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# PUBLIC SUBMISSION

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**Docket:** NRC-2018-0101  
 Turkey Point Nuclear Plant Units 3 and 4

**Comment On:** NRC-2018-0101-0034  
 Florida Power & Light Company; Turkey Point Nuclear Generating Unit Nos. 3 and 4

**Document:** NRC-2018-0101-DRAFT-0038  
 Comment on FR Doc # 2019-06612

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## Submitter Information

**Name:** Richard Orthen

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## General Comment

Office of Administration  
 Mail Stop: TWFN-7-A60M  
 ATTN: Program Management, Announcements and Editing Staff  
 U.S. Nuclear Regulatory Commission  
 Washington, D.C. 20555-0001  
 Re: Docket ID NRC-2018-0101 / Document 2019-06612 / Docket Nos. 50-250, 50-251  
 Florida Power & Light Company Comments Regarding the Turkey Point Nuclear Generating Unit Nos. 3 and 4 Subsequent License Renewal Draft Supplement 5 Generic Environmental Impact Statement

### References:

1. NUREG-1437 Supplement 5, Second Renewal Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4; Draft Report for Comment, March 2019 (ADAMS Accession No. ML19078A330)
2. NRC letter to FPL dated April 1, 2019, Notice of Availability of Draft Supplement 5, Second Renewal, to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4 (ADAMS Accession No. ML19007A017)
3. Volume 84 Federal Register Notice (FRN) 13662 dated April 5, 2019, Notice of Availability EIS No. 20190047, Draft Supplement, NRC, FL, Generic Environmental Impact Statement for License Renewal, Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4

Florida Power & Light Company (FPL) provides, as the attachment to this letter, its comments on the Draft Supplement 5 Generic Environmental Impact Statement (DSEIS; Reference 1) for the proposed subsequent

(second) license renewal of Turkey Point Units 3 & 4. These comments are provided in response to the Notice of Availability of the DSEIS being issued for public comment by the U. S. Nuclear Regulatory Commission (NRC; Reference 2) and the U. S. Environmental Protection Agency (EPA; Reference 3).

FPL appreciates the opportunity to review and provide comments on the DSEIS to assist the NRC in disclosing an accurate and complete evaluation of potential impacts in the final SEIS (FSEIS). Accordingly, FPL recommends that the corrections and clarifications the attached comments identify be reconciled in the FSEIS.

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## **Attachments**

L-2019-104 SANDated 20MAY19 Docket ID NRC-2018-0101 DSEIS Comments



L-2019-104  
10 CFR 51.73

May 20, 2019

Office of Administration  
Mail Stop: TWFN-7-A60M  
ATTN: Program Management, Announcements and Editing Staff  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

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Florida Power & Light Company Comments Regarding the Turkey Point Nuclear  
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Docket ID NRC-2018-0101 / Document 2019-06612 Comments  
Turkey Point Units 3 and 4 (Docket Nos. 50-250 and 50-251)  
L-2019-104 Page 2

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If you have any questions, or need additional information, please contact me at 561-691-2294.

Sincerely,



William Maher  
Senior Licensing Director  
Florida Power & Light Company

WDM/RFO

Attachment: Docket ID NRC-2018-0101 / Document 2019-06612 Comments

cc:

Senior Resident Inspector, USNRC, Turkey Point Nuclear  
Regional Administrator, USNRC, Region II  
Project Manager, USNRC, Turkey Point Nuclear  
Plant Project Manager, USNRC, SLRA  
Plant Project Manager, USNRC, SLRA Environmental  
Ms. Cindy Becker, Florida Department of Health

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
1	2.2.2	2-6	<p>The DSEIS states: “If the NRC does not issue subsequent renewed licenses, procurement of replacement power for Turkey Point Units 3 and 4 may be necessary.” The statement “may be necessary” is not accurate with respect to replacement power. Replacement power will be needed to meet the reserve margin requirements mandated by the Florida Public Service Commission. In addition, the replacement power will need to be sited in either Miami-Dade and/or Broward Counties to maintain the balance between load and generation in these two counties. FPL suggests that this section in general focus on this need to balance load and generation in these two counties for all alternatives considered. The need to maintain a balance between a balance between load and generation in these two counties has been discussed each year for more than a decade in FPL’s Ten-Year Power Plan Site Plan (Site Plan) that is filed each year with the Florida Public Service Commission. This discussion appears on pages 61 and 62 in FPL’s 2019 Site Plan.</p>
2	2.2.2 2.2.2.2	2-7 2-10 2-11	<p>The DSEIS states in Table 2-1: “construction of a new <u>or upgraded</u> pipeline” and a “right-of-way to connect with existing natural gas supply lines north of the site.” The DSEIS also states: “the natural gas alternative may also require up to 1,200 ac (490 ha) of land for right-of-way to connect with existing natural gas supply lines north of the site.”</p> <p>The DSEIS indicates that a replacement plant may require infrastructure upgrades (“new or upgraded pipeline”) to support a new facility and but did not identify the significance of changes required to provide additional gas supply. The sole existing pipeline from the north to the Turkey Point site is fully subscribed and cannot supply sufficient gas for the equivalent of 3x500 MW of new CC capacity. Replacement CC capacity sited at Turkey Point would require a new gas pipeline that would be totally separate from the existing gas pipeline. Whereas the existing pipeline comes down the eastern part of Miami-Dade County, the new pipeline would have to be sited down the extreme western portion of the county, then entering the Turkey Point site from the west. Similarly, on page 2-10, it should be noted that natural gas would flow through the existing pipeline system southward only to the Lake Okeechobee area. Then a new pipeline would be needed to bring sufficient gas to the Turkey Point site to power the equivalent of 3x500</p>

<sup>1</sup> NUREG-1437 Supplement 5, Second Renewal – *Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4*, Draft Report for Comment, March 2019 (ADAMS Accession No. ML19078A330)

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			MW gas units. This comments would also apply to the gas plus solar alternative. This information was part of the record in FPL's filing for Florida Public Service Commission approval of the Dania Beach combined cycle unit, docket number 20170225-EI.
3	2.2.2	2-12	The DSEIS states "installed [solar] capacity with approximately 725 MW" and "FPL plans to add more than 2,000 MW of additional solar generation capacity during that timeframe." These statements are outdated. As of January 2019, FPL alone has 1,153 MW of PV installed and, as indicated in FPL's 2019 Ten Year Site Plan filing, FPL plans to have 8,053 MW of PV installed by the end of 2028. These statements should be revised accordingly.
4	2.2.3	2-13	<p>In section 2.2.3, the DSEIS identifies a cooling water system alternative whose impacts will be assessed in Chapter 4. However, the DSEIS does not consider whether this alternative is a reasonable alternative. With respect to the reasonableness of this alternative, on August 8, 2018, FPL submitted an expert report in response to RAI AL-3 (the "High Bridge Report") that provided an analysis of the technical and economic challenges to the cooling tower alternative. Yet this report was apparently not considered in the DSEIS. As a result, the analysis of the cooling water system alternative does not capture the full scope of a project to replace the cooling canal system with cooling towers. The DSEIS refers to the FEIS for the Turkey Point COL (NUREG-2176) but additional detail should be included in the EIS for the SLR to reflect the differences between a new facility and operating reactors, as there are differences in construction, location, and size between the cooling towers required for the two different projects</p> <p>For instance, while a new plant design, like Units 6&amp;7, would maximize the efficiency of the construction project, integrating cooling towers into already operating power plants necessarily would involve inefficiencies in the design due to the need to minimize disruption of plant activities and impacts on the existing facility design. This project will involve the construction of a large Reclaimed Water Treatment Facility and a 60+-acre storage pond. These would need to be made to fit in the northern portions of the site because the southern area is covered by the existing Cooling Canal System, which would have to remain in operation while the cooling towers are being constructed and tested.</p> <p>In addition, the cooling tower modification for Turkey Point would require the addition of redundant circulating water pumps because the existing plants' circulating water pumps were not designed for the additional pressure drop required to accommodate cooling towers. Other less impactful design</p>

