

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
FLORIDA POWER & LIGHT CO.)	Docket No. 50-250-LA
)	50-251-LA
(Turkey Point Nuclear Generating)	
Units 3 and 4))	

NRC STAFF'S REPLY FINDINGS OF FACT
AND CONCLUSIONS OF LAW CONCERNING CONTENTION 1

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April 12, 2016

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I. INTRODUCTION

In accordance with 10 C.F.R. § 2.1209 and the Atomic Safety and Licensing Board's ("Board") orders in this proceeding,¹ proposed findings of fact and conclusions of law concerning Citizens Allied for Safe Energy's ("CASE") Contention 1² were timely filed by Florida Power and Light Company ("FPL"),³ CASE,⁴ and the NRC Staff ("Staff").⁵ Pursuant to the

¹ See Initial Scheduling Order (May 8, 2015), at 10 (Agencywide Document Access and Management System ("ADAMS") Accession No. ML15128A369); Order (Taking Official Notice and Ordering Briefing) (Feb. 26, 2016) at 2 (ADAMS Accession No. ML16057A339).

² Contention 1 concerns the adequacy of the Staff's environmental assessment ("EA") prepared for license amendments regarding the Turkey Point Nuclear Generating Units 3 and 4 ("Turkey Point") Ultimate Heat Sink ("UHS").

³ Florida Power & Light Company's Proposed Findings of Fact and Conclusions of Law (Mar. 28, 2016) (ADAMS Accession No. ML16088A427) ("FPL's Proposed Findings").

⁴ [CASE's] Proposed Findings of Facts and Conclusions of Law Regarding the [July 31, 2014] NRC EA and FONSI (Mar. 28, 2016) (ADAMS Accession No. ML16088A438) (CASE's Proposed Findings").

⁵ NRC Staff's Proposed Findings of Fact and Conclusions of Law Concerning Contention 1 (Mar. 28, 2016) (ADAMS Accession No. ML16088A429) ("Staff's Proposed Findings"). In these Reply Findings on Contention 1, the Staff continues the numbering sequence from the Staff's Proposed Findings.

Board's Order of May 8, 2015, the Staff hereby submits its reply to FPL's⁶ and CASE's proposed findings of fact and conclusions of law concerning Contention 1.

For the reasons set forth in the Staff's Proposed Findings, and in the Reply Findings set forth below, the Staff submits that the Board should resolve Contention 1 in favor of the Staff and affirm that the Staff has met its burden of demonstrating that the UHS EA complies with the National Environmental Policy Act ("NEPA") and the Commission's regulations at 10 C.F.R. Part 51.

II. FINDINGS OF FACT

A. CASE's Proposed Findings Address Issues Beyond the Scope of Contention 1, Advance Unreliable Information, and Recite Facts Unsupported By the Record

5.115 The scope of this proceeding is narrow. The narrow question before the Board is whether the Staff's EA associated with the UHS license amendments sufficiently discussed the environmental impacts of the UHS license amendments on saltwater intrusion arising from: (1) migration of hypersaline water out of the cooling canal system ("CCS"); and (2) FPL's planned aquifer withdrawals.⁷

5.116 CASE's Proposed Findings contain many out-of-scope, unreliable, and/or inaccurate facts and conclusions. Since these assertions are stated throughout CASE's Proposed Findings, the Staff's Reply Findings consolidates and addresses these assertions under common themes, rather than individually.

⁶ The Staff has reviewed FPL's Proposed Findings and has determined that a detailed reply is not required. In this regard, the Staff has concluded that FPL's findings concerning Contention 1 are not inconsistent with the Staff's findings, and any differences are not substantive.

⁷ *Florida Power & Light Co.* (Turkey Point Generating Units 3 and 4), LBP-15-13, 81 NRC 456, 476 (2015) ("LBP-15-13"). Contrary to CASE's claim, the contention does not ask "whether hypersaline water migrating out of the CCS could also have deleterious effects on Biscayne Bay." CASE's Proposed Findings at 27, ¶ 57.

1. Out-of-Scope Arguments

5.117 CASE's Proposed Findings assert several arguments that are beyond the limited scope of Contention 1, including (1) ongoing operations of the CCS, (2) consultation with State of Florida officials, (3) exigency of the license amendment, (4) use of copper sulfate and other chemicals in the CCS, and (5) arguments that have been previously excluded. These arguments are beyond the scope of Contention 1 as admitted by the Board, and thus, are not relevant or material to the issue of whether the Staff's EA adequately discussed the potential impact on saltwater intrusion arising from conditions in the CCS and from aquifer withdrawals used to mitigate conditions in the CCS.

a. Ongoing Operations at Turkey Point and the Design and Function of the CCS

5.118 In its proposed findings, CASE raises concerns about the operation of Turkey Point and the effects it has on the CCS. *See, e.g.*, CASE's Proposed Findings at 28, ¶ 57 B ("FPL's operation has created thermal and hypersaline conditions inside the CCS."). *See also id.* at 62, ¶ 102 ("One could make the case that the operation of the CCS has broad and deep impact on the lives and well being of one of the rarest environmental settings on the planet...").⁸ CASE recognizes that it is the long-term operation of the plant, and not the UHS license amendments, that resulted in increased salinities in the CCS. *See id.* at 16-17 (quoting Mr. Ford).⁹ The Commission excluded those operational concerns as outside the scope of this proceeding. In excluding those concerns, the Commission noted that "CASE may file at any time a request for action pursuant to 10 C.F.R. § 2.206 if it wishes to challenge ongoing

⁸ *See also* CASE's Proposed Findings at 60, ¶ 98 (claiming that there is a NEPA violation because there is not an "established, regular, automatic flow of information from State and local [authorities] regarding significant administrative measures and issues regarding the operation of the plant and its impact on and interaction with the environment to the NRC Staff.").

⁹ Mr. Ford referenced the EPU but then corrected his statement to say UHS LAR. *See* CASE's Proposed Findings at 16, ¶ 31, lines 14-15 of transcript). However, CASE's Proposed Findings at 16, ¶ 32 and 17, ¶ 32A omit the corrected testimony.

operations at Turkey Point.” *Florida Power & Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), CLI-15-25, 82 NRC __ (slip op. at 13 n. 66) (Dec. 17, 2015) (ADAMS Accession No. ML15351A340).

b. Consultation of State Official

5.119 CASE’s Proposed Findings also reassert the challenge as to whether the Staff consulted the correct state official when preparing its UHS EA. See CASE’s Proposed Findings at 67-68, ¶ 111; 70, ¶¶ 117-118. However, as the Commission explained, “the Staff’s selection of an official for consultation purposes is not within the scope of the proceeding...” *Turkey Point*, CLI-15-25, 82 NRC __ (slip op. at 23-24 n. 110). Thus, this challenge is beyond the scope of the proceeding and is not litigable.

c. Exigent Nature of the UHS LAR and the Staff’s NSHCD

5.120 In its proposed findings, CASE asserts that it was improper for the Staff to process the UHS license amendment request (“LAR”) as exigent and to make a no significant hazards consideration determination (“NSHCD”). See, e.g., CASE’s Proposed Findings at 11, ¶ 24A (“The 2014 EA does not explain or challenge the reference to grid reliability or explain exactly what insurmountable challenges reducing power in the reactors would present.”).

5.121 These claims are outside the scope of the proceeding. As the Board explained in LBP-15-13, when it denied admission of CASE’s contention 2, under 10 C.F.R. § 50.91(a)(5),

[w]here the Commission finds that an emergency situation exists, in that failure to act in a timely way would result in derating or shutdown of a nuclear power plant, . . . it may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment.

Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Unit 3 and 4), LBP-15-13, 81 NRC 456, 477 (2015).

