.41(b)(5).

The size and nature of the public to whose understanding a contribution will be made is most easily discerned based on the number of government entities, businesses, and individuals that provided comments or otherwise participated in the SLRA proceedings for Turkey Point Units 3 & 4. These are available in Appendix A to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 5, Second Renewal, Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4, Final Report (Oct. 2019) (ML19290H346). Since Turkey Point is the first nuclear power station to receive a subsequent license renewal, the size and nature of the public to whose understanding a contribution will be made is likely larger than just those who commented or otherwise

participated in the Turkey Point SLRA proceedings. These include members of the public who live near other plants that are or will likely submit subsequent license renewal applications.

6. Describe the intended means of dissemination to the general public. 10 C.F.R. § 9.41(b)(6).

Miami Waterkeeper intends to disseminate information electronically via the internet, including its websites, social media, and traditional media sources. This may come in the form of studies, white papers, reports, or analyses similar to what Miami Waterkeeper has disseminated in the past.

7. Indicate if public access to information will be provided free of charge or provided for an access fee or publication fee. 10 C.F.R. § 9.41(b)(7).

Miami Waterkeeper will not charge anyone for access to information received via these FOIA requests.

8. Describe any commercial or private interest the requester or any other party has in the agency records sought. 10 C.F.R. § 9.41(b)(8).

Miami Waterkeeper has no commercial or private interest, and can only speculate as to any other party's commercial or private interest in the information sought. There are, however, numerous government agencies, businesses, and individuals who are interested in the environmental impacts from the continued operation of Turkey Point's cooling canal system. These parties likely have expressed their interests, whether commercial or private, in the context of the NRC's decision to grant FPL's application for Units 6 & 7 and SLRA for Units 3 & 4.

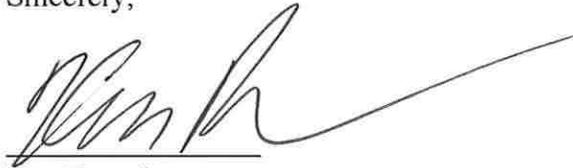
In sum, given the non-profit nature of Miami Waterkeeper, its limited financial resources, and all the foregoing reasons, a fee waiver is warranted. We urge NRC to waive all fees associated with this request. However, in the event that you do not grant the requested waiver, please provide us with specific information concerning the basis for such decision, as required by the FOIA.

Please note that our request for a fee waiver should not be construed as an extension of time in which to reply to this FOIA request. In the event that the FOIA officer denies a fee waiver, please contact me at (802) 831-1031 to discuss fees.

Conclusion

Please do not hesitate to contact me if you have any questions. Thank you in advance for your prompt reply.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ken Rumelt', written over a horizontal line.

Ken Rumelt
Professor of Law and Senior Attorney

Exhibit A

Comment: Section 3.5, Page 3-47. The DSEIS states, "To help reduce the water temperatures within the CCS, on June 27, 2014, the State of Florida granted FPL permission to add saltwater from the Biscayne aquifer and brackish water from the Upper Floridan aquifer to the CCS (NRC 2016a)." This statement is inaccurate because temperature reduction was not the primary objective of the water additions authorized by the State of Florida on June 27, 2014. The supplemental water supplies were used to improve water conditions in the CCS, primarily to lower CCS salinity and temperature. While decreasing salinity levels within the CCS was the primary objective, a secondary benefit may have provided some heat reduction to the CCS. This statement should be revised to: "To help improve water conditions within the CCS, on June 27, 2014, the State of Florida granted FPL permission to ...". (0017-1-20 [Maher, William])

Response: Section 3.5.1.4 of the SEIS has been revised, in part, as a result of these comments, to clarify the primary purpose of adding lower-salinity water to the CCS.

Comment: Section 3.5, Page 3-49. The DSEIS states, "In 2014, Tetra Tech used numerical models to estimate the volume of Upper Floridan aquifer water that would be required to reduce CCS water salinity to seawater range. The modeling exercise produced an estimate that with the addition of 14 mgd (53,000 m³/day) of Upper Floridan aquifer water that had a salinity of 2 PSU it would require less than a year to reduce salinities in the CCS to 35 PSU (Tetra Tech 2014a). However, while FPL then added an average of 12.8 mgd (48,500 m³/day) of Upper Floridan aquifer brackish water to the CCS from the beginning of November 2016 to the end of May 2017, salinities in the CCS did not go down to 35 PSU (FPL 2017a). Rather, at the end of May 2017, average salinity concentrations in the CCS were 64.9 PSU (FPL 2017b)." This statement is ambiguous because it raises questions regarding the volume of Upper Floridan water needed to achieve the targeted annual average salinity of 34 PSU in the CCS. The modeling efforts that are discussed in the Tetra Tech 2014a memo were based on 22 months of data, one year of which had above normal rainfall. As a result of continued monitoring, the model has been updated and further refined using a longer data record that incorporates a more representative range of hydrologic and salinity conditions. The refined model identified a longer period of time would be needed to reduce the average annual CCS salinity in the event of extended dry period or drought. Information from this expanded model was considered by the FDEP in requiring FPL to achieve the average annual salinity of 34 psu in the CCS within four years of initiating freshening activities as described in the Consent Order. The 2017 and 2018 annual monitoring reports both described drier than normal conditions with January through May 2017 being the 6th driest dry season over the previous 49 years and January through March 2018 being the driest in 10 years. If wetter than normal conditions (similar to those that occurred in 2012) persisted, 14 MGD of Floridan aquifer water would achieve the target. However, based on the updated modeling that reflects normal to extended dry conditions, the time needed to achieve the target salinity is longer and even that longer modeled period would be predicated on wetter conditions than the dry conditions experienced in 2017 and early 2018. This statement should be clarified by adding: "Additional data collected since 2014 have been used to update the model with a wider range of hydrologic conditions and associated CCS salinity responses. The updated modeling indicates a wider range of evaporative conditions exist, particularly during the dry seasons, which exceed 14 mgd and suggest that when such drier conditions occur, more freshening water or longer timeframes will be needed to offset the drought related evaporative losses from the CCS." (0017-1-21 [Maher, William])

Response: Section 3.5.1.4, "Application of Numerical Modeling to CCS Salinity Mitigation," of the SEIS has been revised, in part, as a result of this comment, to clarify that if drier conditions

Exhibit B

The study considered technical, environmental, economic, and social criteria. Relative to the ranking criteria, it ranked Alternative Five as the best overall and the most balanced alternative. It also identified that Alternatives One and Seven should be maintained as short-term backup water options to be used when appropriate and as needed during extreme conditions. It further determined that Alternatives Two, Four, Six, and Eight did not provide a significant advantage and should not be evaluated further unless conditions change. While the study determined that Alternative Three has a high cost and very long implementation schedules; it concluded that this alternative should be further evaluated as a potential long-term solution to a regional problem (Golder 2016).

The alternatives study was reviewed by Miami-Dade County. On December 22, 2016, the County decided that the use of reclaimed water with nutrient removal and advanced treatment, described as (Alternative 4) in the referenced document, could provide a long-term, sustainable source of water to offset CCS water deficits. The County recommended that FPL revisit this alternative for further evaluation as a potential long-term solution (MDC 2016a). At the time of this report, FPL (2019e) and MDC were evaluating a potential cooperative reclaimed water use project to provide freshening water to the CCS.

Application of Numerical Modeling to CCS Salinity Mitigation

The operation of the CCS has been numerically modeled to understand and predict different aspects of the CCS (Chin 2016; Golder 2008; Tetra Tech 2014a; FPL 2012a, FPL 2014b, FPL 2016a, FPL 2016g, FPL 2017a). The most recent modeling was conducted by Tetra Tech for FPL. The focus of this modeling was to quantify the volumes of water and the mass of salt entering and exiting the CCS (FPL 2012a). Model calculations for the various components of the CCS incorporate hydrological, chemical, and meteorological data collected in and around the CCS (FPL 2012a). Selected model inputs were adjusted to calibrate the model against observed changes in CCS water and salt storage. The calibration minimized differences between simulated and observed salt and water storage changes within the CCS (FPL 2014).

The NRC staff and its contractors reviewed the underlying assumptions that formed the basis of the Tetra Tech CCS model and did not identify any significant issues. The staff's reviewers found that the model is useful in understanding the physics of the CCS and how it responds to changing conditions. It is also useful as a planning tool to refine future mitigative actions.

A good match between measured and model values gives modelers confidence that they understand how the CCS responds to meteorological conditions and freshening activities. The Tetra Tech model outputs are in good agreement with respect to measured values of CCS salinities, temperatures, water elevations, and the movement of salt and water movement into and out of the CCS (FPL 2017a). Both data measurements and modeling indicate that favorable meteorological conditions and freshening activities reduce salinities within the CCS (FPL 2017a, FPL 2017b, FPL 2018o).

The Tetra Tech model is being used by FPL to understand the effectiveness of its mitigation measures. The most recently published modeling results simulate the operation of the CCS from June 2015 through May 2017. The modelers concluded that over this time period, the addition of Upper Floridan aquifer water helped to moderate dry season salinity without significantly increasing water levels in the CCS (FPL 2017a).

In 2014, Tetra Tech used numerical models to estimate the volume of Upper Floridan aquifer water that would be required to reduce CCS water salinity to seawater range. The modeling

Exhibit C

The study considered technical, environmental, economic, and social criteria. Relative to the ranking criteria, it ranked Alternative Five as the best overall and the most balanced alternative. It also identified that Alternatives One and Seven should be maintained as short-term backup water options to be used when appropriate and as needed during extreme conditions. It further determined that Alternatives Two, Four, Six, and Eight did not provide a significant advantage and should not be evaluated further unless conditions change. While the study determined that Alternative Three has a high cost and very long implementation schedules; it concluded that this alternative should be further evaluated as a potential long-term solution to a regional problem (Golder 2016).

The alternatives study was reviewed by Miami-Dade County. On December 22, 2016, the County decided that the use of reclaimed water with nutrient removal and advanced treatment, described as (Alternative 4) in the referenced document, could provide a long-term, sustainable source of water to offset CCS water deficits. The County recommended that FPL revisit this alternative for further evaluation as a potential long-term solution (MDC 2016a). At the time of this report, FPL (2019e) and MDC were evaluating a potential cooperative reclaimed water use project to provide freshening water to the CCS.

Application of Numerical Modeling to CCS Salinity Mitigation

The operation of the CCS has been numerically modeled to understand and predict different aspects of the CCS (Chin 2016; Golder 2008; Tetra Tech 2014a; FPL 2012a, FPL 2014b, FPL 2016a, FPL 2016g, FPL 2017a). The most recent modeling was conducted by Tetra Tech for FPL. The focus of this modeling was to quantify the volumes of water and the mass of salt entering and exiting the CCS (FPL 2012a). Model calculations for the various components of the CCS incorporate hydrological, chemical, and meteorological data collected in and around the CCS (FPL 2012a). Selected model inputs were adjusted to calibrate the model against observed changes in CCS water and salt storage. The calibration minimized differences between simulated and observed salt and water storage changes within the CCS (FPL 2014).

The NRC staff and its contractors reviewed the underlying assumptions that formed the basis of the Tetra Tech CCS model and did not identify any significant issues. The staff's reviewers found that the model is useful in understanding the physics of the CCS and how it responds to changing conditions. It is also useful as a planning tool to refine future mitigative actions.

A good match between measured and model values gives modelers confidence that they understand how the CCS responds to meteorological conditions and freshening activities. The Tetra Tech model outputs are in good agreement with respect to measured values of CCS salinities, temperatures, water elevations, and the movement of salt and water movement into and out of the CCS (FPL 2017a). Both data measurements and modeling indicate that favorable meteorological conditions and freshening activities reduce salinities within the CCS (FPL 2017a, FPL 2017b, FPL 2018o).