		<p>compromises would be necessary for this retrofit application that will increase the cost above what would be expected for a new build plant. These are addressed in the High Bridge Report.</p> <p>In addition to the tie-in to the MDWASD treatment plant, the waste water would need to be treated before it could be used by the Turkey Point nuclear units. The plants' main power steam turbine condensers would need to be protected against the residual chemicals in the reclaimed makeup water from municipal sewage. The extent of the facility required to address the residual chemicals in the water is quite substantial. This pre-treatment system would consist of nitrogen, phosphorus and disinfection of the reclaimed water. The treatment system would need to be sized for the 60 million gallons per day (MGD) flow rate, which would result in a water treatment system that would look more like a municipal water treatment facility. It would include chemical treatment, large full flow sand filters, settling ponds, and a range of other subsystems that all add to the costs and scope of the project. This was a significant part of the Turkey Point 6&amp;7 project but appears to be missing from the impact sections of the DSEIS.</p> <p>Further, the Cooling Tower modification to the plants' discharge canal would require the construction of many earthen berms to direct flow into the cooling tower system and to prevent flow directly into the return canal to the inlet. Also, the canal would need to be deepened and widened to minimize silting resulting from the outflow from the cooling tower into the modified canal.</p> <p>Another major complexity of the addition of cooling towers to the Turkey Point nuclear plants is that the Ultimate Heat Sink for the safety related cooling of the nuclear reactors uses the existing Cooling Canal System. Substituting the cooling towers for the existing cooling system would eliminate the plants' Ultimate Heat Sink. This safety related system would need to be reestablished by modifications to the cooling water canals. Assuming that the canals would remain in place, this would involve the deepening and widening of the return canal to increase the water volume to meet the UHS requirements. If the cooling canals were fully eliminated (e.g., removed), then some other water volume would need to be identified. In addition, this new water volume needs to be in a lined reservoir to minimize salinization due to groundwater in-leakage. A new connection would need to be constructed between the plants' discharge canal and this new ultimate heat sink reservoir that does not short circuit the cooling towers.</p> <p>Lastly, the plant site is currently optimized for operations; not for construction. The addition of cooling towers, the Reclaimed Water Treatment Facility, the Makeup Storage Pond, the Pipeline tie-in to the MDWASD treatment facility, and all the civil work to expand and line the new Ultimate Heat Sink cooling</p>
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Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>water system represent a number of simultaneous large construction projects involving complicated interfaces:</p> <ul style="list-style-type: none"> <li>• The bulk of the Turkey Point site is dominated by the existing Canal Cooling System.</li> <li>• The barge unloading area is near retired unit 1 and unit 2, as well as operating unit 5. Additionally, the heavy haul road runs through this congested site area.</li> <li>• The site has no designated laydown area suitable for staging the required quantities of heavy equipment and material.</li> <li>• The overhead transmission lines from the operating power plants limit the height of packages and crane operations.</li> <li>• These proposed projects would require a great deal of excavation for foundations and footings, and the site is not uniformly capable of supporting these activities. Large quantities of engineered backfill may be required that will further occupy the limited shipping and receiving facilities necessary to receive components and bulk commodities to support the construction.</li> <li>• Buried utilities and abandoned construction services from previous projects, that may or may not be well documented, challenge and interfere with these civil construction projects.</li> </ul>
5	2.2.3	2-13	<p>The DSEIS presents the cooling water system alternative as an alternative that would mitigate the potential impacts associated with continued use of the existing cooling canal system. This presentation is incomplete because it does not explain how the installation of cooling towers would achieve this end.</p> <p>First, the DSEIS concludes that the impacts of the CCS on groundwater quality would “be SMALL during the subsequent license renewal term as a result of ongoing remediation measures and State and county oversight, now in place at Turkey Point” and that “hypersalinity is projected to decrease substantially as a result of ongoing remediation efforts.” DSEIS at 4-27. It is not clear then, what environmental impacts of the cooling canal system during the license renewal period would be mitigated by the cooling water system alternative.</p> <p>Moreover, even if there was an environmental impact from the cooling canal system during the period of extended operation, the DSEIS does not explain how or whether cooling towers would affect seepage of hypersaline water from the CCS.</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
6	2	2-13	<p>The DSEIS states, “the primary source of cooling water is assumed to be reclaimed wastewater.” This statement is a valid assumption but incomplete because it does not provide a discussion of the reclaimed water supply that would be required. The statement should be revised by adding: “The reclaimed wastewater supply would be from the Miami Dade county wastewater treatment facility to the Turkey Point Site and would require construction of an approximately 10-mile-long pipeline and additional pumping stations.”</p>
7	2.3.1	2-14	<p>The DSEIS states: “To be considered a viable alternative, a solar [or wind] alternative must replace the amount of energy that Turkey Point provides.” This statement is incomplete because it provides only part of the requirement to be a viable alternative to Turkey Point. In addition, the stated “50%” value is unrealistic. This statement should be revised to add: “A viable alternative must also provide firm capacity at least FPL’s Summer peak hour (4-to-5 p.m.) and Winter peak hour (7 to 8 a.m.). Solar alone cannot provide firm capacity on early Winter mornings. PV capacity factors in Florida are in the 25% to 30% range. Also, the alternative must be sited in Miami-Dade and/or Broward counties to maintain the required balance of load and generation in this Southeast Florida region.”</p>
8	2.3.12	2-20	<p>The DSEIS states: “NRC staff concludes that purchased power does not provide a reasonable alternative to Turkey Point subsequent license renewal.” The SEIS omits an additional reason for reaching the conclusion. This statement should be modified as follows: “Furthermore, because the replacement capacity would have to be delivered to the Southeast Florida region consisting of Miami-Dade and Broward counties, a purchased power alternative would require the construction of new transmission facilities to import the power from outside the region into these two counties” at the beginning of the sentence.</p> <p>The DSEIS states “FPL has not identified opportunities within its existing fleet that would provide for the replacement of Turkey Point’s net generation.” The SEIS omits an additional explanation for the statement. This statement should be modified as follows: “Furthermore, because the replacement capacity needs to be in the Southeast Florida region consisting of Miami-Dade and Broward counties, any delayed retirement option would have to be associated with plans to retire units in those two counties. There are no generating units that are sited in those two counties that are projected to be candidates for retirement by the time Turkey Point Units 3 &amp; 4 are facing the end of their current operating licenses.”</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
9	Table 2-2	2-23	DSEIS table note (a) states that SLR is "likely to adversely affect the American crocodile," based on its findings in the Biological Assessment (BA). The BA conclusion is based on the impacts to crocodiles from hypersaline waters alone in the CCS. As explained in FPL's April 18, 2019 comments on BA pages 32, 34 and 35 (ADAMS Accession No. ML19112A023), FPL has implemented a program to reduce salinity in the CCS to bring it to 34 PSU prior to the SLR period. Regardless, the USFWS has concluded that hypersalinity alone doesn't adversely affect the crocodiles. The DSEIS should be fully informed by FPL's comments on the NRC BA and revised accordingly. Similarly, the DSEIS should also be fully informed by the additional information provided by FPL in FPL Letter L-2019-031 dated April 3, 2019 (ADAMS Accession No. ML19095B380 – Enclosure 5).
10	3.1.1	3-1	In several places, the DSEIS gives the false impression that five units remain on site. To be clear, the DSEIS should be revised to indicate that Units 1 and 2 have been significantly decommissioned, but the generators remain on site to help stabilize and optimize grid performance. See also pages 2-9, line 10; 3-20, line 5; page 3-27, line 13; and page 3-81, line 11.
11	3.2.1.2	3-24	<p>The DSEIS states, "The U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency (EPA), the Natural Resources Conservation Service, the U.S. Fish and Wildlife Service (FWS), and the National Marine Fisheries Service (NMFS) provide guidance on the use of the mitigation bank to satisfy mitigation requirements of specific laws and provisions, including Section 404 of the Federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) permit program, the wetland conservation provisions of the Food Security Act, the National Environmental Policy Act (NEPA), and several other statutory provisions. The FDEP, the South Florida Water Management District (SFWMD), and Miami Dade County guide the mitigation bank program within Florida pursuant to the Florida Mitigation Banking Rule and other State authorities."</p> <p>This statement is not entirely correct. The US EPA, Natural Resources Conservation Service, the FWS and the NMFS do not provide guidance on the use of the mitigation bank; rather they participated in the review of the mitigation bank permit application and subsequent Mitigation Banking Instrument issued by the US Army Corps of Engineers. The FDEP has regulatory authority over the mitigation bank program within Florida pursuant to the Florida Mitigation Banking Rule. Neither the SFWMD nor Miami-Dade County have any regulatory authority over the FPL Everglades Mitigation Bank. This statement should be revised to: "... and the National Marine Fisheries Service (NMFS) participate in the review of the</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			mitigation bank permit applications and subsequent Mitigation Banking Instruments issued by the US Army Corps of Engineers to ensure consistency with specific laws and provisions including ....". "The FDEP guides the mitigation bank program within Florida pursuant to the Florida Mitigation Banking Rule."
12	3.3.2	3-27	The DSEIS references permit 0250003-028-AV as the fossil Title V permit. This is not the most recent permit information. This information should be replaced with permit 0250003-030-AV issued in November 2018.
13	3.5	3-31 3-32	<p>The DSEIS states: "At the Turkey Point site, surface water (including the area's freshwater canals, wetlands, and the adjoining Biscayne Bay) and groundwater are closely connected. This close relationship is attributable to the very high permeability of the underlying Biscayne aquifer, which permits water to move relatively freely between the surface and subsurface and vice versa. As a result, the CCS is hydraulically connected to surface waters including Biscayne Bay via the groundwater pathway." This statement does not distinguish hydraulic characteristics and dynamics of fluid flow. Consequently, there is insufficient information to establish that CCS water is moving into Biscayne Bay or adjacent surface water bodies, that waters from the adjacent water bodies are flowing into the CCS, or whether surface waters from the CCS and surrounding water bodies are not interacting at all.</p> <p>The last sentence should be revised to: "Surface waters in the CCS are hydraulically connected to groundwater within the Biscayne aquifer. Surface waters outside the Plant are also hydraulically connected to the Biscayne aquifer. Flow between surface waters and groundwaters are governed by a variety of factors include stage/hydraulic head gradients, hydraulic conductivity of sedimentation, hydraulic conductivities of aquifer materials, porosity, and fluid density gradients. Transport of surface water sediments and/or dissolved chemical constituents are further complicated by factors such as impingement, diffusion, dispersion, chemical reactions with matrix materials, biologic attenuation, decay/chemical breakdown, temperature/ fluid density gradients etc. All of these factors need to be considered in order to establish, and the degree to which, surface and groundwaters interact."</p>
14	3.5	3-45	The DSEIS states, "According to its environmental report for subsequent license renewal, FPL's current plans to lower CCS temperatures do not include the use of freshwater from State canals (FPL 2018f). In the future, should FPL need to use freshwater from State canals, FPL would need to seek permission to do so from State and county governments. FPL states that future plans to reduce CCS temperatures include adding brackish water from the Upper Floridan aquifer, reducing algae in the CCS, continuing to