5.122 The Board found that the Staff, in reviewing the UHS LAR, did find that (1) exigent circumstances existed and (2) that the amendments involved no significant hazards consideration. *Id.* The Board stated that the Staff’s determination that there were exigent

circumstances “seems compelled by the fact that violation of the TS limit for the CCS, whatever the cause of the temperature increase, requires a dual unit shutdown.” *Turkey Point*, LBP-15-13, 81 NRC at 477.¹⁰ And the Board noted that the Staff’s NSHCD may not be challenged before the Commission or a Board. *Id.* (citing 10 C.F.R. § 50.58(b)(6)).¹¹ Thus, the Board did not admit CASE’s challenges to the exigent nature of the amendments into the proceeding. *Id.*

d. Use of Copper Sulfate and Other Chemicals to Control Algae Blooms

5.123 CASE’s proposed findings also highlight FPL’s use of copper sulfate and other chemicals to control algae blooms. See, e.g., CASE’s Proposed Findings at 40-41, ¶ 73 (noting that CCS chemical treatments have the potential to contribute to cumulative effects on CCS surface water resources, CCS aquatic resources, and the American crocodile). See also *id.* at 28, ¶ 57A; 43, ¶ 74. However, these claims are outside the scope of this proceeding. As the Board explained in LBP-15-13, the Staff’s UHS EA discusses impacts associated with the use of copper sulfate, and other chemicals, in the CCS. *Turkey Point*, LBP-15-13, 81 NRC at 478. Thus, the Board held that CASE failed to show that a genuine dispute exists on this point, and did not admit these claims into the proceeding. *Id.*

e. Stricken Arguments

5.124 In its proposed findings, CASE also raises a number of arguments that the Board previously struck. For example, CASE restates a version of its alternatives argument, which it recognizes was previously stricken. CASE’s Proposed Findings at 65. See also *id.* at 57-58, ¶ 94. See Order (Denying Application for Subpoenas, Denying Motion for Summary Disposition,

¹⁰ The Board also noted that the Staff’s determinations only affected the timing of any hearing, not the ability of CASE to request a hearing. *Turkey Point*, LBP-15-13, 81 NRC at 477.

¹¹ CASE also claims that the UHS EA was somehow deficient because it did not mention the exigent nature of the LAR. See, e.g., CASE’s Proposed Findings at 49-50, ¶ 84 (noting that the UHS EA does not mention an emergency or exigent situation and that this makes the EA inadequate). See also CASE’s Proposed Findings at 12, ¶ 26A; 43, ¶ 74; 65, ¶ 106. However, CASE points to no NEPA or Part 51 requirement or principle to support this claim. The exigent and emergency provisions are noticing provisions and are not related to environmental concerns.

and Granting in Part and Denying in Part Motions to Strike (Dec. 22, 2015) at 16 (unpublished) (striking arguments raised in CASE's Rebuttal SOP that Staff's review of alternatives to the proposed action was inadequate) (ADAMS Accession No. ML15356A297) ("Dec. 22, 2015 Order").¹²

5.125 Likewise, CASE highlights claims related to crocodiles and wildlife. *See, e.g.*, CASE's Proposed Findings at 13, ¶ 28A; 19, ¶ 38; 25-27, ¶ 56-57; 28 ¶ 57B. The Board held that CASE's claims about crocodiles and wildlife were not within the scope of the proceeding and struck those arguments. *See* Dec. 22, 2015 Order at 16.

5.126 The out-of-scope facts and conclusions noted above are not relevant to the narrow question before the Board (i.e., the sufficiency of the Staff's analysis of the UHS license amendments on saltwater intrusion in the UHS EA). Moreover, even if the statements were within the narrow scope of Contention 1, they do not show or indicate any deficiency in the Staff's UHS EA.

2. Unreliable, Irrelevant, and/or Inaccurate Evidence

5.127 In addition to out-of-scope facts and conclusions, CASE's Proposed Findings also contain many unreliable, irrelevant, and/or inaccurate assertions. Evidence is admissible in an NRC proceeding only if it is relevant, material, and reliable and is not unduly repetitious. 10 C.F.R. §§ 2.337(a), 2.711(e). The Board finds that the following facts and statements are not relevant, material and/or reliable and so will not be relied on as evidence.

5.128 First, CASE has not provided any qualified expert testimony relevant to the narrow contention admitted in this proceeding. The exhibits CASE submitted and that were admitted into evidence have not been supported by the testimony of a qualified expert

¹² *See also* CASE's Proposed Findings at 58-59, ¶ 96 (claiming that the EA violated NEPA because "modifying the operation of the reactors was not on the table."). While the Staff's alternatives analysis, including the no action alternative, are outside the scope of this proceeding, the Staff's UHS EA did discuss the no action alternative, which could have required FPL to derate or shutdown, either of which would constitute a modification of operation. (Ex. NRC-009 at 44,469).

explaining their import with respect to the Staff's EA. The only testimony CASE provided was that of Dr. Phillip K. Stoddard. Most of Dr. Stoddard's testimony concerned matters outside the scope of Contention 1 (e.g., impacts to wildlife, crocodiles). Staff's Proposed Findings at 33, ¶ 5.36. On matters within the scope of the contention, Dr. Stoddard was not demonstrated to be an expert, and therefore, his testimony is accorded no weight. *Id.*

5.129 Consequently, CASE provided no expert testimony to support or explain any of its exhibits, nor the relationship between those exhibits and the sufficiency of the analysis in the Staff's UHS EA. In the absence of any expert testimony, CASE resorts to unsupported argument to relate its admitted exhibits to the contention. Thus, the exhibits CASE cites in its proposed findings are themselves unsupported and unsponsored, and should not be relied on as evidence.¹³ 10 C.F.R. § 2.337(a). ("Only relevant, material, and reliable evidence" will be admitted into evidence); *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27 (citing *Duke Power Co.* (McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453, 475 (1982)) (Testimony on technical issues must be sponsored by a qualified expert with the "knowledge, skill, experience, training, or education to testify") (internal quotations omitted).

5.130 In a similar vein, many of CASE's assertions are irrelevant and/or inaccurate. For example, CASE points to a study to suggest that the UHS EA did not include relevant information regarding saltwater intrusion. CASE's Proposed Findings at 24-25, ¶¶ 55-55B. As an initial matter, the study was not admitted into the record, as it was only cited in CASE's Petition to Intervene. Moreover, the study is not relevant to the UHS license amendments; this study analyzed saltwater intrusion in *southwest* Florida, rather than the area potentially impacted by the CCS. *Id.* at 24, ¶ 55A (emphasis added). Therefore, this study, even if it had been admitted to the record, does not support CASE's assertion and is irrelevant to the challenged

¹³ Without a sponsoring witness, it is not clear that the exhibits are even accurate and reliable copies of the purported documents.

action. Similarly, CASE's Proposed Findings make passing references to other studies, without explaining their relevance to Contention 1, the UHS amendments, or the CCS. *Id.* at 21-24, ¶¶ 49-55B.

5.131 CASE also makes several incorrect statements related to the UHS EA. For example, CASE asserts that the UHS EA characterized the L-31 canal as a saltwater resource. *Id.* at 34, ¶ 63A. However, the UHS EA never mentioned the L-31 canal. Staff's Proposed Findings at 58, ¶ 5.109. Similarly, CASE asserts that the UHS EA did not discuss amounts greater than 14 million gallons per day ("MGD") for FPL's aquifer withdrawals. CASE's Proposed Findings at 32-33, ¶ 61A. That assertion is contradicted by portions of CASE's own Proposed Findings that quote the UHS EA's discussion of FPL's authorizations to withdraw 30 MGD from the Biscayne Aquifer, as well as to utilize 5 MGD from an existing authorization to withdraw from the Upper Floridan Aquifer. *Id.* at 19-21, ¶¶ 37-48. Thus, this assertion is not only incorrect, but also inconsistent with CASE's other assertions.¹⁴ Finally, CASE inaccurately asserts that the UHS EA did not discuss any impacts of actions authorized beyond the physical boundaries of the CCS. CASE's Proposed Findings at 12, ¶ 26A. As CASE itself points out in its Proposed Findings, the EA did account for such impacts. For example, the UHS EA discussed FPL's authorization to withdraw 14 MGD from the Upper Floridan Aquifer. *See id.* at 33, ¶ 61A. CASE's Proposed Findings also quote the UHS EA's discussion of FPL's authorizations to withdraw 30 MGD from the Biscayne Aquifer, as well as to utilize 5 MGD from an existing authorization to withdraw from the Upper Floridan Aquifer. *Id.* at 19-21, ¶¶ 37-48.¹⁵ Thus, CASE's assertions are incorrect. The EA clearly discusses actions authorized outside of

¹⁴ CASE also incorrectly asserts that the UHS EA was issued on August 14, 2014. CASE's Proposed Findings at 2. In fact, the UHS EA was published in the *Federal Register* on July 31, 2014. Staff's Proposed Findings at 5, ¶ 2.10.

¹⁵ Not only does the UHS EA discuss withdrawal amounts larger than 14 MGD, but it discusses potential withdrawal amounts (30 MGD, 5 MGD, and 14 MGD, for a total of 49 MGD) greater than the average amount that FPL actually received from the L-31 canal (43-44 MGD) while the authorizations discussed in the UHS EA were being appealed. (Ex. FPL-001 at 17).

the CCS (i.e., the withdrawals), as well as withdrawals other than the 14 MGD authorized withdrawal from the Upper Floridan Aquifer. Staff's Proposed Findings at 6-7, ¶ 2.19.