The Tetra Tech model is being used by FPL to understand the effectiveness of its mitigation measures. The most recently published modeling results simulate the operation of the CCS from June 2015 through May 2017. The modelers concluded that over this time period, the addition of Upper Floridan aquifer water helped to moderate dry season salinity without significantly increasing water levels in the CCS (FPL 2017a).

In 2014, Tetra Tech used numerical models to estimate the volume of Upper Floridan aquifer water that would be required to reduce CCS water salinity to seawater range. The modeling

exercise produced an estimate that with the addition of 14 mgd (53,000 m³/day) of Upper Floridan aquifer water that had a salinity of 2 PSU it would require less than a year to reduce salinities in the CCS to 35 PSU (Tetra Tech 2014a). However, while FPL then added an average of 12.8 mgd (48,500 m³/day) of Upper Floridan aquifer brackish water to the CCS for freshening purposes from the beginning of November 2016 to the end of May 2017, salinities in the CCS did not go down to 35 PSU (FPL 2017a). Rather, at the end of May 2017, salinity concentrations in the CCS were 64.9 PSU (FPL 2017b). As discussed above, CCS salinity levels decreased from that level in 2018.

Comparing CCS data and model results, the modelers concluded that during this period (most of which occurred during the dry season), evaporation rates exceeded precipitation rates. Without the addition of brackish water from the Upper Floridan aquifer, the net evaporation versus precipitation rate would have caused the salinity in the CCS to increase more than was observed. However, the addition of Upper Floridan aquifer water helped to moderate the effects of the dry season (typically, November - April) on the CCS. For example, CCS salinities during the dry seasons of 2014 and 2015, which were not as dry as 2017, exceeded 90 PSU, while the addition of brackish water from the Upper Floridan aquifer and saltwater from the marine wells was effective in keeping CCS salinities below 70 PSU in the 2017 dry season. The modelers anticipate that under more average meteorological conditions (e.g., less severe dry seasons), the addition of Upper Floridan aquifer water should help to reduce CCS water salinities to 34 PSU (FPL 2017a, FPL 2017b, FPL 2018o).

The Turkey Point site experienced a severe dry season in late 2017 (particularly into the first quarter of 2018) that resulted in the second driest period over the last 50 years. CCS salinities increased over this period. This was mitigated in part by rainfall from Hurricane Irma in September, which produced estimated rainfall totals averaging 4.96 in. (12.6 cm) over the CCS. However, dry conditions returned after the hurricane (FPL 2018o). These events exemplify the high variability of hydrologic inputs to the CCS. Nonetheless, with continued freshening from Upper Floridan aquifer water during the period from June 2017 through May 2018, the average annual salinity of the CCS declined to 49.5 PSU (or 50.9 PSU average annual salinity as calculated pursuant to the FDEP Consent Order, see next paragraph) (FPL 2018p).

The FDEP Consent Order prescribes how a numerical average called the “average annual CCS salinity” is to be calculated to determine compliance. As previously mentioned, using the method that has historically been used to calculate average CCS salinities, the average salinity in the CCS between June 1, 2017 to May 31, 2018, was 49.5 PSU. However, using the prescribed approach, the average annual salinity for this time period was 50.9 PSU. This was the first full year that the CCS was freshened using water from the authorized Upper Floridan aquifer wells. The 50.9 PSU value is lower than the preceding year's (June 1, 2016 to May 31, 2017) average annual salinity of 61.9 PSU, during which Upper Floridan aquifer freshening wells were operational for only half of the year. Considering that the highest CCS yearly salinity was 82.5 PSU (June 2014 through May 2015), it appears that a substantial reduction in CCS salinity has occurred over the past several years, in part as a result of FPL's actions (FPL 2018p).

As previously stated, in compliance with the June 20, 2016, Consent Order executed by FPL and the FDEP, if FPL fails to reach an annual average salinity of at or below 34 PSU by the required time periods, FPL is required to submit a plan to the FDEP detailing additional measures, and a timeframe, that FPL will implement to achieve the threshold (see Salinity

Management Plan) (FDEP 2016a). Thus, continued actions by FPL and regulatory oversight by the FDEP provide assurance that the CCS should reach the required PSU levels within or close to the designated period.

Ammonia and Nutrients within Biscayne Bay and Card Sound

If the concentration of nutrients in either Biscayne Bay or Card Sound get too high, they can negatively impact the ecological environment. Excess nutrients can cause algae blooms (thick green algae mats that can be toxic), deplete oxygen in the water, and reduce water clarity. The State of Florida (with the approval of the EPA) has established numeric nutrient criteria for Biscayne Bay and Card Sound. These water quality standards help to protect the quality of the surface water in the bay and the sound, consistent with the requirements of the Clean Water Act (EPA 2014c). The numeric nutrient criteria include criteria for phosphorus, chlorophyll, and total nitrogen, of which ammonia is a contributor (FDEP 2018e).

Biscayne Bay waters are generally low in plant nutrients. This means the aquatic ecosystems respond very rapidly to small nutrient enrichment, especially to increases of phosphorous. The concentrations of ammonia from runoff tends to be higher in urban runoff than in wetland or agricultural runoff. The Biscayne Bay watershed has a diverse agricultural, urban, and wetland land use. This results in lateral differences in bay water nutrient concentrations (NPS 2011).

In general, ammonia concentrations are higher in the northern portion of Biscayne Bay, which is most urbanized, while the lowest values are next to the Turkey Point site in Biscayne Bay and in Card Sound. The lack of urban development around the Turkey Point site has helped spare the southern portion of the bay from the anthropogenic effects to which the central and northern portions of the bay have been exposed (FPL 2017c; NPL 2011).

Seasonal ammonia values in the bay are lowest late in the dry season, with higher concentrations and increased variability during the wet season (peaking in September or October) (NPS 2011). Sampling data by Miami-Dade County and FPL in the late fall and winter months of 2015–2016, revealed levels of ammonia concentrations that exceeded the County's water quality standard for ammonia (0.5 mg/L) at two surface water quality monitoring stations near the CCS in bottom samples collected from two deep non-CCS canals (MDC 2016a). The exceedances for ammonia were detected in the Barge Turning Basin and the remnant canal at Turtle Point (TPBBSW-7 and TPBBSW-8).

Both the Barge Turning Basin and the remnant canal at Turtle Point are connected to Biscayne Bay. When it was constructed, the Barge Turning Basin was excavated to a depth of approximately 30 ft (9.1 m) and the Turtle Point remnant canal was excavated to a depth of approximately 20 ft (6.1 m). In Biscayne Bay, nearby areas have a depth to the bottom of about 1 to 2 ft (0.3 to 0.6 m) (FPL 2018g) (Figure 3-4).

The ammonia exceedances were detected in samples obtained from the bottom of these excavations, close to the CCS. The low dissolved oxygen, hypersalinity, and tritium concentrations found at these locations are consistent with the interpretation that, close to the CCS, the water quality at the bottom of these excavations may be influenced by groundwater that has been in contact with CCS waters. However, the ammonia concentrations in the bottom samples were consistently higher than ammonia levels in the CCS (FPL 2016g). This implies that if groundwater from the CCS was moving into these excavations, some of the ammonia in the Turtle Point remnant canal and the Barge Turning Basin was also coming from other sources.

Exhibit D

7 LIST OF PREPARERS

Members of the U.S. Nuclear Regulatory Commission’s (NRC’s) Office of Nuclear Reactor Regulation (NRR) prepared this supplemental environmental impact statement with assistance from other NRC organizations and support from Pacific Northwest National Laboratory.

Table 7-1 below identifies each contributor’s name, affiliation, and function or expertise.

Table 7-1 List of Preparers

Name	Education/Experience	Function or Expertise
NRC Staff (in alphabetical order)		
Benjamin Beasley	M.S. Nuclear Engineering; B.S. Chemical Engineering; 27 years of combined industry and Government experience including nuclear plant system analysis, risk analysis, and project management, with 13 years of management experience	Management Oversight
William “Butch” Burton	B.S. Nuclear Engineering; 39 years of industry and government experience including submarine and nuclear systems operations and testing	Project Management
Phyllis Clark	M.S. Nuclear Engineering; M.B.A, Business Administration; B.S. Physics; 35 years of industry and Government experience including nuclear power plant and production reactor operations, systems engineering, reactor engineering, fuels engineering, criticality, power plant emergency response	Radiological and Waste Management
Jerry Dozier	M.S. Reliability Engineering; M.B.A. Business Administration; B.S. Mechanical Engineering; 30 years of experience including operations, reliability engineering, technical reviews	Severe Accident Mitigation Alternative (SAMA)
David Drucker	M.S. Engineering Management; B.S. General Engineering; 37 years experience managing projects	Project Management
Kevin Folk	M.S. Environmental Biology; B.A. Geoenvironmental Studies; 29 years of experience in NEPA compliance; geologic, hydrologic, and water quality impacts analysis; utility infrastructure analysis, environmental regulatory compliance; and water supply and wastewater permitting	Groundwater; Greenhouse Gas Emissions and Climate Change
William Ford	M.S. Geology; 44 years of combined industry and Government experience working on groundwater, surface water, and geology projects	Geology; Surface Water
Briana Grange	M.Cert. National Environmental Policy Act; B.S. Conservation Biology; 14 years of	Aquatic Resources; Terrestrial Resources; Special Status

Name	Education/Experience	Function or Expertise
	experience in environmental impact analysis, Section 7 consultations, and Essential Fish Habitat consultations	Species and Habitats; Microbiological Hazards
Robert Hoffman	B.S. Environmental Resource Management; 33 years of experience in NEPA compliance, environmental impact assessment, alternatives identification and development, and energy facility siting	Alternatives; Meteorology and Air Quality
Lois James	M.S. Environmental Engineering; B.S. Nuclear Engineering; 27 years of combined industry and Government experience including power plant inspection, power plant incident response, and project management	Project Management
Nancy Martinez	B.S. Earth and Environmental Science; A.M. Earth and Planetary Science; 8 years of experience in environmental impact analysis	Historic and Cultural Resources; Socioeconomics; Environmental Justice
William Rautzen	M.S. Health Physics; B.S. Health Physics; B.S. Industrial Hygiene; 9 years of experience in environmental impact analysis	Human Health
Jeffrey Rikhoff	M.R.P. Regional Planning, M.S. Economic Development and Appropriate Technology; 38 years of combined industry and Government experience including 31 years of NEPA compliance, socioeconomics and environmental justice impact analyses, cultural resource impact assessments, consultations with American Indian tribes, and comprehensive land-use and development planning studies	Land Use, Noise, and Cumulative Impacts Introduction
Robert Schaaf	B.S. Mechanical Engineering; 31 years of government project management experience, including 15 years of experience in environmental project management	Project Management
Pacific Northwest National Laboratory Staff (in alphabetical order)		
Dave Anderson	M.S. Forest Economics; B.S. Forest Resources. 25 years of experience in environmental and economic modeling	Minority and low-income population mapping
Philip Meyer	Ph.D. Civil Engineering; B.A. Physics; 27 years relevant experience in subsurface hydrology and contaminant transport	Groundwater Resources
Terri Miley	M.S. Mathematics; B.S. Mathematics; 13 years relevant experience in NEPA comment-response and database development	Comment Response Support Lead
Rajiv Prasad	Ph.D. Civil and Environmental Engineering; M. Tech. Civil Engineering; B.S. Civil Engineering; 15 years relevant experience	Surface Water Resources

Name	Education/Experience	Function or Expertise
	in surface water use and quality characterization and assessment	
James Saulsbury	M.S. Planning; B.A. History; 31 years relevant experience in land use and socioeconomic impact assessment	Pacific Northwest National Laboratory Team Lead
Paul Thorne	M.S. Hydrology; B.S. Chemistry/Math; 34 years relevant experience in hydrogeology including analysis of groundwater flow and migration of contaminants in the subsurface	Groundwater Resources

Exhibit E



Rachel Silverstein, Ph.D.
Miami Waterkeeper
12568 North Kendall Drive
Miami, Florida 33186

FEB 27 2017

Re: FOIA Request DOC-NOAA-2016-001807

Dear Dr. Silverstein:

This letter is in response to your Freedom of Information Act (FOIA) request entered into FOIAonline on September 23, 2016. You requested information regarding the clarification letter sent by Dr. Roy Crabtree on September 19, 2016, to the U.S. Army Corps of Engineers (USACE). Your original request specifically sought the following information:

- "All communications among 1) NOAA staff, and between 2) NOAA and Corps 3) NOAA and the Department of Justice pertaining to the Clarification letter sent September 19th to the USACE from Roy Crabtree, including drafts of the letter."