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>remove sediment within the CCS, and, only in extraordinary circumstances, pumping saltwater from the Biscayne aquifer into the CCS (FPL 2018f).”</p> <p>This statement is incomplete because the mitigation activities described are primarily to address salinity in the CCS, not temperature. However, there may be some secondary benefit of temperature reduction that is not reflected in this section. This statement should be revised to: “FPL states that future plans to improve water quality include adding brackish water from the Upper Floridan aquifer, reducing algae in the CCS, continuing to remove sediment within the CCS, and, only in extraordinary circumstances, pumping saltwater from the Biscayne aquifer into the CCS (FPL 2018f).”</p>
15	3.5	3-47	<p>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.</p> <p>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 ...”.</p>
16	3.5	3-49	<p>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 m<sup>3</sup>/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 m<sup>3</sup>/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).”</p> <p>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</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>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 6<sup>th</sup> 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.</p> <p>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.”</p>
17	3.5	3-50	<p>The DSEIS states, “Sampling data by Miami-Dade County and FPL in the late fall and winter months of 2015–2016 revealed levels of ammonia concentration 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 Biscayne Bay (MDC 2016a).” This statement is inaccurate because the monitoring stations referred to in this section are not located in Biscayne Bay. They are located in remnant deep-cut man-made canals adjacent to Biscayne Bay. Following an evaluation of those data and data collected in Biscayne Bay conducted by the FDEP, the FDEP determined that no exceedances of State or federal surface water quality standards were detected in Biscayne Bay monitoring (FDEP, 2016e). Miami-Dade County has established its own standard for ammonia as nitrogen under municipal code (Chapter 24, Article III, Division3, Section 24-44.(2)(f)(v) MDC Municipal Code). The rule identifies the basis of the promulgated ammonia numeric standard as respiratory.</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>This statement should be revised to: “Sampling data by Miami-Dade County and FPL in the late fall and winter months of 2015–2016 revealed levels of ammonia concentration 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 in remnant deep (&gt;20 feet deep) man-made canals adjacent to Biscayne Bay (MDC 2016a). FDEP evaluated those data and additional water chemistry data collected in Biscayne Bay and determined no exceedances of State or Federal surface water quality standards were detected in Biscayne Bay monitoring (FDEP, 2016e).”</p>
18	3.5	3-64	<p>The DSEIS states, “Well locations TPGW-10S/D, TPGW-11S/D, TPGW-13S/D, and TPGW-14S/D are offshore in Biscayne Bay.” This statement is inaccurate because TPGW-13 is not located off-shore, but located at the center of the CCS as stated in the previous sentence. This statement should be revised to remove “TPGW-13S/D”.</p>
19	3.5	3-68	<p>The DSEIS states, “While all wells had detectable ammonia, the concentrations were variable, ranging from a low of 0.17 mg/L at MW-3 adjacent to the intake canal and Biscayne Bay to a high of 4.6 mg/L at the South MW, as compared to the surface water quality standard of 0.5 mg/L.” This statement is inaccurate because this is a GW sample and its concentration should be compared to the MDC GW standard. Additionally, there is no State groundwater criterion for ammonia. The statement should be revised to: “While all wells had detectable ammonia, the concentrations were variable, ranging from a low of 0.17 mg/L at MW-3 adjacent to the intake canal and Biscayne Bay to a high of 4.6 mg/L at the South MW, as compared to the Miami-Dade County groundwater standard of 0.5 mg/L.”</p>
20	3.5	3-68	<p>The DSEIS states: “In July 2017, Miami-Dade County requested that FPL collect additional data in support of the ammonia site assessment report (FPL 2017b). In November 2017, FPL responded to the County’s request by submitting supplemental information.” This statement is incomplete because it does not include the significant findings from FPL’s November 2017 supplemental information submittal (FPL letter dated November 13, 2017 – Florida Power &amp; Light Company Site Assessment Report Supplemental Information Submittal: DERM File Number HWR 851; available on the FPL SLR online reference portal by May 31, 2019). That submittal documents data and research demonstrating the CCS has little potential for contribution to the ammonia levels in deep canals and identifies sources and process by which ammonia occurs at the monitoring sites.</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>This statement should be revised to include the following information (taken from FPL’s November 2017 response): “The FPL response evaluated tritium results from the ten sites identified in the County’s April 20, 2017 email combined with data provided from six sites analyzed by MDC DERM to assess the strength of relationship between tritium levels and ammonia measured in surface and groundwater sites. Tritium data were also used to estimate percentage contributions of Cooling Canal System (CCS) waters at the MDC specified surface and groundwater sites to evaluate the degree to which organic nitrogen in and beneath the CCS could account for the ammonia values measured at each site. Ammonia data collected from background porewater monitoring sites located outside the influence of CCS waters from freshwater marsh and coastal brackish water mangrove wetlands was also presented. These data document elevated ammonia levels consistently above County standards that forms from organic nitrogen released from plant debris and organic soils. Additional data and reports were also provided regarding numerous other monitoring stations within the Biscayne Bay coastal area that have documented similar ephemeral excursions of ammonia greater than 0.5 mg/L to those recorded in stagnant dead end canals outside of the Turkey Point facility.</p> <p>FPL concluded these data and analyses support the original conclusions in the Site Assessment Report that the source of the ammonia in the area of Turkey Point is attributable to the degradation of plant and animal material and to natural and anthropogenic phenomenon related to non-CCS factors affecting Biscayne Bay. The elevated ammonia levels in surface waters surrounding the Plant are of limited vertical, spatial and temporal extent. The results obtained from the sampling program at Turkey Point are consistent with data collected throughout Biscayne Bay in other studies along coastal Miami-Dade and Monroe counties. Elevated ammonia values in excess of County surface water standards are not the result of point or non-point source contamination attributable to the Turkey Point Power Plant site and CCS. Rather, the occurrence of elevated ammonia is the result of the conversion of organic nitrogen sourced from organic wetland soils, decomposition of wetland and aquatic plant material, atmospheric nitrogen fixation and natural microbial processes in anoxic, stagnate surface and groundwater environments.”</p>
21	3.5	3-68 3-69	<p>The DSEIS states: “The County’s letter directs FPL to undertake a number of additional actions, including development of a revised sampling plan for ammonia in surface water and groundwater and measures to reduce nutrient impacts from the CCS on surface waters and groundwater (MDC 2018a). Surface water</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>sampling results from the ammonia site assessment report are discussed in Section 3.5.1.4, “Adjacent Surface Water Quality and Cooling Canal System Operation,” of this SEIS.” This statement is incomplete because it does not address FPL’s October 8, 2018 response, (a copy of which FPL provided to the NRC in Enclosure 2 to FPL letter L-2019-031 dated April 3, 2019 (ADAMS Accession Nos. ML 19095B380 and ML19095B384).</p> <p>This statement should be revised to: “On October 8, 2018, FPL responded to the MDC July 18, 2018. In their response, FPL noted that groundwater data collected since 2010 from stations surrounding the CCS show, groundwater ammonia concentrations were consistently below MDC Chapter 24-44 Clean-up Target Levels (CTLs) (Section 24-44.(2)(f)(v) of the Code of Miami-Dade County) and as such, provide an acceptable level of protection for human health, public safety and environmental resources and are below the point at which a site rehabilitation action is determined to be accomplished (Section 24-44.(2)(a) of the Code of Miami-Dade County). Further, the average ammonia levels within the CCS canals are well below Chapter 24-42(4) surface water standards of 0.5 ppm (Enclosure 2 to FPL letter L-2019-031 dated April 3, 2019 (ADAMS Accession Nos. ML 19095B380 and ML19095B384). Measured ammonia concentrations in several of the deep samples greatly exceeded the total nitrogen concentrations in the CCS and in groundwater beneath the CCS demonstrating that there are sources of nitrogen other than the CCS causing exceedances of county ammonia standards in the bottom of the deep canals.</p> <p>As identified in FPL’s Site Assessment Report (SAR), ammonia concentrations that exceeded applicable MDC surface water standards in five deep man-made drainage canals adjacent to the CCS were located in bottom samples where dissolved oxygen levels were less than 1.0 mg/L. Ammonia levels in the middle and upper portions of the water column were compliant with county ammonia standards with the exception of middle samples in the Turtle Point Canal where the dissolved oxygen levels were also less than 1.0 mg/L. There are no state numeric ammonia standards for Class III marine waters. Using Tritium and salinity mixing analyses, the SAR analysis demonstrated that for those bottom canal samples that exceeded the Miami-Dade limit for ammonia, the maximum contribution attributable to the CCS was 8% with an average of 2.85%. The SAR also established that the estimated CCS contribution to surface water site with ammonia levels below the county standard ranged from 0.4 to 16%. These evaluations</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>were conservative as the potential for CCS ammonia contributions to the deep man-made canals were made using the concentrations of total nitrogen in the CCS (to address the theory that total nitrogen in CCS waters was being converted to ammonia in groundwater and then being transported to the adjacent canals) which were much higher than the ammonia concentrations in the CCS. Thus, if there is any contribution to ammonia concentrations in adjacent surface water from groundwater beneath the CCS, it is de minimis. FPL also outlined the numerous successful actions taken to reduce nutrient levels in the CCS and the additional actions underway that address nutrient contributions from the Turkey Point facility.”</p>
22	3.5	3-72	<p>DSEIS Figure 3-14 depicts the location of RWS-3. This location depiction is incorrect. RWS-3 is located in the NW corner of the CCS. This Figure should be revised to depict the correct location for RWS-3 as identified in the Recovery Well System Startup Report provided in Enclosure 1 to FPL letter L-2019-031 dated April 3, 2019 (ADAMS Accession Nos. ML19095B380 and ML19095B382).</p>
23	3.5	3-73	<p>The DSEIS states: “FPL’s modeling analysis indicates that operating the CCS with salinity in excess of 35 PSU is the single largest contributor to changes (movement) in the location of the saltwater interface, as measured by the areal extent of the saltwater interface.” This statement is incomplete because, although the CCS was the single largest contributing factor, the other factors combined contributed more to the changes in the location of the saltwater interface, than the CCS alone. This statement should be revised to: “Although the CCS was the single largest contributing factor, the other factors combined contributed more to the changes in the location of the saltwater interface, than the CCS alone.”</p>
24	3.5	3-82	<p>The DSEIS states: “Each well is equipped with a 2,500-gpm (9,460 L/min) capacity pump (FDEP 2016b).” This statement is inaccurate because the wells do not have pumps as they produce water by natural artesian flow. This statement should be removed.</p>
25	3.5	3-85	<p>The DSEIS Figure 3-16 defines the Unit 5 production wells as “Saline Wells” and the CCS freshening wells as “Floridan-Wells.” The legend is confusing as both the Floridan freshening wells and the Unit 5 “PW” wells are producing brackish water from the Upper Floridan Aquifer (UFA). The legend should be revised to identify “F” wells (green triangles) as “UFA freshening Wells and “PW” wells (yellow circles) as “Unit 5 UFA Wells”.</p>
26	3.6.1	3-89	<p>The DSEIS states: “In 2017, the Southwest Florida Water Management District (SWFMD) issued Permit No. 13-06251-W allowing FPL to recover and extract the hypersaline water within and around</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			the CCS (SFWMD 2017a).” This statement misidentifies the Southwest Florida Water Management District (SWFMD) with the South Florida Water Management District (SFWMD). The subject water use permit was issued by the SFWMD, not the SWFMD as stated. This statement should be revised to replace ‘SWFMD’ with ‘SFWMD.’
27	3.6.1	3-89	The DSEIS states: “In conclusion, the SWFMD determined that while the authorized withdrawal would impact wetlands, the impacts to onsite and offsite wetlands would be minimal (SFWMD 2017a).” This statement does not accurately reflect the agency or its finding. This statement should be revised to: “In conclusion, the SFWMD determined that the potential for harm to occur to wetlands as a result of the authorized withdrawal of the recommended allocation is considered minimal (SFWMD 2017a).”
28	3.5.1.1	3-34	<p>The DSEIS states: “The canals generally discharge the most freshwater into the bay and sound during wet times of the year and the least during dry periods. As a result, salinity concentrations throughout the year in the bay and sound are more variable in time and space than prior to the construction of drainage canals (NRC 2016a).” This statement is incomplete. In addition to canal discharges to the bay, USGS studies have shown a reduction in groundwater stages as a result of drainage have affected Bay salinities as a result of reduced fresh groundwater seepage into near shore coastal waters (see “<i>Evaluation of Effects of Changes in Canal Management and Precipitation Patterns on Salinity in Biscayne Bay, Florida</i>”, <i>Using an Integrated Surface-Water/Groundwater Model</i>”, Scientific Investigations Report 2012–5099). This is a significant factor in the water quality in the Bay and Sound.</p> <p>This statement should be revised by adding: “In addition, canal management practices lower area groundwater table elevations which have reduced fresh groundwater seepage into Biscayne Bay and Card Sound further affecting coastal salinity.”</p>
29	3.5.1.1	3-34	The DSEIS states: “The Turkey Point site occupies an area of former sheet flow that discharged into the bay. However, development of the site’s location blocks sheet flow from reaching Biscayne Bay (NRC 2016a).” This statement is inaccurate because sheet flow into Biscayne Bay and Card Sound had been intercepted by the construction of the L-31E canal/levee in the early 1960’s prior to the construction of the CCS. This statement should be revised to: “The Turkey Point site and L-31E canal/levee occupies an area of former sheet flow that discharged into the bay. Development of the L-31E canal/levee and the TP site has blocked historic sheet flow from reaching Biscayne Bay and Card Sound. However, FPL