5.132 CASE's Proposed Findings also contain many speculative questions that are unsupported, irrelevant, and/or outside the scope of this proceeding. For example, CASE asks whether gauges to measure rainfall were properly calibrated and functioning to corroborate FPL's statement that there was reduced rainfall at the time of the UHS LAR. CASE's Proposed Findings at 7, ¶ 17A. Later, CASE questions whether the extended power uprate ("EPU") caused the salinity increases in the CCS. *Id.* at 15, ¶ 29.¹⁶ CASE also questions whether the Staff's analysis of the surveillance requirement added by the UHS license amendments was adequate. CASE's Proposed Findings at 8, ¶ 20. CASE also appears to question whether there are special circumstances associated with the UHS LAR (i.e., unresolved conflicts concerning alternative uses of available resources within the meaning of section 102(2)(E) of NEPA). See *id.* at 60-61, ¶ 99; 34, ¶ 63A.

5.133 CASE's speculative questions are outside the scope of this proceeding, unsupported, and/or irrelevant. For example, CASE's section 102(2)(E) question appears to be a challenge to the Staff's alternatives analysis,¹⁷ which as discussed above, is outside the scope of this proceeding. Similarly, CASE's question about the EPU seeks to revisit that action,

¹⁶ CASE also notes that the EA states that it "does not prevent any further evaluation of the operational impacts" on certain environmental resources, and then asks why the NRC did not do more. CASE's Proposed Findings at 11, ¶¶ 25, 25A. First, this is a typographical error in the EA – it should say "present" not "prevent." Second, CASE does not indicate why NEPA or Part 51 required the Staff to do more analysis on these resources.

¹⁷ CEQ guidelines describe the section 102(2)(E) alternatives requirement as:

A rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential. Sufficient analysis of such alternatives and their costs and impact on the environment should accompany the proposed action through the agency review process in order not to foreclose prematurely options which might have less detrimental effects.

Statements on Proposed Federal Actions Affecting the Environment, 36 Fed. Reg. 7724, 7725 (April 23, 1971). See *Env'tl. Def. Fund, Inc. v. Corps of Engineers of U.S. Army*, 470 F.2d 289, 296-97 (8th Cir. 1972).

which is outside the scope of this proceeding. See *Turkey Point*, CLI-15-25, 82 NRC ____ (slip op. at 13 n. 66) (“To the extent CASE asks us to revisit the extended power uprate, its request is indeed beyond the scope of this license amendment proceeding.”). Likewise, CASE’s surveillance requirement argument is outside the scope of this proceeding.¹⁸ Further, CASE offers no support in the record for any of these questions and does not link any of its questions to the limited issue before the Board (i.e., whether the Staff’s UHS EA adequately addresses the impact of increased temperature and salinity in the CCS on saltwater intrusion arising from migration out of the CCS and the withdrawal of fresh water from surrounding aquifers). CASE’s Proposed Findings at 2-3 (stating issue before Board).

5.134 In sum, CASE has provided no expert testimony to support or explain the assertions and references made in its Proposed Findings. Many of CASE’s assertions and references are outside the scope of this proceeding, irrelevant, and/or inaccurate. While a *pro se* petitioner is held to less rigid standards for pleading,¹⁹ a party electing to proceed without counsel “must bear responsibility for failures to properly and timely submit evidence.”²⁰ Thus, we find that the out-of-scope, unreliable, and inaccurate assertions CASE makes in its Proposed Findings cannot be used as evidence in this proceeding.

B. The EA Accounted for the Past and Current Groundwater Conditions of the CCS

5.135 In its Proposed Findings, CASE asserts that the UHS EA did not account for the past and current groundwater conditions of the CCS. For example, CASE asserts that the UHS EA did not contain any information regarding saltwater intrusion or the effects of the CCS on

¹⁸ CASE’s surveillance requirement statements also reflect a misunderstanding of the requirement’s purpose. The surveillance requirement is not an environmental consideration, but a safety consideration to ensure that the plant operates within its design basis, i.e., with an average UHS intake temperature of less than 104 °F.

¹⁹ *Shieldalloy Metallurgical Corp.* (Cambridge, Ohio Facility), CLI-99-12, 49 NRC 347, 354 (1999).

²⁰ *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 469 (2014).

groundwater. CASE's Proposed Findings at 21-24, ¶¶ 49-55B. CASE also asserts that the Staff's use of incorporated analyses to assess the conditions of the CCS and groundwater resources at Turkey Point in 2014 was "parsimonious and inadequate." *Id.* at 9, ¶ 21A.

5.136 For the reasons discussed below, we find that the UHS EA contained adequate information regarding saltwater intrusion and the effects of the CCS on groundwater. The Staff incorporated the prior environmental analyses into the UHS EA's "Plant Site and Environs" section to assess baseline groundwater conditions at Turkey Point. Staff's Proposed Findings at 36, ¶ 5.43. CASE did not dispute the reasonableness of the Staff's incorporation of these documents. Moreover, EAs are intended to be "short and concise" documents. *See Pacific Gas & Elec. Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 514 and n.27 (2008); 10 C.F.R. § 51.14. Incorporating other documents by reference is a permissible means to cut down on unnecessary bulk, especially for a concise document like an EA. 40 C.F.R. § 1502.2. By incorporating the past environmental analyses, the Staff considered the baseline impacts and focused its analysis on the potential impacts of the UHS license amendments.

5.137 As the Staff testified, the documents incorporated into the UHS EA provide significant analyses of saltwater intrusion and the CCS' impacts on groundwater. The 1972 final environmental statement ("FES") first identified the issue of hypersaline water migrating out of the CCS and impacting the Biscayne Aquifer. Staff's Proposed Findings at 37, ¶ 5.44. The 1996 Generic Environmental Impact Statement ("GEIS") specifically used Turkey Point as an example of an unlined cooling canal/pond system in a saltwater marsh, where canal water can become hypersaline and seep from the canals into underlying groundwater, which may then spread laterally off-site. *Id.* at 37, ¶ 5.45. Moreover, the 2012 EPU EA discussed the fact that salinity levels in 2012 were much higher, and would continue to be much higher, than local groundwater. *Id.* at 38, ¶ 5.48. Additionally, the 2012 EPU EA reiterated the communication between the unlined CCS and the Biscayne Aquifer. *Id.* at 38, ¶ 5.47. Consequently, by virtue of

the incorporated documents, the UHS EA provided an adequate discussion of migration of hypersaline water from the CCS and its impact on groundwater conditions and saltwater intrusion.

5.138 CASE points to three studies to suggest that the UHS EA does not adequately consider saltwater intrusion and the effects of the CCS on groundwater. CASE's Proposed Findings at 21-25, ¶¶ 49-53, 55-55B. However, these studies provide no information specific to the CCS' impacts on groundwater or saltwater intrusion. Instead, these studies provide general overviews of saltwater intrusion and its cause. Moreover, CASE provided no testimony to explain or support the relevance of these studies to the UHS amendments' impacts on the CCS. Additionally, one of these studies has not been admitted into the record²¹ and concerns saltwater intrusion in *southwest* Florida, rather than the area potentially impacted by the CCS. CASE's Proposed Findings at 24, ¶ 55A (emphasis added).

5.139 CASE also cites a letter from the Miami-Dade County Department of Environmental Resources Management ("DERM") to the Florida Department of Environmental Protection ("FDEP") that discusses the CCS' impacts to surrounding groundwater. CASE's Proposed Findings at 23, ¶ 54. However, CASE provides no testimony to support or explain the letter's relevance to impacts beyond those discussed in the incorporated analyses, or in the UHS EA. We find that the letter's discussion of hypersaline water from the CCS migrating and impacting groundwater resources is similar to the discussions contained in the analyses incorporated into the UHS EA. Additionally, the letter discusses joint actions to be taken by FPL and the State, which were discussed in the cumulative impacts section of the UHS EA. Staff's Proposed Findings at 6-7, ¶ 2.19. Thus, we find no merit in CASE's assertion that the UHS EA did not adequately consider baseline conditions in the CCS and groundwater resources.

²¹ See CASE's Proposed Findings at 24-25, ¶¶ 55-55B (study only cited in Petition to Intervene).

5.140 CASE further asserts that the UHS EA is inadequate because the Staff performed no new inquiries to verify the information supplied by FPL regarding CCS conditions in 2014. CASE's Proposed Findings at 8, ¶ 20; 11, ¶ 25A. Rather, CASE asserts that the Staff improperly relied on "off the shelf data" and "stale analysis" despite "dramatic and unpredicted" events that led to FPL's amendment request. *Id.* at 8, ¶ 20; 65, ¶ 106. Further, CASE faults the Staff for not following up after the EA to determine the resulting impacts of the amendments. *Id.* at 8, ¶ 20; 11, ¶ 25A.