Request Scope Modifications

On October 11, 2016, the NOAA FOIA Office e-mailed you to ask that you provide more detail regarding the specific line office you wanted to search for records, and to provide more information on the "clarification letter" referenced in your request. On October 13, 2016, via e-mail reply you clarified the scope of the request as follows:

"In response to your October 11, 2016, e-mail requesting further detail on our September 23 FOIA, a copy of the September 19, 2016, letter from Roy Crabtree to Eric Summa ("the Letter"), which is the subject of the FOIA request, is attached for your reference. NOAA HQ staff & attorneys, and Southeast Regional Office (SERO) administrators, attorneys, and staff in both the SERO Protected Resources Division (PRD) and Habitat Conservation Division (HCD) may have documents responsive to this request. More detail can be found below.

We are seeking:

1. Any and all drafts of the Letter.
2. Communications within NOAA discussing the Corps' "request for further clarification" as referenced in the first sentence of the Letter.
3. Communications within NOAA discussing, formulating, drafting, or editing the Letter.

We do not know and cannot identify each person at NOAA who may have responsive documents but believe that the following NOAA employees, among others, may possess documents responsive to this request: Roy Crabtree, Andrew Strelcheck, David Bernhart, Kelly Logan, other SERO PRD staff, SERO HCD staff, Southeast Fisheries Science Center staff, and



General Counsel's office including Cheryl Scannell, and Lois Schiffer. This request is limited to the period between February 1, 2016, and September 20, 2016.

4. Communications between NOAA and the Corps of Engineers discussing the Corps' "request for further clarification" as referenced in the first sentence of the Letter.
5. Communications between NOAA and the Corps of Engineers discussing, formulating, drafting, or editing the Letter.

We do not know and cannot identify each person at NOAA who may have responsive documents but believe that the following NOAA employees, among others, may possess documents responsive to this request: Roy Crabtree, Andrew Strelcheck, David Bernhart, Kelly Logan, other SERO PRD staff, SERO HCD staff, SEFSC staff, and General Counsel's office including Cheryl Scannell, and Lois Schiffer. Likewise, we do not know and cannot identify each person at the Corps who may have engaged in communications with NOAA regarding the Letter but believe that the following Corps employees, among others, may have participated in such communications: Eric Summa, Laurel Reichold, Brooks Moore, Terri Jordan-Sellers, Eric Bush, Matthew Donaldson, Melanie Casner, and Jason Spinning. This request is limited to the period between February 1, 2016, and September 20, 2016.

6. Communications between NOAA employees and Department of Justice employees, including Mark Brown, Jeremy Hessler, Brett Grosko, or Alison Finnigan which attaches, discusses, refers to relates to the Letter.

We do not know and cannot identify each person at NOAA who may have responsive documents but believe that the following NOAA employees, among others, may possess documents responsive to this request: Roy Crabtree, Andrew Strelcheck, David Bernhart, Cheryl Scannell, and Lois Schiffer. This request is limited to the period between February 1, 2016, and September 20, 2016."

On October 26, 2016, your attorney, James Porter, agreed to modify the record search date range of the request to July 1, 2016, through September 20, 2016, pursuant to his telephone conversation with Beverly Smith, Southeast Region FOIA Coordinator.

This letter completes our response to your request. A search was conducted within the National Marine Fisheries Service's (NMFS), Southeast Region, the NOAA Office of General Counsel (GC), and the GC Southeast Region, and the search located **214 documents** (*totaling 1,151 pages*) responsive to your request.

Responsive Records Summary:

- **10 documents** (*totaling 64 pages*) released in their entirety on January 17, 2017.
- **89 documents** (*totaling 377 pages*) were partially released on January 17, 2017.

- **12 documents** (totaling 13 pages) were fully withheld on January 17, 2017.
- **103 documents** (totaling 697 pages) were identified that are responsive to your request and have been referred to the U.S. Army Corps of Engineers (USACE) and to the Department of Justice (DOJ). A breakdown of the remaining pages is explained below.¹
 - **69 documents** (totaling 480 pages) have been referred to USACE for a direct response to you.
 - **101 documents** (totaling 690 pages) have been referred to DOJ for a direct response to you.

Of the referred documents, the following are being partially withheld pursuant to 5 U.S.C. § 552(b)(5), which exempts from disclosure inter-agency or intra-agency memoranda or letters that would not be available by law to a party in litigation with the agency. The records may contain a singular privilege per page or multiple privileges per document. A breakdown of the (b)(5) exempt information follows:

- **33 documents** - Deliberative Process Privilege: These documents contain deliberative process privilege information and are withheld in part because the records do not represent a final decision on the matter contained therein and have not been presented to the decision maker. The e-mails, including any e-mail attachments, consist of preliminary opinions, recommendations, and intra and inter-agency coordination by Southeast Region Protected Resources program staff and NOAA Office of General Counsel, including subordinates to superiors, regarding the draft letter to the U.S. Army Corps of Engineers and discussions include inter-agency communications to determine NMFS's course of action respecting the Miami Harbor project activities. To the extent that factual information is included within these records, it is protected by the exemption because the facts in the records were selectively chosen from a larger group of facts as part of the decision-making process. The records contain comments and opinions between Federal agency employees regarding the development of the letter, which was prior to the process's completion and the final agency determination. All segregable portions have been released.
- **67 documents** - Attorney-client Privilege: These documents are withheld in part from disclosure under the attorney-client privilege because the information contained in the pages represents intra-agency discussions and assessments between NMFS's staff and NOAA General Counsel regarding legal advice respecting NMFS's activities related to the Miami Harbor project. Disclosure would reveal confidential attorney-client communications on a matter on which the clients

¹ Of the 103 documents, 67 of these documents (totaling 473 pages) contain both USACE and DOJ equities, therefore, the following breakdown includes the overlap of documents.

have sought legal advice and would inhibit the seeking and receiving of candid legal advice, especially in writing. The e-mails, and any e-mail attachments, have not been disclosed outside the attorney-client relationship. All segregable portions have been released.

- o **29 documents** - **Attorney Work-product Privilege**: These documents are withheld in part under the attorney work-product privilege, which protects documents and other memoranda prepared by an attorney in contemplation of litigation. Some of these records represent assessments made by NOAA attorneys regarding litigation strategy for the lawsuit challenging the Port Everglades biological opinion. In addition, some of these records include reports of communications from DOJ attorneys on their strategy and considerations regarding the Miami Harbor litigation. All segregable portions have been released.

Of the referred documents, the following are being partially withheld pursuant to 5 U.S.C. § 552(b)(6), as follows:

- o **31 documents** – These documents are being withheld in part pursuant to 5 U.S.C. § 552(b)(6), which protects information about individuals in personnel and medical files and similar files when the disclosure of such information would constitute a clearly unwarranted invasion of personal privacy, such as personal leave information and toll free telephone numbers and passcodes.

Copies of our referral letters are enclosed.

Please note that NMFS does not consider discretionary release to be a waiver of FOIA exemptions.

You have the right to file an administrative appeal if you are not satisfied with our response to your FOIA request. All appeals should include a statement of the reasons why you believe the FOIA response was not satisfactory. An appeal based on documents in this release must be received within 90 calendar days of the date of this response letter at the following address:

**Assistant General Counsel for Litigation, Employment, and Oversight
U.S. Department of Commerce
Office of General Counsel
Room 5875
14th Street and Constitution Avenue, N.W.
Washington, DC 20230**

An appeal may also be sent by e-mail to FOIAAppeals@doc.gov, by facsimile (fax) to 202-482-2552, or by FOIAonline at <https://foiaonline.regulations.gov/foia/action/public/home#>.

For your appeal to be complete, it must include the following items:

- A copy of the original request.
- Our response to your request.
- Your statement explaining why the withheld records should be made available, and why the denial of the records was in error.
- "Freedom of Information Act Appeal" must appear on your appeal letter. It should also be written on your envelope, e-mail subject line, or your fax cover sheet.

FOIA appeals posted to the e-mail box, fax machine, FOIAonline, or Office after normal business hours will be deemed received on the next business day. If the 90th calendar day for submitting an appeal falls on a Saturday, Sunday or legal public holiday, an appeal received by 5:00 p.m., Eastern Time, the next business day will be deemed timely.

FOIA grants requesters the right to challenge an agency's final action in federal court. Before doing so, an adjudication of an administrative appeal is ordinarily required.

The Office of Government Information Services (OGIS), an office created within the National Archives and Records Administration, offers free mediation services to FOIA requesters. They may be contacted in any of the following ways:

Office of Government Information Services
National Archives and Records Administration
Room 2510
8601 Adelphi Road
College Park, MD 20740-6001
Email: ogis@nara.gov

Phone: 301-837-1996
Fax: 301-837-0348
Toll-free: 1-877-684-6448

FOIA Processing Fees

In your request, you seek a waiver of FOIA processing fees. **On November 21, 2016, the NOAA FOIA office granted your fee waiver request.** Please be advised that the granting of this waiver does not automatically apply to future request by you or by your organization. Requests for a fee waiver are determined on a case-by-case basis for the records requested under the statutory fee waiver requirements.

If you have any questions regarding this correspondence, please contact Beverly J. Smith, Southeast Region FOIA Coordinator, at 727-551-5762 or beverly.smith@noaa.gov, or the NOAA FOIA Public Liaison Robert Swisher at 301-628-5755.

Sincerely,



Alan Risenhoover,
Acting Deputy Assistant Administrator
for Regulatory Programs



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

VIA UNITED PARCEL SERVICE

FEB 21 2017

F/SER14:BJ5

SER17-003

FOIA #DOC-NOAA-2016-001807

Denise Patterson Sturgeon
Paralegal Specialist / FOIA Officer
U.S. Army Corps of Engineers
Office of Counsel, Room 6W/68
701 San Marcos Boulevard
Jacksonville, Florida 32207

RE: Freedom of Information Act (FOIA) Request #DOC-NOAA-2016-001807

Dear Ms. Sturgeon:

Enclosed you will find a copy of a request for agency records under the Freedom of Information Act (FOIA) 5 U.S.C. 552, *et seq.* from Rachel Silverstein, Ph.D. dated September 23, 2016, submitted to the National Oceanic and Atmospheric Administration (NOAA). In her request, Dr. Silverstein requested information regarding a clarification letter sent by Dr. Roy Crabtree on September 19, 2016, to the U.S. Army Corps of Engineers (USACE). The original request specifically sought the following information:

- "All communications among 1) NOAA staff, and between 2) NOAA and Corps 3) NOAA and the Department of Justice pertaining to the Clarification letter sent September 19th to the USACE from Roy Crabtree, including drafts of the letter."

Request Scope Clarification and Modification

On October 13, 2016, the requester clarified the scope of the request as follows:

"In response to your October 11, 2016, e-mail requesting further detail on our September 23 FOIA, a copy of the September 19, 2016, letter from Roy Crabtree to Eric Summa ("the Letter"), which is the subject of the FOIA request, is attached for your reference. NOAA HQ staff & attorneys, and Southeast Regional Office (SERO) administrators, attorneys, and staff in both the SERO Protected Resources Division (PRD) and Habitat Conservation Division (HCD) may have documents responsive to this request. More detail can be found below.