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			installed a series of 40 culverts through the L-31E levee in 2009 that re-established sheet flow into Card Sound.”
30	3.5.1.1	3-35	The DSEIS states: “The Florida legislature has designated Biscayne Bay and Card Sound, including Biscayne National Park, as Outstanding Florida Waters. This affords these waters the highest water quality protections in the State (NRC 2016a; Robles, et al 2005; NPS 2012). The FDEP cannot issue permits for direct discharges to Outstanding Florida Waters that would lower ambient (existing) water quality and may not issue permits for indirect discharges that would significantly degrade a nearby waterbody designated as an Outstanding Florida Water (FDEP 2017a).” As a completeness clarification, the following language should be added to the above paragraph: “However, the CCS was authorized and constructed prior to the OFW designation was enacted and Florida water quality rules provide exceptions for existing facilities that were permitted prior to the effective date of the Outstanding Florida Water designation (chapter 62-4.242(2)(a) F.A.C.). The effective date of the OFW rule was 3/1/1979 and Card Sound, Biscayne Bay National Park were added to the rule in 12/1/1982 and 5/14/1986 respectively (chapter 62-302.700 F.A.C.). The first NPDES permit for Turkey Point including the CCS was effective on September 23, 1973.”
31	3.5.1.4	3-46	The DSEIS states: “Most of the salt in the CCS comes from the groundwater of the Biscayne aquifer which is saltwater. As groundwater from the Biscayne aquifer moves into the CCS, the salt it contains also moves into the CCS. The Biscayne aquifer obtains its salt from Biscayne Bay, and is hydrologically connected to both the Biscayne Bay and the CCS (FPL 2018f, Tetra Tech 2014, FPL 2016a).” The statement is incomplete as it doesn’t explain how the saltwater in the Biscayne aquifer becomes hypersaline in the CCS. The salt levels in the CCS are concentrated as a result of limited rainfall and evapotranspiration. This statement should be revised to: “As groundwater from the Biscayne aquifer moves into the CCS, the salt it contains also moves into the CCS and becomes concentrated as a result of evaporation. FPL’s addition of fresher groundwater from the Floridan aquifer offsets the freshwater lost to evaporation is the underpinning of the strategy to lower CCS salinities to mirror the salinities in the Bay.” Also, the second sentence regarding the hydrologic connection between Biscayne Bay and the CCS is more complex than this sentence conveys and a more detailed discussion of the hydraulic relationship between the CCS and the Bay is previously covered in Section 3.5.3, page 3-31 and 3-32 (refer to Comment Item 13)..

