UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	
FLORIDA POWER & LIGHT COMPANY	)	Docket No. 50-250
	)	Docket No. 50-251
(Turkey Point Nuclear Generating Station, Unit Nos. 3 and 4)	)	January 8, 2024
	)	
(Subsequent License Renewal Application)		

REPLY IN SUPPORT OF REQUEST FOR HEARING AND PETITION TO INTERVENE SUBMITTED BY MIAMI WATERKEEPER

Pursuant to 10 C.F.R. § 2.309(i)(2), Petitioner Miami Waterkeeper files this reply to the Answers in opposition to its Petition that have been filed by the U.S. Nuclear Regulatory Commission Staff and the Florida Power and Light Company.

INTRODUCTION

The Turkey Point Nuclear Generating Station ("Turkey Point") relies on a unique cooling system: it discharges hot water into a series of canals that are carved into porous limestone. The underlying limestone substrate resembles a sponge and conducts groundwater rapidly. Canals at Turkey Point actively exchange water with the surrounding environment, and as such, naturally exchange water into the underlying Biscayne Aquifer. The precariousness of this cooling system ought to be self-evident: the canals are located less than ten miles from several municipal wellheads; they are twelve miles from Everglades National Park; they are bordered by ecologically sensitive lands and waters on all sides; and they are perched immediately above and are contiguous with a sole source aquifer that serves as the primary source of drinking water for

millions of South Florida residents and visitors. Already, the environmental impacts at Turkey Point have been significant.

Evaporation of the cooling canal system (CCS) waters removes waste heat produced by the power plants, and in doing so, concentrates dissolved salts in the water. This water then migrates through the groundwater pathway from the unlined canals and into the surrounding environment. Over time, a hulking plume of hypersaline water has leached into groundwater and spread for miles throughout the Biscayne Aquifer. Yet, despite all the red flags that Turkey Point's continued operation of the CCS as a cooling system raise, Florida Power and Light Company ("FPL") has asked the NRC to grant an additional 20-year operating license extension for Reactors 3 and 4, proposing no alternative to their current cooling system. This request creates a critical moment for this agency, this ecosystem, and the public.

Put simply, the stakes are high. As seas rise and the climate warms, the environmental baseline of the past 20 years will not be identical to the next 20 years—which is particularly consequential for sea-level lands at the very bottom of the South Florida peninsula. Additionally, the state and Miami-Dade County required FPL to implement a recovery well system to remediate polluted groundwater radiating from the CCS, in order to stem the westward flow of the hypersaline plume. Yet the mitigation measures now appear unlikely to succeed in achieving the state and county objectives. Taken together, these issues are so important that the public deserves a thorough, reasoned analysis to inform sound decision making.

In February 2022, the Commission ruled that NRC Staff did not conduct an adequate NEPA analysis before issuing FPL licenses for the subsequent renewal period and ordered NRC Staff to cure its inadequacies. But NRC Staff has failed to meet that mandate and seize this opportunity to cure the deficiencies specifically identified by the Commission.

Petitioner, whose mission is to protect the Biscayne Bay watershed, therefore brings this petition to ensure full consideration of environmental impacts. Petitioner has met admissibility requirements and demonstrated that these issues warrant further inquiry via a hearing.

DISCUSSION

I. LEGAL BACKGROUND AND STANDARD OF REVIEW

"Public participation," the NRC has said, "[i]s a vital ingredient to the open and full consideration of licensing issues and in establishing public confidence in the sound discharge of the important duties which have been entrusted to us."[1] A "cornerstone" of the NRC's regulatory process has been to assure its processes are "open, understandable, and accessible to all interested parties."[2]

Here, however, NRC Staff and FPL ask the Board to violate this principle, and embrace the opposite approach, citing several cases describing the Commission's standards for admitting contentions as "strict by design." But a review of the cases cited by the NRC Staff and FPL reveals that they are using the "strict by design" as a stalking horse for a far more restrictive reading of 10 C.F.R. § 2.309(f) than that of the Commission and its Licensing Boards. The cases decided under § 2.309(f) show that the limited purpose of the regulation is to relieve Licensing Boards of the duty to hold hearings on vague and unsubstantiated claims. The rule has not been and should not be used to foreclose hearings on contentions like those presented in this case, where the proposed intervenors have provided clear, well-supported

[1] *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-75-1, 1 N.R.C. 1, 2 (1975) (quoted in NRC, "Changes to Adjudicatory Process," 69 Fed. Reg. 2182, 2182 (Jan. 14, 2004)).

[2] *Id.*

statements of contentions that are within the scope of the proceeding, and that present genuine issues of fact or law material to the findings the Commission must make.

The Commission's limited view of the restrictions embodied in 10 C.F.R. § 2.309(f) can be seen in the kinds of claims ruled inadmissible in *Duke Energy Co.* (Oconee Nuclear Station, Units 1, 2 & 3), CLI-99-11, 49 N.R.C. 328 (1999). There, the Commission identified types of contentions for which Licensing Boards need not provide hearings. "Notice pleading," the Commission held, was not permissible under the recently revised rule.[3] Licensing boards need not hear "contentions that appeared to be based on little more than speculation," or contentions from petitioners who had "no direct case to present, but instead attempted to unearth a case through cross-examination."[4] Likewise, the Commission ruled impermissible the practice of admitting contentions that were merely "cop[ied] . . . from another proceeding involving another reactor," which it had once approved under earlier NRC regulations.[5]

But the Commission also made clear that while Licensing Boards were now authorized to decline to hear the kinds of contentions identified, the rule was not intended to alter the principle of "open, understandable, and accessible" processes that are a "cornerstone" of NRC policy.[6] Thus, the Commission stated forcefully that "our contention rule should not be turned into a 'fortress to deny intervention.'"[7]

---

[3] *Duke Energy Co.* (Oconee Nuclear Station, Units 1, 2 & 3), CLI-99-11, 49 N.R.C. 328, 338 (1999); *see also* NRC Staff Response at 14 n.51.