5.141 However, we find CASE's claims contrary to Commission precedent. As the Commission explained, "NEPA does not require the NRC to create information that does not currently exist." *Turkey Point*, CLI-15-25, 82 NRC ____ (slip op. at 9-10 n. 46). Thus, the Staff permissibly used the information submitted by FPL²² and prior environmental analyses to conduct its independent NEPA review. Further, nothing in NEPA or the NRC's regulations require the Staff to follow up once an action is taken to determine whether its environmental analysis was correct. *Louisiana Energy Servs, L.P.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005) (noting that NEPA does not call for certainty or precision). A NEPA analysis is a snapshot in time,²³ and once an action is taken, an agency is not required to supplement its NEPA review. *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 73 (2004).

5.142 We further find that the UHS EA did not simply rely on "stale analysis." The Staff accounted for the conditions in the CCS that prompted FPL's UHS LAR. Staff's Proposed Findings at 38, ¶ 5.49. The UHS EA explained that, due to low rainfall amounts, high summer temperatures, and a problematic algae bloom, the CCS had become unusually hot and

²² CASE's claim that the Staff should not rely on an applicant's submittals is contrary to the NRC's regulatory practice and case law. The Commission will not base findings on a presumption that a licensee is acting in violation of regulatory requirements. *Curators of the Univ. of Missouri*, CLI-95-8, 41 NRC 386, 400 (1995).

²³ *Luminant Generation Co. LLC* (Comanche Peak Nuclear Power Plant, Unit 3 and 4), CLI-12-7, 75 NRC 379, 391-92 (citing *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989)).

hypersaline. *Id.* Thus, it is clear that the Staff considered the present conditions of the CCS at the time it was preparing the UHS EA.

5.143 In sum, we find that the UHS EA contained a sufficient discussion regarding baseline groundwater conditions in the CCS and the impacts of the UHS license amendments on groundwater and saltwater intrusion.

C. The Amendments Do Not Significantly Impact
Saltwater Intrusion Caused by Migration of Water Out of the CCS

5.144 In its Proposed Findings, CASE makes various statements regarding the alleged impacts the UHS license amendments are having on migration of water out of the CCS and groundwater. However, for the reasons discussed below, we find that CASE has failed to show that the UHS license amendments impact saltwater intrusion caused by migration of water out of the CCS.

5.145 First, CASE asserts that hypersaline water is migrating from the CCS and harming other groundwater resources. *See, e.g.,* CASE's Proposed Findings at 17-18, ¶ 33; 37, ¶ 67A; 46-47, ¶ 79; 31 (citing ¶¶ 49, 52, 54, 55A, 58, 59, 59A, 69, 70). We recognize CASE's concerns about the CCS. However, CASE's concerns relate to the ongoing operation of the CCS, and not to the challenged amendments. As discussed above, the incorporated documents in the UHS EA acknowledge and discuss migration of hypersaline water out of the CCS and its impacts on the Biscayne Aquifer. Staff's Proposed Findings at 37-38.

5.146 Second, CASE asserts that there are direct discharges from the CCS. CASE's Proposed Findings at 17-18, ¶ 33 (citing UHS EA). However, CASE misconstrues the portion of the EA it cites in ¶ 33. That quote concerns *direct* discharges to fresh *surface* waters, not the Biscayne Aquifer underlying the CCS, which is saltwater at the Turkey Point site. Staff's Proposed Findings at 41, ¶ 5.57. Moreover, the exhibits CASE cites to are unsupported and unexplained, and are therefore unreliable. Additionally, these exhibits do not present any information beyond that discussed in the incorporated analyses in the UHS EA.

5.147 Third, CASE asserts that increases in ammonia and nitrogen levels also indicate that the CCS is migrating into groundwater. CASE's Proposed Findings at 32, ¶ 59A. Dr. Stoddard provided testimony on this issue. (Tr. at 307). However, Dr. Stoddard is not a hydrologist and does not have expertise in this area. Staff's Proposed Findings at 33, ¶ 5.35. Further, FPL disputed Dr. Stoddard's conclusions related to ammonia and nitrogen levels. *Id.* at 40-41, ¶ 5.56. Given Dr. Stoddard's lack of expertise in this field, we accord no weight to his conclusions on this matter.

5.148 CASE also points to two graphs for its ammonia and nitrogen assertions. CASE's Proposed Findings at 32, ¶ 59A. However, these graphs were unsupported and unexplained by expert testimony, and are therefore unreliable. Additionally, these graphs only show nitrogen and ammonia increases in CCS surface water. (Ex. INT-000 at 40). The graphs show nitrogen and ammonia concentrations in groundwater directly below the CCS remaining relatively constant. *Id.* Therefore, the graphs do not support CASE's assertion that nitrogen and ammonia level increases in the CCS demonstrate migration of water out of the CCS. Thus, we find CASE's assertions regarding ammonia and nitrogen unconvincing.

5.149 Fourth, CASE asserts that increases in tritium concentrations in monitored wells between 2011 and 2013 demonstrate that hypersaline CCS water is migrating west of the Turkey Point site into the Biscayne Aquifer, and east into and under Biscayne Bay. CASE's Proposed Findings at 29-31, ¶¶ 58-59A; 38-39, ¶¶ 68-70. Dr. Stoddard also testified to these facts.²⁴ (CASE Rebuttal SOP at 26; Tr. at 285, 320). Again, the fact that hypersaline water is migrating from the CCS and affecting groundwater resources was discussed in the analyses incorporated into the UHS EA. Staff's Proposed Findings at 37-38. Further, CASE offers no

²⁴ Notably, Dr. Stoddard stated at hearing that he did not rely on the tritium measurements to conclude that water from the CCS is migrating into Biscayne Bay because of uncertainty with respect to whether the tritium had come from underground migration or precipitation. (Tr. at 280, 285). Dr. Stoddard stated he relied on the ammonia and phosphate levels in the CCS and the Bay to make his conclusions. *Id.* at 280.

support for its references and no link between the tritium tracer studies and the UHS amendments. Therefore, CASE's testimony on this issue is irrelevant and unreliable.

5.150 As the Staff testified, tritium is not an adequate tracer to define the horizontal and vertical extent of hypersaline CCS water because it does not indicate salinity levels in the water. (Ex. NRC-001 at 58). Assuming the tritium came from the CCS, it only represents water molecules that came from the CCS and does not represent any increased concentrations of salt in the aquifer. *Id.* Thus, we find CASE's assertions regarding tritium as an indicator of hypersaline CCS water unconvincing.

5.151 Fifth, CASE continues to assert that the UHS amendments will increase salinity and temperature of the CCS over the life of Units 3 and 4 and that the Staff failed to analyze this long-term impact. CASE's Proposed Findings at 10, ¶ 23A; 18, ¶ 33-34. But, as explained by the Staff and FPL, temperatures in the CCS vary daily and are subject to numerous factors, making any temperature increase above 100 °F a short term occurrence. Staff's Proposed Findings at 44, ¶ 5.67; FPL's Proposed Findings at 38-39, ¶ 74. Such limited, short term occurrences have little effect on salinity in the CCS and migration into the groundwater. Staff's Proposed Findings at 45, ¶ 5.69; FPL's Proposed Findings at 42, ¶ 79. Temperature and salinity increases would need to be sustained for years in order to impact the aquifer beneath the CCS. FPL's Proposed Findings at 39, ¶ 74. CASE has presented no evidence to controvert these facts. Indeed, CASE earlier admitted that the UHS amendments have not increased temperature or salinity in the CCS. Staff's Proposed Findings at 44-46, ¶ 5.41 (discussing facts deemed admitted). Thus, we find CASE's assertions that the UHS amendments will have significant long term impacts to be without merit.

5.152 Sixth, CASE continues to assert that the EPU was the cause of the increased salinity and temperature in the CCS during the summer of 2014. CASE Proposed Findings 14-15, ¶ 29; 16-17, ¶ 32. However, the graphs CASE points to in support of this assertion are not

supported or explained by any expert testimony. Therefore, these graphs and CASE's testimony is unreliable.²⁵

5.153 Further, CASE does not indicate how its claim, even if true, undermines the analysis in the UHS EA. As discussed, the UHS EA accounted for the EPU in its baseline analysis, as the EPU EA was incorporated into the UHS EA. The UHS EA also accounted for the algae in the CCS at the time of its UHS LAR review.²⁶ As the Staff testified, the total thermal load discharged into the CCS has decreased since the EPU given the retirement of fossil Unit 2 for power generation. Staff's Proposed Findings at 45-46, ¶ 5.71.²⁷ Additionally, the UHS amendments did not change the amount of heat discharged into the CCS, but rather, provided FPL operational flexibility when the CCS is less efficient at removing heat energy. FPL's Proposed Findings at 38, ¶ 73.