We are seeking:

1. Any and all drafts of the Letter.
2. Communications within NOAA discussing the Corps' "request for further clarification" as referenced in the first sentence of the Letter.
3. Communications within NOAA discussing, formulating, drafting, or editing the Letter.

We do not know and cannot identify each person at NOAA who may have responsive documents but believe that the following NOAA employees, among others, may possess



documents responsive to this request: Roy Crabtree, Andrew Strelcheck, David Bernhart, Kelly Logan, other SERO PRD staff, SERO HCD staff, Southeast Fisheries Science Center staff, and General Counsel's office including Cheryl Scannell, and Lois Schiffer. This request is limited to the period between February 1, 2016, and September 20, 2016.

4. Communications between NOAA and the Corps of Engineers discussing the Corps' "request for further clarification" as referenced in the first sentence of the Letter.
5. Communications between NOAA and the Corps of Engineers discussing, formulating, drafting, or editing the Letter.

We do not know and cannot identify each person at NOAA who may have responsive documents but believe that the following NOAA employees, among others, may possess documents responsive to this request: Roy Crabtree, Andrew Strelcheck, David Bernhart, Kelly Logan, other SERO PRD staff, SERO HCD staff, SEFSC staff, and General Counsel's office including Cheryl Scannell, and Lois Schiffer. Likewise, we do not know and cannot identify each person at the Corps who may have engaged in communications with NOAA regarding the Letter but believe that the following Corps employees, among others, may have participated in such communications: Eric Summa, Laurel Reichold, Brooks Moore, Terri Jordan-Sellers, Eric Bush, Matthew Donaldson, Melanie Casner, and Jason Spinning. This request is limited to the period between February 1, 2016, and September 20, 2016.

6. Communications between NOAA employees and Department of Justice employees, including Mark Brown, Jeremy Hessler, Brett Grosko, or Alison Finnigan which attaches, discusses, refers to relates to the Letter.

We do not know and cannot identify each person at NOAA who may have responsive documents but believe that the following NOAA employees, among others, may possess documents responsive to this request: Roy Crabtree, Andrew Strelcheck, David Bernhart, Cheryl Scannell, and Lois Schiffer. This request is limited to the period between February 1, 2016, and September 20, 2016."

On October 26, 2016, the requester's attorney, James Porter, agreed to modify the record search date range of the request to July 1, 2016, through September 20, 2016.

Copies of the September 19, 2016 letter and clarification and modification e-mails dated October 13 and 26, 2016, respectively, are enclosed.

Agency Records Referral

During our search for records, we found **69 documents** (*totaling 480 pages*) responsive to the request that originate with the USACE. In accordance with the Department of Commerce (DOC) governing regulations at 15 C.F.R. § 4.5(b), we hereby refer the request to you for further action related to these records.

Copies of the requested records are enclosed with this letter on a DVD and the file folders that contain the records are labeled as follows:

- ACOE referral Set 1 of 2 NOAA b5 and NOAA releasable
- ACOE referral Set 2 of 2 NOAA b5b6 w DOJ equities redacted

NOAA has applied redactions to our portion of this material that qualifies for protection pursuant to: **5 U.S.C. § 552 (b)(5)** due to the inclusion of Attorney-Client communications, Attorney Work-Product, and/or deliberative and predecisional material; and **5 U.S.C. § 552 (b)(6)**, which protects information about individuals in personnel and medical files and similar files when the disclosure of such information would constitute a clearly unwarranted invasion of personal privacy. Our DOC appeals office information is enclosed.

NOAA has also applied redactions to portions of this material that has been referred to the Department of Justice.

Please note that all other NOAA's portions of the records are releasable to the requester. A copy of our final response letter to the requester is enclosed.

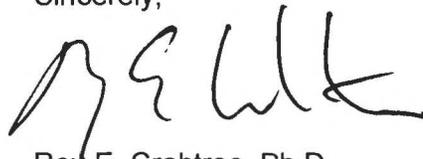
Please respond directly to Dr. Silverstein regarding these records and provide us with a copy of your letter.

FOIA Processing Fees

In her request, Dr. Silverstein requested a waiver of FOIA processing fees. On November 21, 2016, the NOAA FOIA office granted a fee waiver.

If you have any questions concerning this process, please contact Beverly J. Smith, NOAA's National Marine Fisheries Service, Southeast Region, at 727-551-5762 or beverly.smith@noaa.gov, or the NOAA FOIA Public Liaison Robert Swisher at 301-628-5755.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Crabtree', written in a cursive style.

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosures (as stated above)
cc: (w/o encl.)
James M. Porter, Esq.

FOIA Request #DOC-NOAA-2016-001807
Requester: Dr. Rachel Silverstein

Department of Commerce FOIA Appeal Instructions

You have the right to appeal the partial denial of the FOIA request under 15 C.F.R § 4.10(a) (2016). Your appeal must be received within **90 calendar days** of the date of this denial letter. Please address your appeal to:

**Assistant General Counsel for Litigation, Employment and Oversight
U.S. Department of Commerce
Room 5875
14th and Constitution Avenue, N.W.
Washington, D.C. 20230**

Your appeal may be sent by the following methods:

- by email to FOIAAppeals@doc.gov.
- by facsimile (fax) to (202) 482-2552.
- by FOIAOnline, if you have an account, at <https://foiaonline.regulations.gov>.

For your appeal to be complete, it must include the following items:

- a copy of the original request.
- our response to your request.
- your statement explaining why the withheld records should be made available, and why the denial of the records was in error.
- "Freedom of Information Act Appeal" must appear on your appeal letter. It should also be written on your envelope, e-mail subject line, or your fax cover sheet.

We receive correspondence only on business days from 8:30 a.m. to 5:00 p.m., Eastern Time. FOIA appeals received outside of our normal business hours will be deemed received on the next business day.

Exhibit B

**RESPONSE TO FREEDOM OF
INFORMATION ACT (FOIA) REQUEST**

2020-000123

5

RESPONSE
TYPE

INTERIM

FINAL

REQUESTER:

Ken Rumelt

DATE:

01/21/2021

DESCRIPTION OF REQUESTED RECORDS:

Records related to environmental impacts at the Florida Power & Light Co.'s Turkey Point Nuclear Generating Station, as described in FOIA request.

PART I. -- INFORMATION RELEASED

- The NRC has made some, or all, of the requested records publicly available through one or more of the following means: (1) <https://www.nrc.gov> ; (2) public ADAMS, <https://www.nrc.gov/reading-rm/adams.html>; (3) microfiche available in the NRC Public Document Room; or FOIA Online, <https://foiaonline.gov/foiaonline/action/public/home>.
- Agency records subject to the request are enclosed.
- Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (See Part I.D -- Comments) for a disclosure determination and direct response to you.
- We are continuing to process your request.
- See Part I.D -- Comments.

PART I.A -- FEES

AMOUNT

\$0.00

- You will be billed by NRC for the amount indicated.
- You will receive a refund for the amount indicated.
- Fees waived.
- Since the minimum fee threshold was not met, you will not be charged fees.
- Due to our delayed response, you will not be charged search and/or duplication fees that would otherwise be applicable to your request.

PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE

- We did not locate any agency records responsive to your request. *Note:* Agencies may treat three discrete categories of law enforcement and national security records as not subject to the FOIA ("exclusions"). See 5 U.S.C. 552(c). This is a standard notification given to all requesters; it should not be taken to mean that any excluded records do, or do not, exist.
- We have withheld certain information pursuant to the FOIA exemptions described, and for the reasons stated, in Part II.
- Because this is an interim response to your request, you may not appeal at this time. We will notify you of your right to appeal any of the responses we have issued in response to your request when we issue our final determination.
- You may appeal this final determination within 90 calendar days of the date of this response. If you submit an appeal by mail, address it to the FOIA Officer, at U.S. Nuclear Regulatory Commission, Mail Stop T-6 A60M, Washington, D.C. 20555-0001. You may submit an appeal by e-mail to FOIA.resource@nrc.gov. You may fax an appeal to (301) 415-5130. Please be sure to include on your submission that it is a "FOIA Appeal." Only a pre-registered user may file an appeal through FOIA Online, <https://foiaonline.gov/foiaonline/action/public/home>. A user who has not registered an account prior to filing the initial FOIA request may still submit an appeal by one of the above mentioned options.

PART I.C -- REFERENCES AND POINTS OF CONTACT

You have the right to seek assistance from the NRC's FOIA Public Liaison by submitting your inquiry at <https://www.nrc.gov/reading-rm/foia/contact-foia.html>, or by calling the FOIA Public Liaison at (301) 415-1276.

If we have denied your request, you have the right to seek dispute resolution services from the NRC's Public Liaison or the Office of Government Information Services (OGIS). To seek dispute resolution services from OGIS, you may e-mail OGIS at ogis@nara.gov, send a fax to (202) 741-5789, or send a letter to: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road, College Park, MD 20740-6001. For additional information about OGIS, please visit the OGIS website at <https://www.archives.gov/ogis>.



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST

2020-000123

5

RESPONSE TYPE

INTERIM

FINAL

PART I.D -- COMMENTS

This final (fifth) response to your FOIA request, received by the NRC on 01/21/2020, includes the responsive records generated from Florida Power and Light.

Signature - Freedom of Information Act Officer or Designee

Stephanie A. Blaney

Digitally signed by Stephanie A. Blaney
Date: 2021.01.21 07:30:55 -05'00'

Exhibit C

From: [Folk, Kevin](#)
To: [Comar, Manny](#)
Subject: FW: List of Documents for PNNL
Date: Tuesday, March 26, 2019 10:54:00 AM
Attachments: [2017-01-27 FPL Attachment 1 GW Flow and Transport Model.pdf](#)
[2017-01-27 FPL Phase One Remediation Plan.pdf](#)

From: Folk, Kevin

Sent: Wednesday, June 06, 2018 4:31 PM

To: Prasad, Rajiv (Rajiv.Prasad@pnnl.gov) <Rajiv.Prasad@pnnl.gov>; Meyer, Philip D <Philip.Meyer@pnnl.gov>

Cc: Saulsbury, James W <james.saulsbury@pnnl.gov>; Ford, William <William.Ford@nrc.gov>

Subject: RE: List of Documents for PNNL

Gentlemen:

In the interest of efficiency, I am attaching two documents for your information (with another in a separate email) and that are germane to our audit needs request to FPL (which is duplicated below). In short, Bill Ford and I want you to be aware of our line of inquiry on these matters and relevant new information so that you can better support us in our interactions with FPL and its contractor staff. Likewise, some of this information may well be referenced during the interagency meeting.

As for the audit itself, we do not yet have a detailed audit agenda in place, so we do not yet know what FPL is planning to present to us. Hoping to have it soon!

Please advise if any of the PDFs did not come through directly and I will upload them to EARRTH directly Bo set up for us.

[Bill, please elaborate as appropriate.](#)

Rajiv and Phil, please reach back to us with any immediate questions.

Finally, I plan to set up a conference call among us the middle of next week so that we can coordinate. Let me know if there are any days that are problematic.

Thanks.

Kevin

Audit Request for a Groundwater and Surface-Water Modeling Presentation

In 2016, TETRA TECH finished for FPL, "A Groundwater Flow and Salt Transport Model of the Biscayne Aquifer". One of the purposes of this model is to assess the efficacy of the recovery well system to retract the hypersaline plume in the Biscayne Aquifer west and north of FPL's property.

(Note this report can be found at the end of the September 25, 2017 testimony of Peter Andersen before the Florida 1 Public Service Commission located at:

<http://www.psc.state.fl.us/library/filings/2017/07901-2017/07901-2017.pdf>)

In 2014 TETRA TECH completed an "Evaluation of Drawdown in the Upper Floridan Aquifer Due to Proposed Salinity Reduction-based Withdrawals". To reduce the salinity within the cooling canal system, water from the Upper Floridan Aquifer will be discharged into the cooling canal system. This model was used to determine potential impacts to other users of Floridan Aquifer water from the withdrawal of Floridan Aquifer groundwater.