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
32	3.5.1.4	3-41	The DSEIS states: “In response to orders from the State of Florida and Miami-Dade County, FPL conducts an extensive water quality monitoring program that includes the CCS, Biscayne Bay, Card Sound, marshland, mangrove areas, and canals adjacent to the CCS. A major objective of this program is to evaluate the effects, if any, of CCS operation on the surrounding environment.” This statement is inaccurate because the extensive monitoring conducted by FPL is in response to conditions X and XI of the State of Florida PPSA License PA 03-45E and the 5 <sup>th</sup> Supplemental Agreement with the SFWMD not the Department of Environmental Protection Consent Order or the Miami-Dade County Consent Agreement. This statement should be revised to: “Pursuant to conditions of the State of Florida PPSA License PA 03-45E, FPL conducts an extensive ...”
33	3.5.1.4	3-41	The DSEIS states: “This water quality monitoring program monitors surface water bodies for numerous water quality parameters, including ammonia and other nutrients and salinity.” This statement is inaccurate because it under represents the depth of analytical data used to assess surface water quality. FPL analyzes surface water samples for 29 parameters, including physical parameters including salinity, anions, cations, tritium, ammonia and other nutrients. The statement should be revised to: “...surface water bodies for twenty nine water quality parameters including physical parameters such as salinity, temperature and specific conductance, anions, cations, tritium, ammonia and other nutrients.”
34	3.5.1.4	3-42	The DSEIS states: “Between June 2010 and May 2016, ammonia concentrations within the CCS ranged from below detectable levels to 0.3 mg/L and averaged 0.04 mg/L (FPL 2017c).” Ammonia data values could not be verified in the cited reference. Suggest the sentence be replaced with the following sentence: “Average ammonia levels within the CCS canals are well below Chapter 24-42(4) surface water standards of 0.5 ppm.”(Enclosure 2 to FPL letter L-2019-031 dated April 3, 2019 (ADAMS Accession Nos. ML 19095B380 and ML19095B384).
35	3.5.1.4	3-46	The DSEIS states: “The salinities of seawater are around 34–35 practical salinity units (PSU), while the salinity of water in the CCS is presently around 60 PSU, or almost twice the salinity of seawater (EB 2018, FPL 2018f).” This statement is inaccurate because the 60 PSU value does not represent recent conditions. The average annual CCS salinity in 2017-2018 was 51 PSU. This statement should be revised to: “...while the salinity of water in the CCS in 2015-2017 was around 60 PSU, most recent annual average salinity for the CCS was 51 PSU (2017 – 2018).”

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
36	3.5.1.4	3-48	The DSEIS states: "The County recommended that FPL revisit this alternative for further evaluation as a potential long-term solution (MDC 2016a). The current status of this proposal is unclear." This statement is outdated. This statement should be revised to: "At the time of this report, FPL and MDC were evaluating a potential cooperative reclaimed water use project for Turkey Point."
37	3.5.1.4	3-51	The DSEIS states: "In response to the modified consent agreement between FPL and Miami Dade County, FPL submitted a corrective action plan to Miami-Dade County on September 14, 2016." This statement is inaccurate because the wrong plan is identified. This statement should be revised to: "...submitted a Site Assessment Plan to Miami-Dade County on September 14, 2016 (FPL, 2016g)."
38	3.5.1.4	3-51	The DSEIS states: "As of July 5, 2018, FPL was in the process of obtaining the final permits for these restoration projects (FPL 2018f)." This statement is inaccurate because it does not reflect the current status of these projects. This statement should be revised to: "The Turtle Point Canal restoration was completed in April 2019 and restoration of the Barge Turning Basin began in May 2019 is scheduled to be completed by September 2019."
39	3.5.1.4	3-52	The DSEIS states: "Restoration activities at Turtle Point will backfill one-third of the remnant canal up to a depth of 0.33 ft (0.1 m) below MSL (for future Mangrove Planting)." This statement is inaccurate because it does not reflect the current status of these projects. This statement should be revised to: "Restoration activities at Turtle Point Canal included backfilling one-third of the remnant canal up to a depth of 0.33 ft. (0.1 m) below MSL and the planting of approximately 1,700 mangroves was completed in April 2019."
40	3.5.1.4	3-56	The DSEIS states: "The rate and direction of this water movement depend on the head differences between the CCS and the Biscayne aquifer (FPL 2018f, NRC 2016a)." This statement does not include additional factors that affect rate of water movement. Suggest the statement be expanded to: "...head differences between the CCS and the Biscayne aquifer, hydraulic conductivity of the canal sediments, and fluid density differences between fluids in the CCS and Biscayne aquifer (FPL 2018f, NRC 2016a)."
41	3.5.2.2	3-59	The DSEIS states: "FDEP has classified groundwater west of the Turkey Point site (i.e., to the west of the site boundary and CCS) as Class G-II, which means potable water use, with TDS levels of less than 10,000 mg/L (FPL 2018f)." This statement is inaccurate because it incorrectly suggests that the Biscayne aquifer is supposed to be G-II potable throughout its entire thickness west of the Plant Site. Prior to construction of the CCS, saltwater had already intruded into the Biscayne Aquifer for several miles inland. Near the coast, the aquifer was saline for the full depth of the aquifer (FPL 2018f). Moreover, the