5.154 Indeed, CASE appears to recognize that the lack of water flow through the CCS was a cause of the high temperatures and salinity in the CCS, not the thermal input resulting from the EPU. CASE Proposed Findings at 30-31, ¶¶ 58-59. Moreover, the measures FPL has implemented to provide better flow in the CCS (e.g., dredging, aquifer injections) have already helped and will continue to help keep temperatures and salinity levels in the CCS below those of 2014. Staff's Proposed Findings at 48, ¶ 5.79. The Staff's UHS EA accounted for these actions. CASE has presented no evidence to the contrary. Thus, CASE's assertions are without merit.

²⁵ See *supra* at n. 9 (discussing CASE's inaccurate characterization of Mr. Ford's testimony, which referred to the UHS amendments, not the EPU).

²⁶ Slow flow conditions, partly caused by taking each nuclear unit offline to perform the EPU, that aided in an algae bloom in 2014 appear to be the only connection between the EPU and the conditions of the CCS in 2014. Staff's Proposed Findings at 47, ¶ 5.76.

²⁷ The prior UHS intake limit of 100 °F was never exceeded before the EPU, when all units were operating and a greater thermal load was being discharged from the plants. Staff's Proposed Findings at 44, ¶ 5.67.

5.155 We find that the Staff reasonably concluded that the conditions of the CCS in 2014 were a result of the combination of low rainfall amounts, high summer temperatures, and a unique algae bloom. *Id.* at 47-48, ¶¶ 5.75-5.78. While CASE may question why similar license amendments were not needed previously (CASE's Proposed Findings at 7, ¶ 17A), the matter before the Board is the reasonableness of the Staff's analysis in the UHS EA. The uncontroverted facts show that the Staff reasonably concluded that the UHS amendments do not impact saltwater intrusion arising from migration of water out of the CCS.

D. The Amendments and FPL's Aquifer Withdrawals
Will Not Significantly Impact Underlying Aquifers

5.156 CASE also asserts that FPL's aquifer withdrawals will significantly impact the aquifers underlying the CCS. However, for the reasons discussed below, we do not find CASE's assertions persuasive.

5.157 CASE asserts that impacts from FPL's authorized aquifer withdrawals are an immediate and reasonably foreseeable result of the UHS amendments. CASE's Proposed Findings at 45, ¶ 75. However, CASE provides no evidence or testimony in support of this assertion. As FPL testified, FPL's withdrawals were not a result of the UHS amendments, but rather, a result of trying to mitigate the degraded conditions of the CCS in 2014, prior to the UHS amendment request. FPL's Proposed Findings at 49, ¶ 91. FPL had been engaging with the State to resolve the high salinity levels in the CCS well before requesting the UHS amendments. Staff's Proposed Findings at 66, ¶ 6.23. As an additional separate benefit, FPL's water injections also helped stabilize temperatures in the CCS. FPL's Proposed Findings at 50, ¶ 92. FPL's withdrawals and injections into the CCS have already helped to reduce salinity levels and stabilize temperatures in the CCS, and will mitigate the effects of any marginal increase in salinity in the future. Staff's Proposed Findings at 48, ¶ 5.78; FPL's Proposed Findings at 40, ¶ 76.

5.158 The UHS amendments themselves have not resulted in any noticeable effect in the surrounding aquifers. FPL's Proposed Findings at 24, ¶ 49. In fact, the UHS amendments actually decrease FPL's need to withdraw and inject water into the CCS. Staff's Proposed Findings at 50-53, ¶¶ 5.86-5.96. CASE admitted that the UHS amendments will decrease FPL's need to withdraw water. *Id.* at 35, ¶ 5.41 (discussing facts deemed admitted). Furthermore, as discussed above, the UHS amendments will only result in brief increases, if at all, in salinity and temperature in the CCS. Staff's Proposed Findings at 35, ¶ 5.41. CASE admitted this fact. *Id.* Thus, CASE's assertions are without merit.

5.159 CASE also asserts that FPL's authorization to withdraw up to 103 MGD from the L-31 canal was not discussed in the UHS EA, nor were freshwater withdrawals from the Biscayne Aquifer.²⁸ CASE's Proposed Findings at 11, ¶ 24A; 32-33, ¶¶ 60-61A. CASE is correct that this authorization was not discussed in the UHS EA. Although the Staff was aware that FPL was considering use of the L-31 canal, the Staff reasonably concluded that FPL was unlikely to use the L-31 canal at the time of the Staff's review of the UHS LAR. Staff's Proposed Findings at 58, ¶ 5.109.²⁹ The Staff testified that FPL had not decided to request authorization to withdraw from the L-31 canal at the time of the Staff's review. (Tr. at 391). Indeed, FPL did not request authorization to withdraw from the L-31 canal until nearly a month after the UHS EA had been published. Staff's Proposed Findings at 58, ¶ 5.109. The Staff also testified that FPL had not made use of its Biscayne Aquifer withdrawal authorization at the time of the Staff's UHS LAR review. (Tr. at 391). Thus, the Staff concluded that FPL's use of the L-31 canal was not reasonably foreseeable at the time of the Staff's review because FPL had not requested

²⁸ Although unclear, presumably CASE is referring to the L-31 canal in ¶ 24A of its Proposed Findings.

²⁹ Conflictingly, CASE also asserts that the UHS EA referred to the L-31 canal as a saltwater resource. CASE's Proposed Findings at 34, ¶ 63A. However, the UHS EA did not reference the L-31 canal at all.

authorization and FPL still had other withdrawal authorizations available. (Tr. at 391). We find this conclusion reasonable.

5.160 CASE asserts that FPL's withdrawals are an unsustainable over-commitment of freshwater resources that will harm Biscayne Bay and Biscayne National Park, as well as municipal and economic interests. CASE's Proposed Findings at 59, ¶ 97. In support of this assertion, CASE cites a letter from the superintendent of Biscayne National Park. *Id.* at 33, ¶ 62. As an initial matter, harm to the Biscayne Bay is outside the scope of Contention 1 as admitted by the Board.³⁰ Further, CASE's assertion is not supported or explained by any expert testimony and is not linked to the UHS license amendments. Consequently, CASE's assertion is unreliable.

5.161 CASE asserts that the Staff's conclusion that the Turkey Point site is underlain by two aquifers, the shallower saltwater Biscayne Aquifer and deeper brackish Upper Floridan Aquifer, is inaccurate. CASE's Proposed Findings at 19, ¶¶ 37, 41A. CASE asserts that its filings demonstrate this inaccuracy. *Id.* at 19-20, ¶ 41A. However, CASE has not presented any evidence that shows that the Staff's characterization of the two aquifers in the UHS EA is inaccurate. Instead, the Staff and FPL have provided a significant amount of evidence demonstrating the accuracy of the Staff's characterization. See, e.g., Staff's Proposed Findings at 54-57, ¶¶ 5.97-5.106; FPL's Proposed Findings at 45-48, ¶¶ 85-90. Indeed CASE earlier admitted to these facts. Staff's Proposed Findings at 35-36, ¶ 5.41 (discussing facts deemed admitted). Thus, CASE's assertion is without merit.

³⁰ As FPL notes in its Proposed Findings, the Board did not explicitly strike arguments regarding impacts to the Biscayne Bay. FPL's Proposed Findings at 64, ¶ 117. However, the Board did recently clarify that Contention 1 "as admitted by the Board, concerns possible saltwater intrusion into groundwater and movement of the freshwater/saltwater interface" and not impacts regarding tritium or the Bay. *Id.* (citing Order (Clarifying Scope of Proposed Findings of Fact and Conclusions of Law and Amending Initial Scheduling Order) at 2 n.3 (Mar. 11, 2016)).

5.162 CASE's claims about freshwater withdrawals are also inaccurate as are CASE's claims about the impacts of FPL's withdrawals. CASE asserts that the amount of fresh and saline water FPL is authorized to withdraw is needed to combat saltwater intrusion and maintain the water table. CASE's Proposed Findings at 62, ¶ 102. However, FPL's withdrawals from the Biscayne Aquifer do not impact saltwater intrusion, because FPL's withdrawals come from the seaward side of the freshwater-saltwater interface and will not pull the interface further inland. Staff's Proposed Findings at 55, ¶ 5.100; FPL's Proposed Findings at 45, ¶ 85. Additionally, FPL's withdrawals from the Upper Floridan Aquifer will not cause saltwater intrusion because the Upper Floridan Aquifer is hydrologically separate from the Biscayne Aquifer. Staff's Proposed Findings at 54, ¶ 5.97.³¹

5.163 As the Staff testified, only one of FPL's withdrawals (the L-31 canal) is actually a freshwater resource. Staff's Proposed Findings at 57, ¶ 5.108. FPL's use of the L-31 canal is restricted to an amount of storm water, communicated daily, that is in excess of the amount determined by the State to be necessary to protect the Biscayne Bay and its wildlife. *Id.* at 58, ¶ 5.110; FPL's Proposed Findings at 25, ¶ 49. This excess storm water would otherwise be discharged to tide. *Id.* Therefore, FPL's L-31 withdrawals will not lead to saltwater intrusion. Staff's Proposed Findings at 59, ¶ 5.112-5.113. CASE has presented no evidence to controvert these findings. Indeed, CASE earlier admitted to these facts and that FPL's withdrawals would not impact saltwater intrusion. *Id.* at 35-36, ¶ 5.41 (discussing facts deemed admitted). Therefore, we find CASE's assertions unfounded.