Also in 2014, TETRA TECH also completed an "Evaluation of Required Floridan Water for Salinity Reduction in the Cooling Canal System". Water and salt balance modeling of the cooling canal system was performed to assess the volume of water from the Floridan Aquifer required to reduce the salinity of cooling canal system water to seawater concentrations. Reducing the salinity in the cooling canal system is predicted to reduce the contribution from the CCS to the hypersaline plume in the Biscayne Aquifer.

(Note: These 2014 reports can be found in document filed in ADAMS accession number ML14279A555.)

These complex models are important to the prediction to future impacts by the hypersaline groundwater over the period of subsequent license of license renewal.

We would like to better understand these modeling studies and attendant projections. At the audit, we would like an on-site presentation by knowledgeable staff on these models; including any recent updates. We are interested in understanding the projections of cooling canal salinities, of impacts on Floridan Aquifer groundwater users, and of the efficacy of the planned recovery well system operation in retracting the hypersaline plume. Please allow time for questions from NRC staff and contractors.

Additional Related Documents

Turkey Point Plant Annual Monitoring Report September 2017.

(This report may have to be sent to PNNL as it was obtained from a search of the State of Florida Department of Environmental Protection Information Portal located at <http://prodenv.dep.state.fl.us/DepNexus/public/searchPortal>)

Review of Groundwater Flow and Transport Model of the Biscayne Aquifer Prepared by Tetra Tech for Evaluation of Remedial Measures to Address the Hypersaline Plume Created by the Cooling Canal System at the FPL Turkey Point Power Facility

(This report may have to be sent to PNNL as it was obtained from a search of the Miami-Dade County DERM electronic document data base, which can be accessed at <https://www.miamidade.gov/environment/public-records.asp#0>)

2017 TETRA Tech model changes made in response to the comments made by the Miami-Dade County Consultant.

(This report may have to be sent to PNNL as it was obtained from a search of the Miami-Dade County DERM electronic document data base, which can be accessed at <https://www.miamidade.gov/environment/public-records.asp#0>)

2016-01-29 Freshening Effectiveness Report

This report may give insight into the accuracy of the predictive models of CCS salinity reduction.

(This report may have to be sent to PNNL as it was obtained from a search of the Miami-Dade County DERM electronic document data base, which can be accessed at <https://www.miamidade.gov/environment/public-records.asp#0>)

The following document was reviewed as part of the Final Environmental Impact Statement for Turkey Point. The impact statement said it did not change our understanding of how the cooling canal operates.

However, as it focuses on the power uprate and the cause of increased salinities in the cooling canal system, it may come up again during license renewal

Final Report, The Cooling Canal System at the FPL Turkey Point Power Station, May 2016, which can be accessed at

<http://www.miamidade.gov/mayor/library/memos-and-reports/2016/05/05.12.16-Final-Report-on-the-Cooling-Canal-Study-at-the-Florida-Power-and-Light-Turkey-Point-Power-Plant-Directive-151025.pdf>

Exhibit D



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 13, 2018

Mr. William Maher
Director of Licensing Projects – Nuclear
Florida Power & Light Company
Mail Stop: JOE/JB
700 Universe Blvd
Juno Beach, FL 33408

SUBJECT: LICENSE RENEWAL ENVIRONMENTAL SITE AUDIT REGARDING THE
TURKEY POINT NUCLEAR GENERATING UNITS 3 AND 4 SUBSEQUENT
LICENSE RENEWAL APPLICATION (EPID NO. L-2018-LNE-0001)

Dear Mr. Maher:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the Florida Power & Light Company's subsequent license renewal application for Turkey Point Nuclear Generating Units 3 and 4 (Turkey Point). The environmental site audit will be conducted at Turkey Point during the week of June 19, 2018, by NRC and its contractors. The environmental audit activities will be conducted in accordance with the environmental audit plan (Enclosure 1).

To develop the Supplemental Environmental Impact Statement, the NRC staff requests the information described in the environmental audit needs list (Enclosure 2) be made available, to the extent possible, during the environmental site audit. A draft schedule of tours and meetings for the audit is also provided (Enclosure 3).

The NRC staff transmitted the draft environmental needs to Steve Franzone of your staff by e-mail on May 29, 2018. .

If you have any questions, please contact me by e-mail at Lois.James@nrc.gov.

Sincerely,

/RA/

Lois M. James, Senior Project Manager
License Renewal Project Branch
Division of Materials and License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosures:
As stated

cc w/encls: Listserv

SUBJECT: LICENSE RENEWAL ENVIRONMENTAL SITE AUDIT REGARDING THE
 TURKEY POINT NUCLEAR GENERATING UNITS 3 AND 4 SUBSEQUENT
 LICENSE RENEWAL APPLICATION (EPID NO. L-2018-LNE-0001)

DISTRIBUTION:

E-MAIL:

Public

PUBLIC

- RidsNrrDmlr Resource
- RidsNrrDmlrMrpb Resource
- RidsNrrDmlrMenb Resource
- RidsNrrDmlrMphb Resource
- RidsNrrDmlrMccb Resource
- RidsNrrPMTurkeyPoint Resource

 william.burton@nrc.gov; NRR/DMLR
 evelyn.ghettys@nrc.gov; NRR/DMLR
 eric.oesterle@nrc.gov; NRR/DMLR
 george.wilson@nrc.gov; NRR/DMLR
 joseph.donoghue@nrc.gov; NRR/DMLR
 lois.james@nrc.gov; NRR/DMLR
 bill.rogers@nrc.gov; NRR/DMLR
 michael.wentzel@nrc.gov; NRR/DORL
 sherwin.turk@nrc.gov; OGC
 catherine.scott@nrc.gov; OGC
 scott.burnell@nrc.gov; HQ/OPA
 roger.hannah@nrc.gov; RII/OPA

joey.ledford@nrc.gov; RII/OPA
 david.decker@nrc.gov; OCA
 john.pelchat@nrc.gov; RII/ORA
 edwin.lea@nrc.gov; RII/ORA
 ladonna.suggs@nrc.gov; RII/DRP
 lundy.pressley@nrc.gov; RII/DRP
 dan.orr@nrc.gov; RII/DRP
 nicholas.hobbs@nrc.gov; RII/DRP
 tara.inverso@nrc.gov; OEDO
 jeremy.bowen@nrc.gov; OEDO
 paula.cooper@nrc.gov; RII/DRS

steve.franzone@fpl.com;
richard.orthen@fpl.com
william.maher@fpl.com

ADAMS Accession No.: ML18158A335

OFFICE	PM:MRPB:DMLR	LA:MRPB:DMLR	BC:MENB:DMLR	BC:MRPB:DMLR
NAME	LJames	YEdmonds	BBeasley	EOesterle
DATE	6/13/2018	6/13/2018	6/13/2018	6/13/2018
OFFICE	PM:MRPB:DMLR			
NAME	LJames			
DATE	6/13/2018			

OFFICIAL RECORD COPY

LICENSE RENEWAL ENVIRONMENTAL AUDIT PLAN TURKEY POINT NUCLEAR GENERATING UNITS 3 AND 4

1. Background

By letter dated January 30, 2018, Florida Power & Light Company. (FPL or applicant), submitted to the U.S. Nuclear Regulatory Commission (NRC or staff) an application to renew the Turkey Point Nuclear Generating Units 3 and 4 (Turkey Point), operating licenses DPR-31 and DPR-41. The staff is reviewing the information contained in the environmental report (ER) of the license renewal application (LRA) per Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54).

During the staff's review, an environmental audit is conducted at the Turkey Point site. This audit is conducted with the intent to gain understanding, to verify information, and to identify information that will require docketing to support the basis of the licensing or regulatory decision. Specifically, the NRC staff will identify pertinent environmental data, review the facility and area, and obtain clarifications regarding information provided in the ER.

Per NRC guidance, the NRC staff prepares a regulatory audit plan that provides a clear overview of audit activities and scope, team assignments, and schedule.

2. Environmental Audit Bases

License renewal requirements are specified in 10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." Licensees are required by 10 CFR 54.23 to submit an ER that complies with the requirements in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," as part of the LRA. Review guidance for the staff is provided in NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Supplement 1 – Operating License Renewal."

NRC staff is required to prepare a site-specific supplement to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants." During the scoping process required in 10 CFR Part 51, NRC staff is required to define the proposed action, identify significant issues which must be studied in depth, and to identify those issues that can be eliminated from further study.

3. Environmental Audit Scope

The scope of this environmental audit for the Turkey Point subsequent license renewal review is to identify those issues which are significant and those issues which can be eliminated from further study and to identify the environmental resources that must be adequately described and evaluated in the site-specific Supplemental Environmental Impact Statement. Audit team members will focus on reviewing the documents and requested information listed in the Turkey Point Environmental Audit Needs List (Enclosure 2) and discussing the information with the applicant's subject matter experts.

4. Information and Other Material Necessary for the Environmental Audit

As described in the Site Audit Needs List (Enclosure 2).

5. Environmental Audit Team Members and Resource Assignments

The environmental audit team members and their specific discipline assignments are shown in Table 1. Those members of the team who are contractors from Pacific Northwest National Laboratory will have PNNL after their name.

Table 1 Environmental Audit Team Members and Resource Assignments

Discipline	Team Members
Environmental Review Supervisor	Ben Beasley, NRC
Environmental Project Manager	William Burton, NRC Michael Wentzel, NRC (on-site for audit)
Aquatic	Briana Grange, NRC
Terrestrial	Michelle Moser, NRC
Hydrology	William Ford (surface water), NRC Kevin Folk (groundwater), NRC Philip Meyer, PNNL Rajiv Prasad, PNNL
Greenhouse Gases	Kevin Folk, NRC
Geologic	William Ford, NRC
Air/Meteorology and Alternatives	Robert Hoffman, NRC
Socioeconomic; Historic, and Cultural Resources; Environmental Justice	Nancy Martinez, NRC
Human Health and Postulated Accidents	William Rautzen, NRC
Waste Management (rad and non-rad), Uranium Fuel Cycle, and Spent Nuclear Fuel	Phyllis Clark, NRC

6. Logistics

The environmental audit will be conducted at Turkey Point from June 19–21, 2018. An entrance meeting will be held with plant management at the beginning of the audit. An exit meeting will be held at the end of this audit.

7. Special Requests

The staff requests that the applicant make available the information identified on the Environmental Audit Needs List (Enclosure 2). Plant staff who are subject matter experts in the disciplines listed on the Environmental Site Audit Needs List should be available for interviews and to provide tours.

8. Deliverables

An audit summary report is scheduled to be issued by NRC staff within 90 days from the end of the environmental audit.

TURKEY POINT NUCLEAR GENERATING UNITS 3 AND 4 (TURKEY POINT) LICENSE RENEWAL ENVIRONMENTAL SITE AUDIT NEEDS LIST

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed Appendix E, the Environmental Report (ER), of the “Turkey Point Nuclear Plant Units 3 and 4 [Turkey Point] Subsequent License Renewal Application [SLRA].”

Please be prepared to discuss the following issues and make the following available during the environmental site audit.