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>FDEP does not specifically list or map GW classifications in aquifers in Florida, rather the classifications are determined by rule criteria (See chapter 62-520.410, F.A.C.).</p> <p>This statement should be revised to: “Groundwater in the fresher upper portion of the Biscayne aquifer west of the Turkey Point site (i.e., to the west of the site boundary and CCS) is classified as Class G-II, which means potable water use, with TDS levels of less than 10,000 mg/L and G-III for those lower portions of the aquifer with TDS levels of 10,000 mg/L or greater which has been intruded with saline groundwater from Biscayne Bay since the 1950s (FPL 2018f).”</p>
42	3.5.2.2	3-62	<p>The DSEIS states: “For groundwater monitoring, FPL’s contractor performs quarterly field sampling from 14 well clusters, comprising 42 wells in total.” This statement is inaccurate because it isn’t consistent with Figure 3-12. This statement should be revised to: “... from 14 clusters and 5 historic wells used for salinity and temperature profiling, comprising 47 wells in total.”</p>
43	3.5.2.2	3-63	<p>In Table 3-4, Table footnote: “M” incompletely characterizes the condition as ‘missing data’ thus allowing for an improper noncompliance inference. The footnote should be modified to reflect the following basis for the ‘missing data’ condition: “missing data (parameter not required to be monitored).”</p>
44	3.5.2.2	3-64	<p>The DSEIS states: “Wells TPGW-1 through TPGW-7 are situated at various distances to the north and west of the CCS. Well cluster TPGW-7S/D can also be considered a sentinel well as it is the monitoring location nearest to the Miami-Dade County’s Newton Wellfield that supplies potable water to municipal customers.” The statement is misleading as it implies TPGW-7S/D is the last monitoring well between the SWI and the wellfield. There are multiple monitoring wells between the TPGW-7 site and the Newton Wellfield including wells monitored by FPL (including TPGW-20; one of 19 additional wells added to the original EPU monitoring well network shown on Figure 3-12), the USGS and MDC. The sentence implies saline GW could advance into the wellfield without advanced notification since TPGW-7D has become saline. In addition, FPL has monitoring well clusters west of TPGW-7 (TPGW-8 and 9 as shown on Figure 3-12).</p> <p>This statement should be modified to replace “TPGW-7” with “TPGW-9” and either remove the second sentence or replace with: “Additional monitoring wells that track the orientation of the saltwater interface (not shown on Figure 3-12) occur between the Newton Wellfield and the current location of the saltwater interface line.”</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
45	3.5.2.2	3-64	<p>The DSEIS states: “Additionally, data from March 2011 are included to provide an historical baseline, representing the pre-extended power uprate monitoring period for Turkey Point.” This statement creates the impression that in 2011, the saltwater interface was stable and could be used as a baseline condition upon which to assess the effects of the uprate on SWI movement. This is not supported by USGS studies that show the freshwater/saltwater interface is and has been moving inland throughout coastal Palm Beach, Broward and Miami Dade counties for decades due to numerous factors independent of Turkey Point. This statement should be revised to: “Additionally, data from March 2011 and 2017 are included to provide comparative water chemistry at selected monitor sites over a six year period.”</p>
46	3.5.2.2	3-64	<p>The DSEIS states: “The current monitoring data (Table 3-5) also establish that TDS concentrations in Class G-II designated groundwater immediately to the west of the CCS boundary exceed the G-II standard (TDS of less than 10,000 mg/L).” The sentence makes statements regarding classifications of groundwater under current conditions in relation to presumed groundwater classification earlier in the history of the CCS without consideration of groundwater quality in the area west of the CCS prior to the Construction and operation of the CCS. Determinations whether state water quality criterion are exceeded are made by FDEP with full consideration of State groundwater quality rules. The presumption that G-II groundwater occurred immediately west of the CCS is not supported by historic data collected during the construction of the CCS in 1972 and 1973. For example, TPGW-1,2 and 4 are west of the CCS boundary in portions of the aquifer that exceeded 10,000 mg/L TDS threshold in 1972 before the CCS was operational.</p> <p>This statement should be revised to: “Prior to the construction of the CCS, non-potable groundwater with TDS levels exceeding 10,000 mg/L occurred in the lower portions of the Biscayne aquifer several miles west of the L-31E canal and the Plant Site. Shallow portions of the aquifer contained fresher groundwater the thickness of which increased with distance from the coast. Over the years since the CCS was constructed and operated, the salinities along the base of the aquifer increased and the thickness of the upper freshwater portion of the aquifer thinned. As discussed, there are multiple causes for these changes including the westward migration of hypersaline groundwater from beneath the CCS.”</p>
47	3.5.2.2	3-69	<p>The DSEIS states: “On April 25, 2016, the FDEP issued a warning letter (FDEP 2016c) expressing concern that CCS water was reaching Biscayne Bay.” This paragraph is incomplete with regard to the resolution of the FDEP issue raised in the Warning Letter, consequently inadvertently creating a potential</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			impression that operations of the CCS resulted in exceedances of surface water quality standards in Biscayne Bay. This statement should be revised to: "... expressing concern that CCS water was reaching Biscayne Bay and requested FPL provide facts that would assist the Department in determining whether any violations had occurred. On May 16, 2016, FPL submitted nutrient monitoring data to the Department from certain surface water monitoring stations in deep channels adjacent to the CCS for total nitrogen, total phosphorous, TKN, and chlorophyll a. The Department reviewed the information and determined that no exceedances of surface water quality standards were detected in Biscayne Bay monitoring. The Department concluded the Consent Order is intended to minimize the potential for future exceedances of surface water standards (FDEP, 2016a)." [See paragraph 17 of the FDEP CO].
48	3.5.2.2	3-70	The DSEIS states: "Between September 2016 and May 2018, the testing and recovery well systems have extracted and disposed of approximately 8,285 million gallons (31.4 million m3) of hypersaline groundwater, with the removal of 1.92 million tons (1.74 million metric tons) of salt from the Biscayne aquifer (FPL 2018h, 2018i)." The values stated are preliminary values that were finalized and changed during the data validation process (the validated values were reported to the regulatory agencies). This statement should be revised to include the following validated removal quantities: 7.63 billion gallons of hypersaline groundwater removed with an associated salt removal mass of 1.87 million tons.
49	3.5.2.2	3-70	The DSEIS states, "FPL has constructed five wells to date (i.e., wells F-1, F-2, F-3, F-4, and F-5)." This statement contains incorrect well identifiers. This statement should be revised to: "FPL has constructed wells F-1, F-3, F-4, F-5 and F-6.
50	3.6.3.1	3-90	The DSEIS states, "This chapter of the FAC gives the FFWCC the authority to list species as State-threatened or endangered." The state of Florida no longer has a 'state-endangered' listing category (ref. Chapter 68A-27.001 Definitions). This statement should be revised to remove "endangered" from the listing category.
51	3.6.3.1	3-91	The DSEIS states, "...the American crocodile, which is State- and federally listed as threatened...." American crocodiles are federally threatened; therefore, they do not have a separate state designation. This statement should be revised by removing the 'State-' listing reference.
52	3.6.4	3-94	The DSEIS states, "The Argentine black-and-white tegu ( <i>Tupanimbis merianae</i> ) has also been observed at Turkey Point (NRC 2016a)." This statement is incomplete because the Burmese python has also been