5.164 In its Proposed Findings, CASE also asserts that the permeability of the intermediate confining unit separating the Biscayne and Upper Floridan Aquifers is poorly understood. CASE's Proposed Findings at 39-40, ¶ 71-72. CASE cites a study describing the relative relationship between the Boulder Zone, which is used for waste injections, and the

³¹ FPL testified that the freshwater-saltwater interface in the Upper Floridan Aquifer is so far inland from Turkey Point as to be irrelevant to FPL's withdrawals. Staff's Proposed Findings at 55, ¶ 5.101.

Floridan Aquifer. First, the study CASE cites for this assertion was not supported or explained by expert testimony, rather, CASE appears to come to its own conclusions regarding the meaning of this study. Consequently, this study is unreliable. Second, the Boulder Zone comprises the base of the Lower Floridan Aquifer, which is separated from the Upper Floridan Aquifer (where FPL plans to withdraw from) by a middle confining unit that is several hundred feet thick. Staff's Proposed Findings at 56-57, ¶ 5.105; (Ex. FPL-022 at 8, 16). Consequently, CASE's assertion that waste injected into the Boulder Zone at Turkey Point will encounter breaks in both the middle and intermediate confining units is unfounded.

5.165 CASE also cites to the Staff's testimony for the proposition that the "permeability of the confining layer is less than perfect." CASE's Proposed Findings at 40, ¶ 72 (citing Mr. Ford's testimony). However, the Staff's testimony does not stand for that proposition. The quoted material reflects the fact that, because the Upper Floridan Aquifer is at depth and under pressure, brackish Upper Floridan water could be pushed up into the saltwater Biscayne Aquifer, *if* the two aquifers were hydrologically connected. However, as the Staff testified, the Upper Floridan Aquifer and Biscayne Aquifer are not hydrologically connected. Staff's Proposed Findings at 54, ¶ 5.98. CASE's assertion that the "South Florida Aquifer is porous and interconnected"³² is unclear, given that there is no aquifer by that name. Only the Biscayne and Floridan Aquifers lie beneath Turkey Point. And these two aquifers are not hydrologically connected to each other. *Id.*

5.166 CASE also asserts that the Staff's cumulative impacts analysis, which concluded that the aquifer withdrawals would have beneficial impacts, was inaccurate. CASE's Proposed Findings at 19-20, ¶ 38-41A. However, the opposite is true. CASE has presented no evidence controverting the beneficial impacts FPL's withdrawals and injections will have on the CCS and the Biscayne Aquifer beneath it. In contrast, FPL and the Staff have provided a significant

³² CASE's Proposed Findings at 40, ¶ 72.

amount of evidence demonstrating that FPL's planned injections will not only reduce the salinity in the CCS, but also mitigate and reduce the size and rate of migration of the hypersaline plume beneath the CCS, thus reducing its effect on saltwater intrusion. Staff's Proposed Findings at 56, ¶ 5.104; 59, ¶ 5.114; FPL's Proposed Findings at 43-50. Therefore, CASE's assertion is unfounded and inaccurate.

5.167 In sum, CASE presented no evidence that controverts the fact that the UHS amendments have no impact on FPL's planned aquifer withdrawals and the withdrawals themselves will result in the beneficial impacts described in the UHS EA. Thus, we find that the UHS amendments will have no impacts on FPL's aquifer withdrawals or saltwater intrusion related to those withdrawals.

E. Standing

5.168 On December 3, 2015, FPL moved for dismissal of Contention 1 on the grounds that CASE had not demonstrated standing, among other things. FPL's Proposed Findings at 7, ¶ 15. In its Proposed Findings, FPL argues that CASE has not met its burden to demonstrate standing at this stage in the proceeding. *Id.* at 66-71.

5.169 We agree with FPL that CASE has not offered any testimony or exhibits regarding either the impacts of the UHS amendments, or its members' use of local water sources. In particular, CASE has not offered any evidence or testimony reflecting an injury traceable to the UHS license amendments. *Id.* at 67-68, ¶ 125. While the initial determination of standing was based on the information then available, the record reflects that the State's Administrative Order was not caused by the NRC's UHS license amendments. Thus, the SFWMD's finding of westward movement of saline water from the CCS is not traceable to the UHS license amendments. *Id.* at 68, ¶ 126. Likewise, the Administrative Order did not require FPL to use fresh water. *Id.* at 69, ¶ 127. Further, as FPL explained, "FPL's withdrawal of freshwater from the L-31 E canal will not impact the ability of the canal system to help prevent saltwater intrusion." *Id.* Moreover, CASE's member declarations do not indicate that they utilize

the Upper Floridan Aquifer; instead, they generally assert that they use “the south Florida aquifer.” *Id.* at 69, ¶ 128.

5.170 Therefore, we conclude that CASE does not have standing to challenge the UHS license amendments.

III. OTHER ISSUES RAISED BY THE BOARD

6.37 The Board requested the parties to brief three legal issues: (1) segmentation, (2) reliance on state action, and (3) the legal meaning and effect of a February 15, 2016, order by a Florida administrative judge (“Recommended Order”). For the reasons discussed below, we find that the NRC’s UHS EA was not improperly segmented, did not improperly rely on state actions, and that the non-binding and non-final Recommended Order does not change the legal assumptions underlying the Staff’s testimony or the UHS EA’s conclusions regarding state mitigation measures.

A. Segmentation

6.38 In its proposed findings, CASE asserts that there was improper segmentation. CASE’s Proposed Findings at 63-65, ¶¶ 103-07. However, CASE does not indicate how the NRC divided any connected, cumulative, or similar federal action into separate projects or components. FPL’s Proposed Findings at 80; Staff’s Proposed Findings at 60, ¶ 6.3 (defining improper segmentation). Instead, CASE points only to the UHS EA, which considered a single, distinct, and independent action (issuance of the UHS license amendments).³³

6.39 Specifically, the Staff and FPL describe the independent utility of the UHS license amendments as providing operational flexibility for FPL during periods when the CCS is less

³³ CASE also restates a version of its alternatives argument, which it recognizes was previously stricken. CASE’s Proposed Findings at 65. CASE’s alternatives’ argument demonstrates a misunderstanding of the cited segmentation test. The test is not referencing alternatives considered with respect to a single, independent, action like the issuance of the UHS license amendments. Instead, the test is trying to discern whether the agency has multiple pending projects before them with a nexus such that ignoring consideration of one of the projects would limit the agency’s ability to evaluate other alternatives as required by NEPA.

efficient at removing heat energy (i.e. during times of high outside temperature, low rainfall, high blue-green algae concentrations, or poor water circulation). FPL's Proposed Findings at 38 (citing Ex. NRC-001 at 52 (A80)); *see also* (Ex. NRC-001 at 53 (A82, A83)); (Ex. NRC-009 at 44,465).

6.40 Further, both the Staff and FPL testified that there was no interdependent, proposed action at the time of the Staff's review of the UHS LAR. Staff's Proposed Findings at 62, ¶¶ 6.9-6.10; FPL's Proposed Findings at 81-82, ¶ 149. The license renewal and the EPU licensing actions were taken years before FPL requested the UHS amendments. Staff's Proposed Findings at 62, ¶ 6.9. And both the license renewal and the EPU had independent utility; the license renewal authorized 20 years of continuing operation for Units 3 and 4 (Ex. NRC-024 at iii.) and the EPU authorized an increase in the maximum power level from 2300 megawatts thermal (MWt) to 2644 MWt for Turkey Point Units 3 and 4 (Ex. NRC-022 at 20,059).