Tours

Please provide subject matter experts to lead the following tours:

1. Onsite terrestrial resources, including the cooling canal system, mudflats, mangroves, freshwater forested/scrub shrub wetlands, and upland habitats.
2. Important terrestrial resources within the vicinity of the Turkey Point site, including the Everglades Mitigation Bank.
3. Onsite aquatic environments to include the cooling canal system (CCS), the remnant canals, the mangrove wetland west of Turkey Point, and the sawgrass marsh / mangrove community adjacent to Palm Drive. This tour can be combined with the terrestrial ecology tour, hydrology tour, and/or any other tours that are appropriate. If not combined, please schedule this tour such that the aquatic ecology reviewer can also attend the terrestrial ecology and hydrology tours.
4. Major air emission sources
5. Primary meteorological tower
6. Radiation protection / access control area to observe the following:
 - a A walk-down of the liquid and gaseous radwaste systems inside of the plant to get a sense of the components listed in the ER and how they are routed.
 - b Low-level radioactive waste storage and processing areas, including mixed waste.
 - c Radiological environmental monitoring program (REMP) – a small, representative sample of monitoring stations (e.g., air monitoring stations, TLD stations, drinking water, surface water, sediment, groundwater, milk, and vegetation, including monitoring stations co-located with State monitoring stations)
7. NPDES / FDES permitted outfalls, including storm drain outfalls
8. Non-Rad waste storage sites / RCRA permitted storage (if any)
9. Independent spent fuel storage installation (ISFSI)
10. Turkey Point Units 3 and 4 intake and discharge locations on the CCS
11. Representative locations “(i.e., flow, surface water, groundwater, and ecology) associated with the enhanced monitoring within the CCS required as part of the Consent Agreement with the County and Consent Order with the State for which FPL produces an annual monitoring report
12. CCS interceptor ditch and L-31-E canal adjacent to the CCS and the location where water is transferred from L-31 to the CCS

13. Point of blowdown water discharge from the Unit 5 cooling tower into the CCS
14. Discharge location of Floridan aquifer water into the CCS
15. Groundwater production wells including: (1) CCS freshening system wells, (2) Biscayne Aquifer "marine" wells; (3) Recovery Well System extraction wells and Class 1 injection well; and (4) Upper Floridan Aquifer saline production wells for Unit 5 (i.e., PW-1, PW-3, and PW-4)
16. Sewage treatment plant and Class V injection well (# IW-1)
17. Water and wastewater treatment facilities
18. Ongoing sediment removal activities within the CCS
19. Barge turning basin and Turtle Point Canal where FPL will undertake restoration (dredge and fill) projects to prevent releases of groundwater from the CCS to surface waters connected to Biscayne Bay
20. Plug that seals off the CCS from the Card Sound Canal that discharges into Card Sound
21. Possible on-site alternative power generation locations
22. Berm that separates the CCS from Biscayne Bay.
23. Location of least tern nesting
24. Location of any ground disturbing activities described in Section 4.6.5.3, including land disturbing activities to construct new parking areas for plant employees, access roads, buildings, and facilities; as well as temporary project support areas for equipment storage, worker parking, and material laydown areas could result in the disturbance of habitat and wildlife

Audit Meetings

Please provide subject matter experts to participate in the audit meetings on the following topics:

1. Crocodile monitoring, threatened and endangered species surveys, and resource planning, specifically individuals that interface with the Fish and Wildlife Service or National Park Service staff regarding aquatic and terrestrial resources.
2. Aquatic ecology of the site and the staff's site audit needs. This meeting can be combined with any terrestrial ecology meetings and the meeting request below, as appropriate. If not combined, please schedule this meeting such that the aquatic ecology reviewer can also attend the terrestrial ecology and hydrology meetings.
3. Threatened and endangered species surveys and resource planning at Turkey Point and specifically individuals that interface with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and National Park Service staff regarding aquatic and terrestrial resources.
4. Air quality portions of the ER, particularly air permits and emission inventories associated with facility operations, and stationary and mobile sources of air pollutants.
5. Radiological protection and radwaste systems (typically a staff Health Physicist).
 - a Radiation Protection Program: Overview of the program with emphasis on the as low as reasonably achievable (ALARA) program to control worker radiation

- exposure (annual dose goals and status). Are there any proposed changes or upgrades to the program being considered during the license renewal term?
- b Radioactive solid waste: Review how the plant plans to handle low-level radioactive waste (Class A, B, and C, mixed waste, and spent nuclear fuel) during the license renewal term (onsite storage, potential expansion of storage facilities, and disposal options). Are there any proposed changes or upgrades to the program being considered during the license renewal term?
 - c Radioactive gaseous and liquids effluents: Review how the plant processes radioactive effluents to maintain radiation doses to the public to levels that are ALARA. Are there any proposed changes or upgrades to the program being considered during the license renewal term?
6. Modeling studies and attendant projections listed below, focused on explaining the projections of cooling canal salinities, of impacts on Floridan Aquifer groundwater users, and of the efficacy of the planned recovery well system operation in retracting the hypersaline plume.
- a In 2016, TETRA TECH provided “A Groundwater Flow and Salt Transport Model of the Biscayne Aquifer” to FPL. One of the purposes of this model is to assess the efficacy of the recovery well system to retract the hypersaline plume in the Biscayne Aquifer west and north of FPL's property.
 - b In 2014, TETRA TECH completed an “Evaluation of Drawdown in the Upper Floridan Aquifer Due to Proposed Salinity Reduction-based Withdrawals.” To reduce the salinity within the cooling canal system, water from the Upper Floridan Aquifer will be discharged into the cooling canal system. This model was used to determine potential impacts to other users of Floridan Aquifer water from the withdrawal of Floridan Aquifer groundwater.
 - c In 2014, TETRA TECH completed an “Evaluation of Required Floridan Water for Salinity Reduction in the Cooling Canal System.” Water and salt balance modeling of the cooling canal system was performed to assess the volume of water from the Floridan Aquifer required to reduce the salinity of cooling canal system water to seawater concentrations. Reducing the salinity in the cooling canal system is predicted to reduce the contribution from the CCS to the hypersaline plume in the Biscayne Aquifer.
7. Groundwater and surface water with particular knowledge of the relevant portions of the ER
8. Socioeconomics with particular knowledge of the relevant portions of
9. Historical and cultural portions with particular knowledge of the relevant portions of
10. Replacement power portions with particular knowledge of the relevant portions of

Questions and Document Needs

Specific questions, requests, and document needs are provided below by resource area.

Land Use and Visual

- LU-1 As explained in the ER, the Federal Coastal Zone Management Act (CZMA) requires applicants for a federal license to certify to the licensing agency that the proposed

activity would be consistent with the state's federally approved coastal zone management program. Regulations require the license applicant to provide its certification to the federal licensing agency and a copy to the applicable state agency. Section 9.5.10 of the ER, Coastal Zone Management Act, states:

FPL received confirmation of coastal zone certification in a letter dated March 9, 2012, from the FDEP to the USACE (FDEP 2012). The operating agreement between the FDEP and participating agencies identifies the final order issued as part of the PPSA as the CZMA consistency for the authorized power plant. Therefore, [Turkey Point] has fulfilled the regulatory requirement to certify to the licensing agency that the proposed activity would be consistent with the state's federally approved coastal zone management program.

The NRC recognizes that NOAA regulations are applicable to the renewal of federal licenses for activities not previously reviewed by the state (15 CFR 930.51(b)(1)). Please explain how a certification contained in a letter from the FDEP to the USACE dated March 9, 2012 is a basis for your coastal zone consistency determination for this second license renewal.

Air Quality and Meteorology

- AQ-1 Has FPL received any notices of violation or non-compliances from the Florida Department of Environmental Protection (FDEP) regarding Turkey Point Air Permit No. 025003-021-AV subsequent to the period discussed in ER Section 3.3.3.2 (i.e., 2012–2016)?
- AQ-2 Have field tests concerning ozone and nitrogen oxides emissions generated by FPL's 230 kV in-scope transmission lines been conducted? If so please, provide a copy of these tests.
- AQ-3 Has FPL completed the 2018 renewal application of the Title V Insignificant Activities list incorporating the FLEX equipment inventory? If so please, provide a copy of this list if it differs from that presented in ER Table 3.3-11.

Groundwater Resources

- GW-1 As referenced in Sections 3.6.1.4.5 and 3.6.3.2.1 of the ER and in the April 2018 ER supplement, provide a status update regarding the construction and commissioning of the Recovery Well System for hypersaline plume abatement. Summarize, at a high level, the as-built components of the Recovery Well System including well configuration(s) and well spacing, well construction specifications, and piping configurations and routings between the recovery wells and the deep well injection point.
- GW-2 Provide a summary (by month) of the volume of groundwater withdrawn from the following well systems over the last three full calendar years, as well as groundwater withdrawal volumes collected for 2018:
- (1) the six wells comprising the Upper Floridan Aquifer CCS freshening system (ER Sections 3.6.1.4.5/3.6.3.2);

- (2) the three Biscayne Aquifer “marine” wells (ER Section 3.6.3.2);
- (3) the ten Biscayne Aquifer wells constituting the Recovery Well System (ER Sections 3.6.1.4.5/3.6.3.2.1); and
- (4) the three Upper Floridan Aquifer saline production wells for Unit 5 (i.e., PW-1, PW-3, and PW-4) (ER Section 3.6.3.2).

- GW-3 As discussed in Sections 3.6.1.4.5 and 3.6.2.2.3 of the ER (and as related to questions GW-1 and GW-2), provide a status update of ongoing and planned salt removal efforts and disposal of hypersaline groundwater into the Boulder Zone. Specifically, provide a summary (by month) of the volume of hypersaline groundwater and salt withdrawn and reinjected into the Boulder Zone since operations began in 2016 through 2018, year-to-date. Summarize any monitoring of upper aquifers and leak testing of the injection wells to protect overlying aquifers. In addition, provide a summary of any water quality monitoring that is conducted of the reinjected groundwater. Please plan to have knowledgeable staff available at the audit to discuss the injection of water into the Boulder Zone.
- GW-4 Sections 3.6.4.2.1 and 4.5.5.4 of the ER provide a summary and an assessment, respectively, of historic inadvertent releases of radionuclides to groundwater covering the period 2012–2016 and ER Tables 3.6-6 and 4.5-1 summarize groundwater protection monitoring results for tritium. NRC notes that ER Table 4.5-1 summarizes data from the 2016 annual radiological environmental operating report. As the 2017 operating report is pending, provide the latest quarterly, validated groundwater protection monitoring results covering all monitored parameters (i.e., tritium, potassium-40, cesium-137 and any other monitored radionuclides) for the 28 wells and 4 storm drains in the program for 2018. Identify the date(s) of the quarterly samples.
- GW-5 As described in Section 3.6.4.1.1 of the ER, provide the latest available results for tritium and any other monitored radionuclides in the CCS as well as in underlying groundwater and identify the sampling date(s).
- GW-6 Provide a description of any documented inadvertent radiological releases that have occurred since April 2016. Describe the impact on the environment and provide a summary of radionuclide concentrations in nearby monitoring wells and storm drains from the date of discovery of the release to the present time. Also, include a description of any ongoing or completed remediation actions and the residual activity (e.g., concentration in groundwater) remaining after the remediation was completed, if it is not ongoing (ER Section 3.6.4.2.1).
- GW-7 Section 9.3 of the ER summarizes historical regulatory infractions including notices of violation issued to Turkey Point. As applicable, provide an updated summary of and describe any Notices of Violation; nonconformance notifications; or related infractions received from regulatory agencies associated with permitted discharges, sanitary sewage systems, groundwater or soil contamination, as well as any involving spills, leaks, and other inadvertent releases (e.g., petroleum products, chemicals, or radionuclides) received since 2016. Provide copies of relevant correspondence to and from the responsible regulatory agencies.

- GW-8 As discussed and cited in Section 3.6.2.4 of the ER, has the potentiometric surface (groundwater elevation) mapping illustrated in ER Figures 3.6-4 through 3.6-9 for the Turkey Point site been updated? If so, provide the updated figures.
- GW-9 As referenced in Sections 3.6.1.4.5 and 9.3 of the ER and as described in recent media reports, describe the status and features of FPL's plans for use of reclaimed wastewater in lieu of groundwater to freshen the CCS?
- GW-10 The Consent Agreement Annual Report for 2016 is referenced in Section 2.2.3.2 of the ER and the 2016 Consent Agreement Amendment with MDC is discussed and reference in Section 3.6.1.4.5 and elsewhere in the ER. Please provide a copy of the latest annual report for review, as applicable, as well as the 2016 Amendment.
- GW-11 Please provide a map of storm drain locations to include those in the plant groundwater protection monitoring program (ER Section 3.6.4.2.1).