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			observed onsite (and removed when possible). This statement should be revised to reflect the Burmese python observation.
53	3.8.1.1	3-107	The DSEIS states the Indigo snake occurrence pattern is "...regularly observed onsite." "Regularly" is an incorrect description since there have only been five to ten sightings over a few years. This statement should be revised to replace "regularly" with "occasionally."
54	3.9.2	3-115	The DSEIS states, "Construction of Turkey Point likely disturbed any historic and archaeological resource that may have been located within its footprint." This is entirely conjecture. Archaeological investigations have been on-going in Florida since at least 1874 and have been particularly focused in the southeast Florida region during the period following World War II. No sites had been recorded in the vicinity of Turkey Point prior to its construction. This statement should be removed or reworded to indicate that it is "possible" that unrecorded archaeological sites were disturbed.
55	3.10.5	3-125	The DSEIS states "Turkey Point property tax payment for 2012 – 2017 are presented in Table 3-23." It should be noted that the tax payments in Table 3.23 are attributed to Turkey Point nuclear units 3 and 4 alone, and exclude the other units at the Turkey Point site during those tax years. This statement should be revised by inserting 'Units 3 and 4' after 'Point.'
56	3.13.1	3-133	The DSEIS states, "Radioactive materials in liquid and gaseous effluents are reduced prior to being released into the environment..." For nearly all materials released, this is a true statement. However, tritium is a special case in that it is impractical to reduce its pre-release concentration by conventional means. This statement should be revised to insert 'Nearly all' or 'Most' before 'Radioactive.'
57	3.13.2	3-136	The DSEIS states, "there have been no reportable spills since the ER was submitted." This quotation from FPL's August 2018 WM-2 RAI response is incomplete. FPL's complete statement was, "There have been no reportable spills triggering the FAC 62-780.110 notification requirement since the ER was submitted." This statement should be replaced by FPL's complete statement.
58	3.13.2	3-135	The DSEIS states, "From 2012 through 2016, FPL reported no oil discharges ...." This reporting period is not current. This statement should be revised to 'From 2012 through 2018, FPL reported no oil discharges....'
59	4.2.7.1	4-11	The DSEIS states, "land use impacts associated with the construction and operation of the mechanical draft cooling towers for the cooling water system alternative would be SMALL." The DSEIS should

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>recognize that, with much of the Turkey Point site occupied by the existing generation facilities, the cooling canal system, and wetlands, the footprint for cooling towers should be expected to impact wetlands and require permits and mitigation. The proposed location of the cooling towers and new Waste Water Treatment Facility would likely require wetland mitigation due to the need to establish a large construction site area that would be required for material and equipment laydown and staging in conjunction with the footprints of the new Cooling Towers, Waste Water Treatment Facility, Make-Up Water Pond (which is calculated at 60 Acres), and new pumping station. This statement should be revised to indicate that the land use impacts for this alternative would likely be larger than described in the DSEIS.</p>
60	4.3.7.1	4-19	<p>The DSEIS states, “Replacement power would come from common types of existing technology within the region (natural gas, nuclear, and coal)”. FPL doesn’t operate any coal plants in Miami-Dade County. This statement should be revised by removing “and coal.”</p>
61	4.3.7.1	4-18	<p>The DSEIS states: “Replacement power may be needed during both construction and operation of a mechanical draft cooling tower system at Turkey Point. Following cooling tower construction, Turkey Point Units 3 and 4 would be offline for at least a short time during the switchover from use of the cooling canal system (CCS) to cooling towers.” This statement accurately notes that replacement power would be needed during construction and operation, but appears to underemphasize the need during construction. With possible modifications to the discharge canal for UHS modifications, both units may have to be shut down for the pump station installation and other work. FPL has calculated that station off-line durations of up to 7 months could be required for construction and post-construction activities. Additionally, based upon system constraints, it is reasonable to expect that additional transmission would be required to make up for the capacity lost for the duration of the project at the southern extent of the FPL transmission system to compensate for the simultaneous outage of 1,600 MW in the state’s largest load area.</p>
62	4.5.1.1	4-23	<p>The DSEIS states: “The program implemented by FPL to extract hypersaline groundwater from the Biscayne aquifer (on the west side of the CCS) is not designed to remove the hypersaline groundwater beneath Biscayne Bay (on the east side of the CCS).” The statement creates the impression that removal of hypersaline groundwater from the G-III groundwater under Biscayne Bay is an un-met requirement of FPL. The CCS is authorized to discharge to G-III groundwater by NPDES Permit (FL0001562).</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			Groundwater beneath Biscayne Bay is and has been G-III non potable. CCS discharges to G-III groundwater beneath Biscayne Bay comply with state groundwater discharge rules and accordingly, FPL has not been required to extract hypersaline groundwater from beneath the Bay. This statement should be revised to: "...to extract hypersaline groundwater from the Biscayne aquifer (on the west side of the CCS) is not required or designed to remove the hypersaline groundwater beneath Biscayne Bay (on the east side of the CCS)."
63	4.5.1.1	4-23	The DSEIS states: "Hypersaline groundwater flow from the CCS beneath Biscayne Bay would, however, continue to move eastward and downgradient along the base of the Biscayne aquifer." This forecast statement is not supported by the actions and regulatory requirements in place today. With the CCS salinity reduced to 34 psu (equaling Biscayne Bay's salinity), and the RWS wells extracting hypersaline water, the source of hypersaline water to drive the continued easterly movement along the base of the aquifer will be gone long before the expiration of the current site license. This statement should be revised to: "Hypersaline groundwater flow from the CCS beneath Biscayne Bay would, however, diminish over time after the CCS salinities are reduced and maintained at levels equal to the Bay (34 PSU) and the hypersaline groundwater beneath and west of the CCS is removed by the RWS extraction wells."
64	4.5.1.2	4-25	The DSEIS states: "The hypersaline plume emanating from the CCS has migrated along the base of the Biscayne aquifer to the west into groundwater designated by the State as Class G-II, potable water use (defined as having total dissolved solids (TDS) levels of less than 10,000 mg/L)." This statement is not supported by data and conflicts with the finding in the FDEP CO. Paragraph 14 of the FDEP CO states: "On April 25, 2016, the Department issued a Notice of Violation (OGC File No.: 16-0241) ("NOV") to FPL stating that the CCS is the major contributing cause to the continuing westward movement of the saline water interface, and that the discharge of hypersaline water contributes to saltwater intrusion. In the NOV, the Department found that saltwater intrusion into the area west of the CCS is impairing the reasonable and beneficial use of adjacent G-II groundwater in that area." There was no finding, nor is FPL aware, of instances where hypersaline water emanating from the CCS has migrated into G-II groundwater as stated in the DSEIS. In fact, controlled-source electromagnetic (CSEM) surveying of the hypersaline groundwater identifies the western edge of the hypersaline as being 1 mile or more east of the area where G-II groundwater is being impacted by saltwater intrusion.