6.41 Moreover, the evidence presented shows that the UHS license amendments were not the result of the EPU. The EPU amendments did not authorize any changes to the inlet water temperature limit in the TSSs. The UHS TS temperature limit remained at 100 °F following the EPU amendments (Ex. NRC-001 at 61). During its review of the EPU, the Staff considered the possibility that there would be an increase in average CCS temperatures from the EPU, with all four units discharging heat into the CCS. Staff's Proposed Findings at 45, ¶ 5.71. However, even if that increase had occurred as predicted, the Staff did not expect that FPL would submit the currently challenged UHS license amendments. The licensee's EPU application described the expected impact of the EPU on the CCS and stated that the maximum CCS water temperature was assumed to vary seasonally throughout the year for cooldown analyses. Temperatures were adjusted from 92 °F (spring/fall) to 97 °F (summer) based on the season. The licensee's EPU application stated that the maximum increase in cooled water temperature leaving the CCS to return to Units 3 and 4 (i.e., the inlet water temperature) is approximately 0.9 °F. (Ex. NRC-001 at 62). During the summer, this temperature difference

was estimated to increase from the adjusted temperature of 97 °F to approximately 98 °F. This was within the 100 °F UHS TS temperature limit. *Id.* Further, the total thermal heat load discharged into the CCS *decreased* after the EPU compared to when all four units were operating. Staff's Proposed Findings at 62, ¶ 6.11; FPL's Proposed Findings at 32 ¶ 61 (emphasis added). Thus, the conditions in the CCS in 2014 were not a foreseeable result of the EPU. Therefore, it is clear there was no interdependence between the EPU and UHS amendments.

6.42 We find that CASE's assertions regarding segmentation are unfounded and contrary to the law. As the Staff and FPL pointed out, a segmentation analysis concerns projects that have reached the proposal stage. Staff's Proposed Findings at 60-61; FPL's Proposed Findings at 81. If two or more projects are in the proposal stage at the same time, the agency must analyze the environmental impacts of the connected projects in its environmental analysis. *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976); *See also Fund for Animals v. Clark*, 27 F.Supp.2d 8, 13 (D.D.C. 1998). There is no evidence in the record that the UHS LAR itself was divided into separate actions or that there were any other proposed and connected licensing actions before the NRC at the time of the UHS license amendment review. Further, there is no evidence that the NRC could reasonably have anticipated the need for the UHS amendment at the time of the license renewal or EPU. Finally, there is no evidence to suggest that there was a pending proposal for a future interrelated action pending before the NRC at the time of the UHS LAR review which was not included in the UHS EA. Therefore, we find that there was no improper segmentation.

B. Reliance on State Actions

6.43 In its findings of fact, CASE appears to assert that the NRC improperly relied on the State of Florida's actions with respect to the CCS and that in doing so, failed to perform an

independent NEPA review of the UHS LAR. CASE's Proposed Findings at 66-67, ¶ 110.³⁴

However, the evidence presented shows that the NRC exercised its independent judgment in identifying and assessing the significant and reasonably foreseeable impacts of the UHS license amendments and did not abdicate its NEPA responsibilities by relying on the State actions and conclusions. FPL's Proposed Findings at 84-85, ¶ 155; Staff's Proposed Findings at 63-64, ¶¶ 6.14 - 6.15.

6.44 As FPL and the Staff testified, the Staff's duty to perform an independent NEPA review does not mean that the NRC cannot rely on a State's analysis where the State is charged with regulatory authority over the subject matter. FPL's Proposed Findings at 85, ¶ 156; Staff's Proposed Findings at 64, ¶ 6.17 (citing *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plants, Units 1 and 2), LBP-13-14, 77 NRC 107, 196 (2013)). As relevant here, the State of Florida requires FPL to monitor the effects of the CCS on groundwater, and take mitigation measures based on the results of the monitoring.³⁵ Staff's Proposed Findings at 66, ¶ 6.23. Further, the NRC may assume that a licensee will comply with "concrete and enforceable conditions and requirements imposed by competent federal, state, or local government entities." FPL's Proposed Findings at 86, ¶ 156 (citing *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), ALAB-785, 20 NRC 848, 868 n.65 (1984)); see also *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), ALAB-490, 8 NRC 234, 241 (1978).

³⁴ It appears that this is CASE's argument, however most of CASE's assertions do not address the relevant legal issue and instead raise policy concerns about the delegation of authority to the State to regulate Clean Water Act issues. See, e.g., CASE's Proposed Findings at 66-67, ¶ 110; 68-69, ¶¶ 112-113. CASE also reasserts the challenge as to whether the Staff consulted the correct state official when preparing its UHS EA. See CASE's Proposed Findings at 67-68, ¶ 111, 54-55, ¶ 89. However, as discussed *supra* at 4, this is outside the scope of this proceeding.

³⁵ FPL and the Staff testified that in 1972, FPL entered into an agreement with the State to address the operation and impacts of the CCS, which was supplemented a fifth time in 2009. (Ex. NRC-033; Ex. NRC-001 at 19; Ex. FPL-001 at 25). The State also issued "Conditions of Certification" ("CoCs") to FPL under the State's Power Plant Siting Act, with the current CoCs last revised in March of 2015.

6.45 The evidence presented shows that while the Staff did rely on the State's requirements that FPL monitor and mitigate conditions in the CCS to protect the Biscayne Aquifer in making its finding of no significant impact ("FONSI") on the UHS LAR, the Staff did not place complete or undue reliance on the State's actions in making that determination. Staff's Proposed Findings at 64-5, ¶ 6.18 (citing *Powertech USA, Inc.* (Dewey-Burdock in Situ Uranium Recovery Facility), LBP-15-16, 81 NRC 618, 685-86 (Apr. 2015)). Instead, the Staff independently assessed the State's actions in making its FONSI. Staff's Proposed Findings at 65, ¶ 6.19.

6.46 The Staff and FPL noted two areas where the Staff's NEPA analysis relied on state regulation: (1) the Staff's expectation that DEP would order FPL to take actions to reduce CCS salinity (FPL's Proposed Findings at 86, ¶ 157) and (2) the Staff's analyses of FPL's water withdrawal requests that had been or would be performed by the State and the DEP *Id.*

6.47 Notably, the Staff did not solely rely on the State's requirements in making its FONSI. As both the Staff and FPL testified, anticipated State action was only one factor of the NRC's NEPA analysis. FPL's Proposed Findings at 86-87, ¶ 158; Staff's Proposed Findings at 66-67, ¶¶ 6.22 – 6.24. The Staff also considered the nature of the action, the limited effect it would have, the short duration of any potential temperatures above 100 °F, and the fact that the increase in the temperature limit decreases Turkey Point's need to consume water. FPL's Proposed Findings at 86, ¶ 158. Thus, the Staff did not improperly import a state environmental analysis into its EA. Instead, the NRC acknowledged "the state's reasonably foreseeable plan to enforce its duly promulgated permitting conditions against FPL by ordering it to take remedial action and the NRC included this factor" in its independent NEPA analysis. *Id.* at 87, ¶ 158.

6.48 Likewise, the Staff's cumulative impacts analysis reasonably relied on State determinations regarding water withdrawals. As the Staff testified, FPL's authorization request for its Floridan Aquifer withdrawals required FPL to demonstrate that surface water and groundwater resources would not be significantly impacted by the withdrawals. Staff's

Proposed Findings at 66-67, ¶ 6.24. The Staff's understanding of the potential impacts of the Biscayne Aquifer withdrawals and the Upper Floridan Aquifer withdrawals were consistent with the State of Florida's understanding. FPL's Proposed Findings at 88, ¶¶ 160-161. Thus, it was reasonable for the Staff to incorporate the State's determination into its overall evaluation.

6.49 We find that the Staff exercised independent judgment with regard to its ultimate conclusions that the UHS license amendments would not have any significant impact to the human environment. We find that the Staff did not abdicate its NEPA responsibilities and that its reliance on the State of Florida's actions and conclusions with respect to the CCS and withdrawals were entirely appropriate. Finally, we find it reasonable that the Staff expected FPL to abide by State requirements.

C. Legal Effect of State Recommended Order

6.50 CASE's proposed findings do not appear to address the legal effect of a February 15, 2016 Recommended Order from an administrative proceeding concerning state-mandated measures to reduce salinity levels in the CCS ("Recommended Order").³⁶ Instead, CASE cites to the Staff's UHS EA and notes that the EA states that Florida had issued FPL a "no discharge" NPDES permit and that the NPDES permit would not need to be modified in light of the UHS license amendments "because the plant discharge limits would not change." CASE's Proposed Findings at 69, ¶ 114 (quoting the UHS EA at 9). CASE does not contest or challenge this finding. Instead, CASE questions the level of oversight at the plant (CASE's Proposed Findings at 69-70, ¶ 116) and the agencies and persons consulted (CASE's Proposed Findings at 70, ¶¶ 117-18). However, these issues are outside the scope of this proceeding³⁷

³⁶ See Order (Clarifying Scope of Official Notice) at 3-4 (Mar. 10, 2016) (unpublished) (ADAMS Accession No. ML16070A128) (directing parties to address in their legal analysis sections whether the mitigation measures at issue are actually mandated by the State, and the legal basis for that conclusion, as well as why a party's legal assumptions underlying their testimony or the UHS EA's conclusions remain valid in light of the recommended order).