Terrestrial

- T-1 Section 3.7.5.1 of the ER describes several invasive terrestrial species that are known to occur within Southern Florida and along transmission lines (that are not within the scope of this review). In addition, the ER states that nonindigenous plant species identified in the cooling canal system are systematically removed during ongoing berm vegetation maintenance activities.
- a Please provide a list of the nonindigenous plant species that FPL has observed within the cooling canal system and within the Turkey Point site.
 - b Please describe the frequency and methods for vegetative maintenance activities within the cooling canal system.
- T-2 Section 3.7.7.1 of the ER states that FPL proposed a broad-scale vegetation assessment to characterize the distribution and density of vegetation on the Turkey Point site as part of the ecological monitoring required by the State of Florida's site certification process for Units 3 and 4. Provide a summary and update of any vegetative surveys that have occurred since the site certification for Units 3 and 4 was granted in 2009.
- T-3 Section 3.7.8.2 of the ER describes State-listed species that occur within Miami-Dade County. The ER also states that the full extent of which state-listed plant species occur within all proposed project areas is undetermined and refers to Section 2.4.1.3 of the NRC's Final Environmental Impact Statement (EIS) for Units 6 and 7. Tables 2-14 and 2-15 within Section 2.4.1.3 of the NRC's Final EIS for Units 6 and 7 describes whether each state-listed species has been observed on the Turkey Point site. Please describe whether there have been any recent observations of state-listed species not included in Tables 2-14 and 2-15 of NRC's Final EIS for Units 6 and 7.
- T-4 Section 3.7.8.4 of the ER describes the Bald and Golden Eagle Protection Act (BGEPA). FPL states that current and future bald eagle nests located on the Turkey Point site would be subject to all protections under the BGEPA. Please describe all known occurrences of bald and golden eagles or their nests at the Turkey Point site.

- T-5 Section 3.7.8.5 of the ER describes species protected under the Migratory Bird Treaty Act (MBTA) and states that several bird species protected under the MBTA visit Turkey Point. Please provide a list of the species protected under the MBTA that have been observed on the Turkey Point site.
- T-6 Section 4.6.5.3 of the ER states that maintenance activities during the license renewal term are expected to be similar to current activities. Please provide a summary of all current maintenance activities that have the potential to impact terrestrial resources, such as site landscape maintenance, herbicide use (other than that described in Section 9.5.14), tree or shrub removal for safety or other purposes, or other maintenance activities.
- T-7 Section 4.6.5.3 of the ER states that construction of the new independent spent fuel storage installation (ISFSI) would disturb between 2.5 to 10 ac (1 to 4 ha) of land. Please describe and quantify the type of land cover and habitats that occur within land to be disturbed, as well as a summary of any biota that inhabit that area.
- T-8 Section 4.6.5.3 of the ER states that FPL may conduct land disturbing activities to construct new parking areas for plant employees, access roads, buildings, and facilities. Section 4.6.5.3 also states that temporary project support areas for equipment storage, employee parking, and material laydown areas could result in the disturbance of habitat and wildlife. For each activity, please provide the following:
- a The location where construction or maintenance activities would occur
 - b The amount of land that would be disturbed, broken down by land cover or habitat type.
 - c A list of biota that inhabit the area where activities would occur.
- T-9 Section 4.6.5.3 of the ER states that environmental review procedures, best management practices (BMPs), and a stormwater management plan would reduce impacts to terrestrial resources by controlling fugitive dust, runoff, and erosion from project sites; reducing the spread of invasive nonnative plant species; and reducing the disturbance of wildlife in adjacent habitats. Please provide a summary of the environmental review procedures, BMPs, and stormwater management plan that would help reduce impacts to terrestrial resources.
- T-10 Please describe whether FPL plans to initiate or continue any restoration activities for terrestrial resources at the Turkey Point site during the period of extended operations, such as the Everglades Mitigation Bank.

Aquatic

- A-1 Section 3.7.3 of the ER describes the CCS and aquatic resources associated with the CCS, and Table 3.7-1 of the ER lists the aquatic species present in the CCS. The information in these sections is primarily derived from surveys performed in November 2007 in support of the Turkey Point, Units 6 and 7, combined license application. Provide an updated description of the aquatic environment and an updated list of species currently present in the CCS with focus on what changes to the aquatic environment and species presence/composition have occurred since 2007. If the description in Section 3.7.3 and list of species in Table 3.7-1 of the ER continues to

accurately depict the aquatic community, please confirm that this information remains relevant. Include a statement regarding scientific uncertainty to the extent that such a statement is appropriate.

- A-2 The CCS has undergone a number of environmental changes and fluctuations in the past several years, including increases in salinity concentrations, temperature fluctuations, high turbidity, seasonal algal blooms, chemical treatments in connection with the algal blooms, and generally degraded water quality. Summarize these factors. Describe how these changes have affected fish populations in the CCS and how these factors have generally altered the value of the CCS as habitat for aquatic species.
- A-3 Section 3.7.1.1 of the ER describes other (non-CSS) onsite aquatic resources. The information presented in this section is primarily derived from surveys performed in 2009 in support of the Turkey Point, Units 6 and 7, combined license application. Provide an updated description of these onsite aquatic resources. If the descriptions in Section 3.7.1.1 of the ER continues to accurately depict the aquatic community, please confirm that this information continues to be relevant. Include a statement regarding scientific uncertainty to the extent that such a statement is appropriate.
- A-4 List and provide brief summaries of all aquatic resource surveys and studies performed on the Turkey Point site from pre-construction through present day.
- A-5 Provide copies of any aquatic resource surveys or studies performed on the Turkey Point site that have not already been submitted to the NRC in connection with the previous Turkey Point license renewal or the Turkey Point, Units 6 and 7, combined license application.
- A-6 Describe how fish interact with the cooling water intake system. For the intake, include the approach velocity that a fish would experience at the intake point, descriptions of intake screen operation and mesh size, and fish return systems (if any). For the discharge, include the average monthly temperatures of effluent discharge and a characterization of the associated thermal plume.
- A-7 Provide an analysis of how impingement and entrainment during the proposed license renewal term would affect aquatic resources in the CCS.
- A-8 Provide an analysis of how thermal effluents during the proposed license renewal term would affect aquatic resources in the CCS.
- A-9 Section 9.2.1 of the ER indicates that FPL has implemented an ecological monitoring plan as a requirement of the Florida conditions of certification for Turkey Point. Provide a copy of this plan as well as any associated monitoring reports that FPL has produced in connection with this plan.
- A-10 Provide a copy of the application(s) submitted to the U.S. Army Corps of Engineers in connection with the dredge and backfill activities described in Section 9.5.3.1 of the ER.

Special Status Species and Habitats (U.S. Fish and Wildlife Service)

- SS-1 Section 3.7.7.5 of the ER describes least tern (*Sterna antillarum*) monitoring studies. Please provide a copy of all least terns monitoring surveys.
- SS-2 Section 3.7.7.6 of the ER describes eastern indigo snake (*Drymarchon corais couperi*) monitoring studies by the Orianna Society. Please provide a copy of all indigo snake monitoring surveys.
- SS-3 In its April 2018 supplement to the ER, FPL states that all impacts to the American crocodile (*Crocodylus acutus*) and its designated critical habitat will be beneficial or remain the same as experienced during license renewal. The NRC's Section 7 consultation under that Endangered Species Act require the staff to describe all impacts to the American crocodile and its designated critical habitat, even if the impacts are beneficial or remain the same as during current operations.
- Please discuss the beneficial as well as the adverse impacts to the American crocodile and its designated critical habitat during the period of extended operations, such as changes to nesting habitat or crocodile health, changes to water quality parameters within the cooling canal system, and any procedures to mitigate the impacts from Turkey Point operations on the American crocodile and its designated critical habitat.
- SS-4 In FPL's April 10, 2018, supplement to ER Section 4.6.6.4, FPL describes the potential for several species to occur on or within the vicinity of Turkey Point, as well as the potential impacts to these species. For Carter's mustard (*Warea carteri*), the ER supplement describes why impacts would be minimal to this species. However, the ER supplement does not describe the potential for this species to occur on or within the vicinity of the site. Please describe any known occurrences of Carter's mustard on or within the vicinity of Turkey Point.
- SS-5 In its ER, FPL listed the ivory-billed woodpecker (*Campephilus principalis*), as common species in Table 3.7-11, "Common Wildlife Species of Southern Florida." This species is currently listed as endangered under the Endangered Species Act. However, neither the ER nor the supplement to the ER describes the potential for the species to occur on or within the vicinity of the site. Please describe any known occurrences of ivory-billed woodpecker on or within the vicinity of Turkey Point.

Special Status Species and Habitats (NMFS Species and EFH)

- SS-6 In FPL's April 10, 2018, supplement to the ER, FPL concludes that the proposed license renewal would have no effect on federally listed species in Biscayne Bay because the Turkey Point does not intake or discharge cooling water to Biscayne Bay, Card Sound, or other waters of the U.S. To support this conclusion, describe any impacts that federally listed aquatic species could experience during the proposed license renewal term including:
- water quality changes or degradation associated with groundwater exchange between the hypersaline plume under the CCS and Biscayne Bay;
 - sedimentation or other water quality impacts that would result from land-disturbing activities to construct new parking areas for plant employees, access roads, buildings, and facilities and associated temporary project support

areas for equipment storage, worker parking, and material laydown areas described in Section 4.6.5.3 of the ER;

- construction of the new independent spent fuel storage installation (ISFSI) described in Section 2.2.6.5 of the ER;
- dredging and backfill activities in the Barge Basin and Turtle Point described in Section 9.5.3.1 of the ER;
- barge traffic associated with Turkey Point that would occur during the proposed license renewal period; and
- any other relevant activities that could result in effects on federally listed aquatic species during the license renewal term.

In the discussion, consider each of the following species:

- a shortnose sturgeon (*Acipenser brevirostrum*)
- b Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)
- c Nassau grouper (*Epinephelus striatus*)
- d smalltooth sawfish (*Pristis pectinata*)
- e loggerhead sea turtle (*Caretta caretta*)
- f green sea turtle (*Chelonia mydas*)
- g leatherback sea turtle (*Dermochelys coriacea*)
- h hawksbill sea turtle (*Eretmochelys imbricata*)
- i Kemp's ridley sea turtle (*Lepidochelys kempii*)
- j Florida manatee (*Trichechus manatus*)

SS-7 In the April 10, 2018, Supplement to the ER, FPL concludes that the proposed license renewal would have no effect on essential fish habitat in Biscayne Bay because Turkey Point does not intake or discharge cooling water to Biscayne Bay, Card Sound, or other waters of the U.S. To support this conclusion, describe any impacts that could result on the aquatic habitats of Biscayne Bay, Card Sound, or other waters of the U.S as a result of:

- water quality changes or degradation associated with groundwater exchange between the hypersaline plume under the CCS and Biscayne Bay;
- sedimentation or other water quality impacts that would result from land-disturbing activities to construct new parking areas for plant employees, access roads, buildings, and facilities and associated temporary project support areas for equipment storage, worker parking, and material laydown areas described in Section 4.6.5.3 of the ER;
- construction of the new ISFSI described in Section 2.2.6.5 of the ER;
- dredging and backfill activities in the Barge Basin and Turtle Point described in Section 9.5.3.1 of the ER;

- barge traffic associated with Turkey Point that would occur during the proposed license renewal period; and
- any other relevant activities that could result in effects on federally managed species with designated essential fish habitat during the license renewal term.