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			The statement should be revised to reflect FDEP findings that the CCS is a major contributing cause of SWI in the area but hypersaline groundwater from the CCS has not been found to be migrating into G-II groundwater. This is also supported by the SWI modeling that identified the CCS hypersaline water as the single largest contributing factor but the combined impact of the remaining seven SWI factors exceeded the influence of the CCS. See also the DSEIS sentence 36 – 39 on page 4-26.
65	4.5.1.2	4-27	The DSEIS states, “Consistent with FPL’s statements in its environmental report (FPL 2018f), the modeling results for the constructed well system predict retraction of the westward plume to the edge of the CCS by about 5 years and complete retraction within 10 years, with minor aquifer drawdown impacts.” This statement is not accurate as retraction to the edge of the CCS will not be complete in 5 years. This statement should be revised to: “Groundwater models of the RWS indicate the westward migration of the hypersaline plume will be stopped in three years of operation, with retraction of the hypersaline plume north and west of the CCS beginning in 5 years. Retraction of the plume back to the FPL site boundary is projected in 10 years.”
66	4.5	4-35	The DSEIS states, “Sanitary wastewater discharges to the Boulder Zone via Turkey Point’s injection well and septic systems ...” Turkey Point does not discharge sanitary wastewater into the Boulder Zone. This statement should be revised to: “Sanitary wastewater that is discharged at the site is discharged via a Class V injection well to the Biscayne Aquifer...”
67	4.5.1.2	4-31	<p>In section 4.5.1.2, the DSEIS analyzes potential new Information on a Category 1 Issue, Groundwater Quality Degradation (Plants with Cooling Ponds in Salt Marshes). On page 4-27, the DSEIS concludes that “this information is both new and significant.” Based on this information, the NRC concludes that “the site-specific impacts for this issue at the Turkey Point site are MODERATE for current operations, but will be SMALL during the subsequent license renewal term as a result of ongoing remediation measures and State and county oversight, now in place at Turkey Point.” Similarly, the DSEIS in section 4.14 (p 4-98) states “The NRC staff determined that the information was both new and significant for one of the issues, ‘Groundwater quality degradation (plants with cooling ponds in salt marshes),’ as listed in Table 4-1 and as evaluated in Section 4.5.1.2, ‘Groundwater Resources,’ of this SEIS.”</p> <p>This conclusion, that the information is significant due to its relevance for consideration of current operational impacts, is a misapplication of NRC rules and guidance. 10 CFR 51.75(d) states that a draft</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
			<p>EIS is intended to analyze the environmental effects of the proposed action and “need not discuss other issues not related to the environmental effects of the proposed action and associated alternatives.” Under section 1.1 of the DSEIS, the proposed action is for the NRC to determine whether to issue a renewed license allowing an operation for an additional twenty years. NUREG 1555, Supplement 1, Revision 1 makes clear that new and significant information must bear on impacts of license renewal (“The NRC staff must identify any new information on the environmental impacts of license renewal.) While the information identified by the NRC in section 4.5.1.2 is certainly “significant” from a public interest and regulatory standpoint, it is not significant as that term is defined by the NRC for this purpose. The NRC concluded that this information does not paint a seriously different picture of the environmental consequence of the proposed during the proposed action. Therefore, this information cannot be considered “significant” for the purpose of reviewing the continued applicability of a Category 1 issue.</p> <p>It appears that the NRC agrees with this conclusion because it has not followed the process established by the Commission for instances where information bearing on the proposed license renewal period is deemed new and significant. As explained by the First Circuit Court of Appeals and by the Commission in its 1996 rulemaking, where the Staff identifies new and significant information bearing on a Category 1 issue, it must notify the Commission and seek a waiver of the rule addressing Category 1 issues. <i>Massachusetts v. NRC</i>, 522 F.3d 115, 120-21 (1st. Cir. 2008); 61 Fed. Reg. 28467 at 28470.</p> <p>Because the staff has neither identified new information that has significant bearing on the period of renewed operation nor sought a waiver of 10 CFR 51.71(d), the NRC could add clarity and regulatory consistency by stating that it has not identified new information that has a significant bearing on the proposed period of extended operations.</p>
68	4.5.2.2	4-35	<p>In the DSEIS Section 4.5.2.2 and 4.5.7.2 discussions of the water resource impacts of the No-Action and Cooling Water System alternatives, the DSEIS acknowledges that the CCS would remain in place, albeit with reduced thermal input and a corresponding reduced demand for freshening water additions from the UFA. FPL notes that with these alternatives, the hypersaline plume would also remain and still require operation of the Recovery Well System and disposal through deep well injection in accordance with the Consent Order and Consent Agreement.</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
69	4.9.1.3	4-72	<p>The DSEIS states, “Given the age of the Ranger House/McGregor Smith Cottage (50 years old) and the known association with McGregor Smith Cottage, the NRC believes that the cottage is potentially eligible for listing on the NRHP under Criterion b (association with the lives of person significant in the past).” 36CFR60.4, Criterion B and its supporting guidelines (National Register Bulletin 15, page 14) states that this criterion is restricted to those properties that illustrate (rather than commemorate) a person’s important achievements. FPL has no evidence that former FPL President Smith had any significant influence over the design, construction or use of this building, nor did he live in it, use it as an office, or spend significant amounts of time in this structure. The structure’s association with McGregor Smith is apparently solely that the building was named after him. This statement should be revised to reflect that the association between McGregor Smith and this cottage is remote, at best. FPL recommends that the NRHP eligibility recommendation for this building be stated as “undetermined” until such time as it has been formally evaluated.</p>
70	4.9.1.3	4-72	<p>The DSEIS states, “Similarly, as a result of McGregor Smith’s known involvement with the Boy Scouts, the Boy Scout structures on the Turkey Point site may potentially be eligible for listing in the NRHP under Criterion b.” 36CFR60.4, Criterion B and its supporting guidelines (National Register Bulletin 15, page 14) states that this criterion is restricted to those properties that illustrate (rather than commemorate) a person’s important achievements. FPL has no evidence that former FPL President Smith had any significant influence over the design, construction or use of the Boy Scout Camp, nor did he spend significant amounts of time in this location. This statement should be revised to reflect that although it is well-known that McGregor Smith had close ties to both the Boy Scouts and Girl Scouts, the eligibility of the three Boy Scout Camp buildings is remote, at best. FPL recommends that the NRHP eligibility recommendation for the Boy Scout Camp buildings be stated as “undetermined” until such time as they have been formally evaluated.</p>
71	4.10.7.1	4-83	<p>The DSEIS states: “Therefore, the socioeconomic impacts of constructing the cooling water system alternative would be SMALL.” The DSEIS section should be revised to consider the capital costs of constructing the Cooling Towers, the Waste Water Treatment Facility, Make-Up water Pond and related support facilities that has been estimated at well over \$1B. This cost would also be relevant for the consideration of the reasonableness of this alternative. This is discussed in detail in the High Bridge Report. (Attachment 19 Enclosure 1 to FPL Letter L-2018-136 dated August 8, 2018; ADAMS Accession No. ML18247A509).</p>

Item	DSEIS <sup>1</sup> Section	DSEIS Page	Florida Power & Light Company Comment
72	4.13.2	4-95	The DSEIS states, "...the plant would generate less spent nuclear fuel..." This statement is inaccurate because the plant would not be operating and thus no new spent fuel would be produced. This statement should be revised to: "... after plant shutdown and prior to entering the decommissioning phase, the plant would generate no additional spent nuclear fuel."
73	4.13.7	4-97	The DSEIS states, "During operation, some minor amounts of chemical wastes may result from efforts to maintain appropriate chemical quality of the recirculating cooling water, from the periodic maintenance (i.e., descaling) of the cooling towers, and from periodic removal of settled precipitates from the cooling water basins beneath each cooling tower." This statement is incomplete because it does not consider information from NUREG-2176, Vol. 1 Environmental Impact Statement for Combined Licenses (COLs) for Turkey Point Nuclear Plant Units 6 and 7, Section 3.4.2.3, which discuss the Injection Wells for cooling towers blowdown. Units 3 and 4 would need a method for disposal of liquid radioactive waste, in accordance with Part 20 methods, like Units 6&7 if the CCS is removed from service. Currently, Units 3 and 4 discharge liquid radioactive waste to the CCS, but it is diluted to meet Part 20 requirements. If the plant no longer discharges circulating water to the CCS, it would need to identify an alternative method for discharge of radioactive waste. This scenario was analyzed in detail in the Safety Evaluation and FEIS for the Units 6&7 COL project. This statement should be revised accordingly.