³⁷ *Turkey Point*, CLI-15-25, 82 NRC __ (slip op. at 13 n.66; 23-24 n. 110).

and not relevant to the legal question of the effect of the Recommended Order or the reasonableness of the Staff's NEPA review for the UHS license amendments.

6.51 CASE then quotes from the challenged 2014 Administrative Order and the Recommended Order. See, e.g., CASE's Proposed Findings at 70-73, ¶¶ 119-125. CASE asserts without support that "it will be hard for the FDEP to come up with an effective plan since they do not control enough of the operational elements involved." *Id.* at 73, ¶ 126. As an initial matter, the Board made clear that it is not "accepting the truth of the facts set forth in the [Recommended Order], nor of the correctness of the order's legal conclusions."³⁸ Instead, the Board only took official notice of the fact that the order was issued "to establish the fact of such litigation and related filings."³⁹ Second, CASE does not indicate how the Recommended Order undermines any conclusions in the Staff's UHS EA or the reasonableness of the Staff's NEPA review.

6.52 Both the Staff and FPL testified that the Recommended Order does not undermine the conclusions in the Staff's UHS EA or the reasonableness of the Staff's review. First, both FPL and the Staff note that the Recommended Order post-dates the UHS EA, such that the Staff could not have considered it in its review of the UHS license amendments.⁴⁰ Second, as CASE itself points out, the Recommended Order appears to recommend more conservative measures to be taken to address the salinity than those described in the Administrative Order.⁴¹ Third, both the Staff and FPL explained that the Recommended Order

³⁸ Order (Clarifying Scope of Official Notice) at 2 (Mar. 10, 2016) (unpublished).

³⁹ *Id.* at 3.

⁴⁰ Thus, as FPL explained, the Recommended Order cannot be new and significant information triggering the need to supplement the UHS EA. FPL's Proposed Findings at 88-89, ¶¶ 162 – 63.

⁴¹ See CASE's Proposed Findings at 71-72, ¶ 122 ("However this record does not show the reasonableness of restricting FPL's options [of going no fresher than 34 PSU]. FPL should be free to consider and propose options to lower the salinity in the CCS even further if it is practicable and could achieve greater benefits") (citing Recommended Order).

is not a final decision and may be modified. (FPL's Proposed Findings at 89, ¶ 163; Staff's Proposed Findings at 67- 68, ¶¶ 6.28, 6.30-6.31). Therefore, it is not yet known what effect, if any, the Recommended Order will have on the Administrative Order. As FPL notes, the Administrative Order was not issued when the NRC issued the UHS EA, was not in effect during the hearing in this proceeding because of the third-party administrative challenge in Florida, and is not in effect today. FPL's Proposed Findings at 89, ¶ 164.

6.53 In any event, the fact that the Administrative Order may be rescinded or amended does not undermine the EA's conclusions. The Staff's UHS EA only relied in part on the Administrative Order, as a reasonably foreseeable possibility in the cumulative impacts analysis. Staff's Proposed Findings at 68-69, ¶ 6.34. Importantly, the Staff testified that the Recommended Order does not change the fact that the UHS amendments will not increase salinity in the CCS, nor significantly impact saltwater intrusion. Staff's Proposed Findings at 68, ¶ 6.33. Further, the Recommended Order does not impact FPL's ability to withdraw water from the L-31 canal. *Id.* Moreover, the "Fifth Supplemental Agreement and Conditions of Certification remain in place and legally binding and continue to require FDEP or the SFWMD to take action to abate any harm caused by the CCS." FPL's Proposed Findings at 90, ¶ 164; Staff Proposed Findings at 69, ¶ 6.35. Therefore, the Staff's NEPA analysis and EA conclusions are not undermined.

6.54 For the foregoing reasons, we conclude that the Recommended Order does not undermine any conclusions in the Staff's UHS EA and does not undermine the reasonableness of the Staff's NEPA review for the UHS license amendments.

IV. CONCLUSIONS OF LAW

7.17 The Board has considered all of the evidence presented by the parties on Contention 1. Based upon a review of the entire record in this proceeding and the proposed and reply findings of fact and conclusions of law submitted by the parties, and based upon the findings of fact set forth above, which are supported by reliable, probative and substantial

evidence in the record, the Board has decided all matters in controversy concerning this contention and reaches the following conclusions:

7.18 We conclude that CASE did not meet its burden to demonstrate standing. CASE offered no testimony or exhibits regarding either the impacts of the UHS amendments, or its members' use of local water sources. Therefore, CASE has failed to meet the required standing showing at this stage. FPL's Proposed Findings at 67-71, ¶¶ 124-130.

7.19 We conclude that the Staff's UHS LAR review and corresponding EA satisfies NEPA's requirements and the NRC's regulations in 10 C.F.R. Part 51.

7.20 We conclude that the Staff's EA adequately addressed the impact of increased temperature and salinity in the CCS on saltwater intrusion arising from migration out of the CCS. As discussed, the Staff incorporated documents into the UHS EA that provide detail on the current and historical issue of hypersaline water migrating out of the CCS and into the Biscayne Aquifer. The Staff's EA discusses why the Staff concluded that the UHS amendments will not impact the CCS beyond what is contained in the incorporated documents. This conclusion is reasonable. The Staff addressed impacts that were reasonably foreseeable – not remote and speculative. See, e.g., *Long Island Lighting Co.* (Shoreham Nuclear Power Station), ALAB-156, 6 AEC 831, 836 (1973). NEPA "does not call for certainty or precision, but an *estimate* of anticipated (not unduly speculative) impacts." *Louisiana Energy Servs.*, CLI-05-20, 62 NRC at 536 (emphasis in original).

7.21 We conclude that the Staff's EA adequately addressed the impact on saltwater intrusion from increased temperature and salinity in the CCS and from the withdrawal of fresh water from surrounding aquifers to mitigate conditions within the CCS. CASE presented no factual evidence to call into the question the Staff's conclusions in the UHS EA. Moreover, the Staff was not required to include a discussion on withdrawals from the L-31 canal, which was at the time an unlikely possibility. Only impacts "which are shown to have some likelihood of

occurring” need NEPA review. *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB- 455, 7 NRC 41, 48 (1978).

7.22 After consideration of all relevant evidence in the record, the Board finds that the NRC Staff has met its burden of demonstrating that the Staff’s EA for the UHS license amendments is adequate under NEPA. We therefore affirm that the Staff’s environmental review, and its EA, comply with the requirements of NEPA, and we hereby resolve Contention 1 in favor of the Staff and FPL.

7.23 We also make the following findings with respect to the three legal issues we asked the parties to brief. First, we conclude that there was no improper segmentation. The Staff did not impermissibly segment the UHS amendments and any other action because there was no interdependent, proposed action at the time of the Staff’s review of the UHS LAR. Further, the UHS amendments were not interdependent with any prior actions. Second, we conclude that the Staff did not abdicate its NEPA responsibilities. *Calvert Cliffs’ Coordinating Comm. v. Atomic Energy Comm’n*, 449 F.2d at 1109, 1123 (D.C. Cir. 1982). The State actions the Staff considered (e.g., water withdrawals) were separate from the action triggering the NRC’s NEPA review (i.e., the UHS license amendments). The Staff did not delegate its consideration of impacts to the State. *State of Idaho By & Through Idaho Pub. Utils. Comm’n v. I.C.C.*, 35 F.3d 585, 595-96 (D.C. Cir. 1994). The State made no findings with respect to the UHS license amendments and thus the NRC could not and did not rely on any such finding in determining that there were no significant impacts associated with the UHS license amendments. Finally, we conclude that for the reasons discussed in the Staff’s Proposed and Reply Findings, the State’s Recommended Order does not undermine the Staff’s assumptions or conclusions in the EA. See Staff’s Proposed Findings at 67-70, ¶¶ 6.26 – 6.36; Staff’s Reply Findings at 29-31, ¶¶ 6.50 – 6.54.

Respectfully submitted,

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Executed in accord with 10 CFR 2.304(d)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
FLORIDA POWER & LIGHT CO.)	Docket No. 50-250-LA
)	50-251-LA
(Turkey Point Nuclear Generating)	
Units 3 and 4))	

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305 (revised), I hereby certify that copies of the foregoing "NRC STAFF'S REPLY FINDINGS OF FACT AND CONCLUSIONS OF LAW CONCERNING CONTENTION 1" dated April 12, 2016 have been filed through the Electronic Information Exchange, the NRC's E-Filing System, in the above-captioned proceeding, this 12th day of April, 2016.

/Signed (electronically) by/

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