In the discussion, consider the habitat of each of the following species:

- a gray snapper (*Lutjanus griseus*)
- b dog snapper (*L. jocu*)
- c mutton snapper (*L. analis*)
- d bluestriped grunt (*Haemulon sciurus*)
- e white grunt (*H. plumieri*)
- f spiny lobster (*Panulirus argus*)
- g pink shrimp (*Farfantepenaeus duorarum*)

SS-8 Attachment B of the ER includes letters sent to the U.S. Fish and Wildlife Service and National Marine Fisheries Service dated January 30, 2018. Provide copies of any subsequent correspondence between these agencies and FPL.

Historic and Cultural Resources

- HC-1 On January 30, 2018, FPL issued letters to the Florida State Historic Preservation Officer and Federally-recognized Indian tribes regarding Turkey Point's subsequent license renewal application.
- a Provide copies of letters and other communication documents from the Florida SHPO and Federally-recognized Indian tribes that FPL has received since the January 30, 2018 letters.
 - b Provide copies of letters and other communication documents sent to the Florida SHPO and Federally-recognized Indian tribes since January 30, 2018.
- HC-2 Approximately what percentage of land within the boundaries of the 9,640-acre FPL Turkey Point property is undisturbed? Provide a map detailing the level of previous and existing ground disturbance at the plant site, including documentation on how this level of disturbance was determined.
- HC-3 Section 3.8.5 of the ER identifies cultural resource surveys that have been conducted within FPL's 9,460-acre property.
- a Approximately what percentage of the Turkey Point 9,460-acre site has been surveyed collectively between these cultural resource surveys?
 - b Does FPL have a comprehensive map of the Turkey Point site property that identifies site locations previously surveyed?
- HC-4 Section 3.8.6 of the ER identifies administrative controls FPL has in place for management of cultural resources ahead of ground-disturbing activities at the site. Additionally, Section 6.2.2 of the ER states that permits and programs discussed in

Chapter 9, including a cultural resource protection plan, “continue to satisfactorily mitigate the range of [Turkey Point] operational environmental impacts.”

- a Does FPL have a Cultural Resources Management Plan? If so, provide a copy.
- b Does FPL have a cultural resource protection plan? If so, provide a copy.
- c Provide a copy of the Environmental Control Program for Turkey Point Plant, Units 3 & 4 Construction Activities, mentioned in Section 3.8.6.

HC-5 Section 3.2.3 of the ER states, “[b]eyond the 6-mile radius, on land, the existing units are not visible. However, from the water in Biscayne Bay, the existing units can be clearly seen.” Additionally, Section 3.8.4 of the ER states:

The NRHP Jones Family Historic District is slightly outside the 6-mile radius from [Turkey Point] and the portion on Totten Key is separated from Turkey Point by only open water. The remains of the home and other features on Totten Key have been subjected to the harsh environment and are no longer standing. Visibility over open water is limited by the curvature of the earth and is approximately 3 miles from standing height. As such, it is unlikely that [Turkey Point] is visible from the Jones Family Historic District.

Have any studies been conducted to confirm that Turkey Point is not visible from the Jones Family Historic District?

HC-6 Section 3.8.6 of the ER states that “FPL has administrative controls in place for management of cultural resources ahead of future ground-disturbing activities at the plant, although no license renewal-related ground-disturbing activities have been identified.” Section 4.6.5.3 states that “[t]errestrial habitats and wildlife could be affected by ground disturbance from refurbishment-related construction activities.” Additionally, Section 2.0 of the ER states that refurbishment is not anticipated for Turkey Point.

- a Clarify the inconsistency in these two statements regarding ground disturbance associated with license renewal.
- b Clarify whether there will be refurbishment activities associated with license renewal. If so, describe what these refurbishment activities will be.

HC-7 Provide an un-redacted copy of the following documents for the audit:

- a Carr, R.S. 1981. Dade County Historic Survey, Final Report, The Archaeological Survey. Metropolitan Dade County, Florida. Unpublished manuscript on file with the Florida Master Site File. December 1981.
- b Carr, R.S., I. Eyster, and J. Southard. 1980. Dade County Archeological Survey: Interim Report. Dade County Historical Survey. Unpublished manuscript on file with the Florida Master Site File. March 1980.
- c JRI (Janus Research, Inc.). 2004. Florida Gas Transmission Turkey Point, Resource Report 4, Cultural Resources. Unpublished manuscript on file with the Florida Master Site File.

- d JRI. 2013. Cultural Resource Assessment Survey of the Reclaimed Water Treatment Facility and On-Site Reclaimed Water Pipeline Alternate Locations Associated with Turkey Point Units 6 & 7 Project: Addendum 1. Unpublished manuscript on file with the Florida Master Site File.
- e Lewis, S. P. and J. Davis. 1996. Phase I Archaeological Resource Survey of the Florida Power and Light Company's South Dade Mitigation Bank, Dade County, Florida. Cotleur Hearing, Jupiter, Florida, August 1966. Unpublished manuscript on file with the Florida Master Site File.

Socioeconomics

SOC-1 Provide FPL property tax payment information for the year 2017, if available, similar to the data provide in Table 3.9-3 of the ER.

SOC-2 Section 3.9.5 of the ER discusses local government revenues and personal property tax paid by FPL on behalf of Turkey Point.

- a Besides Miami-Dade property tax payments, describe and provide any other sizeable annual support payments (e.g., emergency preparedness fees and payments or fees because of the independent spent fuel storage installation), one-time payments, or other forms of non-tax compensation (if any) provided to local organizations, communities, and jurisdictions on behalf of Turkey Point.
- b Describe and provide annual Miami-Dade County sales taxes from Turkey Point operations expenses.

SOC-3 Section 2.5 of the ER identifies that Turkey Point currently has 366 contract workers. Provide a count or estimate of contract workers needed to support operation of Turkey Point for the previous 5 years.

SOC-4 Table 3.9-3 of the ER provides FPL's property tax payments for 2012 through 2016. The table identifies that there was an increase in Turkey Point's property tax payments between 2012 and 2013, and between 2013 and 2014 (property tax payments increased by approximately 4.5 times from 2012 to 2013 and then increased by 1.4 times from 2013 to 2014). Section 3.9.5 of the ER states that the "payment increase coincides with the Units 3 and 4 [extended power uprate (EPU)] going into service and the lien date...." Turkey Point's EPU LAR Supplemental Environmental Report (ADAMS No. ML103560183) stated that Turkey Point planned to

...implement the modifications necessary to support the power uprates at [Turkey Point] 3 and 4 during the 2010, 2011 and 2012 refueling outages. Upon NRC approval of the EPU license amendment request and following completion of the scheduled outage periods as well as completion of power ascension and testing, [Turkey Point] 3 is expected to begin operating at the EPU core rated power level of 2644 MWt in the spring of 2012, and [Turkey Point] 4 in the fall of 2012.

Were the modifications for EPU and operation at EPU power levels the cause of the property tax payment increases from 2012 to 2013 and from 2013 to 2014? If not, please describe the reason for the increases.

Environmental Justice

- EJ-1 Section 3.11.3 of the ER states that local government officials, staff of social welfare agencies, and the Miccosukee Indian Tribe were contacted concerning resource dependencies or practices.
- a Identify the nature of these communications (e.g., letters, emails, phone calls, in-person meetings).
 - b Provide copies of letters and other communication documents to and from the contacted entities.
- EJ-2 As referenced in the ER, outreach concerning resource dependencies or practices was conducted by FPL in support of the Turkey Point, Units 6 and 7 combined license (COL) application, submitted to the NRC in 2009. Has FPL conducted additional outreach to identify unusual resource dependencies or practices or health conditions that could result in potentially disproportionate impacts to minority and low-income populations since 2009?

Waste Management (rad and non-rad)

- WM-1 Provide procedures related to the radioactive and nonradioactive Waste Management Program, Waste Minimization Program, Chemical Control Program, General Industrial Safety Requirements, and Electrical Safety.
- WM-2 In Section 3.6.4.2.1 of the ER, FPL stated that since 2012, there have been nine unplanned releases of radioactive materials. The last unplanned release referenced in the ER was April 23, 2016. Have there been any reportable unplanned releases of radioactive materials which would trigger a notification requirement since the ER was written? Provide a description of releases.
- WM-3 In Section 3.6.4.2.2 of the ER, Turkey Point stated that based on the review of site records for the most recent 5 years (2012–2016), there has been no inadvertent release that would not be classified as an incidental spill. Provide the most current records to see if there have been any reportable inadvertent release which would trigger a notification requirement since the ER was written.
- WM-4 Turkey Point is subject to the reporting provisions of 40 CFR Part 110 as it relates to the discharge of oil in such quantities as may be harmful pursuant to Section 311(b)(4) of the Federal Water Pollution Control Act. Any discharges of oil in such quantities that may be harmful to the public health or welfare or the environment must be reported to the National Response Center. In Section 9.5.3.7 of the ER, the applicant discusses reportable spills, and states that for the 5-year period of 2012–2016 there were no reportable spills. Have there been any reportable spills which would trigger this notification requirement since the ER was written? Please provide a description of any spills.
- WM-5 Turkey Point is subject to the reporting provisions of FAC 62-780.110. This reporting provision requires that any release of oil having the potential to significantly pollute surface or ground waters and which are not confined to a building or similar structure be reported to the FDEP, the coordinator of emergency services of the locality that could reasonably be expected to be impacted, and appropriate federal authorities. In

Section 9.5.3.8 of the ER, the applicant discusses reportable spills, and states that for the 5-year period of 2011–2016 there were no reportable spills. Have there been any reportable spills which would trigger this notification requirement since the ER was written? Please provide a description of any spills.

Cumulative Impacts

- CU-1 Please provide the name, description, location, and status of any additional past, present, or reasonably foreseeable projects or actions that have been identified since the ER was prepared.
- CU-2 Please provide the status of any agreement with Miami-Dade County to share the cost of constructing a wastewater treatment facility at the county's south district station. Who would own and operate this facility? When would this facility likely be constructed? Would treated wastewater be used to clean up the cooling canal system? Would this facility be operating and would treated waste water be flowing into the cooling canal system during the period of continued operations?

Replacement Power Alternatives

- AL-1 Identify the available location(s) on or near the FPL Turkey Point site that would be suitable for siting replacement power generation. Please identify possible locations during the general tour.
- AL-2 Identify the approximate acreage, terminal points, and orientation of the new natural gas pipeline that would be required to support the Natural Gas-fired Generation replacement power alternative discussed in ER Section 7.2.3.1.
- AL-3 Section 7.2.3.1.5 of the ER states, "Overall, the discharge volume for the NGCC plant would be less than the [Turkey Point] discharge volume." Please provide the basis for this statement.

PTN Environmental Site Audit Schedule

Tuesday, June 19, 2018

START	END	ACTIVITY
8:30 am	8:45 am	Entrance meeting with FPL
8:45 am	9 am	Site environmental tour briefing (FPL)
9 am	12 noon	Site tours/meetings between NRC and FPL SMEs
12 noon	1 pm	Lunch
1 pm	4 pm	Remaining site tours/meetings between NRC and FPL SMEs
4 pm	4:30 pm	Team debrief/planning
4:30 pm	5 pm	Daily debrief with FPL

Wednesday, June 20, 2018

START	END	ACTIVITY
8:30 am	12 noon	Meetings between NRC and FPL SMEs
12 noon	1 pm	Lunch
1 pm	4 pm	Meetings between NRC and FPL SMEs
4 pm	4:30 pm	Team debrief/planning
4:30 pm	5 pm	Daily debrief with FPL

Thursday, June 21, 2018

START	END	ACTIVITY
8:30 am	12 noon	Meetings between NRC and FPL SMEs
12 noon	1 pm	Lunch
1 pm	4 pm	Meetings between NRC and FPL SMEs
4 pm	4:30 pm	Team final debrief
4:30 pm	5 pm	Exit meeting with FPL