[4] *Oconee*, 49 N.R.C. at 334.

[5] *Id.*

[6] Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2182 (Jan. 14, 2004).

[7] *Oconee*, 49 N.R.C. at 335 (quoting *Peach Bottom*, 8 AEC at 21).

A similarly narrow explanation of the rule's intent for the adequacy of contentions is seen in the Commission's decision in *Millstone*, the case that is the source of the phrase "strict by design."[8] There, the Commission explained that its contention admissibility rules had been tightened in 1989 to allow Licensing Boards to refuse to admit contentions from proposed intervenors who "often had negligible knowledge of nuclear power issues and, in fact, no direct case to present," causing "serious delays" while licensing boards "sifted through poorly defined or supported contentions."[9]

Contentions ruled inadmissible under the rule have typically been limited to those that offered little more than an unsupported opinion.[10] In another case involving Turkey Point, the Board ruled that several untimely contentions were inadmissible because (1) no documentary or expert opinion was submitted, and the petitioner failed to challenge the Environmental Report[11]; (2) petitioner provided nothing "beyond a conclusory assertion"[12]; and (3) petitioner's contention was "unsupported by fact or expert opinion."[13]

In the *Oconee* case, the Commission articulated the distinction between admissible and inadmissible contentions in a way that plainly renders the contentions urged by Petitioner here admissible. This is not, the Commission said in rejecting the contentions in the *Oconee* case, a

---

[8] *Dominion Nuclear Connecticut Inc.* (Millstone Nuclear Power Station Units 2 and 3), CLI-01-24, 55 N.R.C 1 (2001).

[9] *Id.*

[10] *See, e.g.*, *Fla. Power & Light Co.* (Turkey Point Units 6 & 7), ASLBP No. 10-903-02-COL-BD01, 2107 WL 9478619, at *13 (July 31, 2017) (rejecting a proposed contention as "bare assertion and speculation" without "direct support—by factual affidavits, expert declarations, or documentary evidence").

[11] *Fla. Power & Light Co.* (Turkey Point Units 6 & 7), ASLBP No. 10-903-02-COL-BD01, 2017 WL 4310384, at *9 (Jan. 13, 2017)

[12] *Id.* at 11.

[13] *Id.* at 14.

case "of petitioners who, after reviewing all relevant licensing documents, have isolated specific issues they dispute and wish to litigate," but rather a case where petitioners "simply desire more time and more NRC staff information to determine whether they even have a genuine material dispute for litigation."[14]

Even where petitioners have provided limited factual and legal foundations for their contentions, Licensing Boards have found them admissible. In *Tennessee Valley Authority* (Clinch River Nuclear Site Early Site Permit Application), ASLBP No. 17-954-01-ESP-BD01, 2017 WL 9478622 (Oct. 10, 2017), the Licensing Board admitted certain contentions, quoting the Commission's point that the NRC's admissibility requirements were "not to put up a 'fortress to deny intervention,'"[15] but rather to require "at least some minimal factual and legal foundation" for contentions. While "mere 'notice pleading' was insufficient,"[16] the Board said, a "petitioner does not have to prove its contentions at the admissibility stage."[17] "At this juncture," the Board said, "we do not adjudicate disputed facts."[18]

In their responses to the Petition in this case, NRC Staff and FPL ask the Licensing Board to mis-apply and extend the Commission's contention admissibility regulation far beyond (1) its objective and (2) the line established by previous rulings of the Commission and its Licensing Boards. The purpose of the Commission's contention admissibility regulation is to relieve the Licensing Boards of providing hearings for petitions that are no more than unsupported fishing

[14] *Oconee*, 49 N.R.C. at 4.

[15] *Clinch River*, 86 N.R.C. at 150 (quoting *Peach Bottom*, 8 AEC at 21).

[16] *Id.* (citing *Millstone* at 358).

[17] *Id.*

[18] *Id.* (citing *Amergen Energy Co*. (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 N.R.C. 229, 244 (2006))

expeditions in search of something to complain about, or obviously unsupported or vague. It was intended, and has been applied by the Commission and its Licensing Boards, to require well-pleaded contentions like those filed by Petitioners in this case.

Neither 10 C.F.R. § 2.309(f) nor the rulings of the Commission and its Licensing Boards require petitioners to prove their entire factual and/or legal case, or authorize Licensing Boards to adjudicate the factual or legal issues presented by a proposed intervenor at the admissibility stage. As the Commission explained in proposing what became § 2.309(f), the presiding officer's job is to "determine whether the information presented is sufficient to prompt a reasonable mind to inquire further with regard to the validity of the contention,"[19] not to rule on the validity of the contention.[20]

By contrast to the contentions ruled inadmissible by the Commission and its Licensing Boards under § 2.309(f), the contentions presented by Petitioners here are organized, focused, and well supported. The Petition itself is 81 well-reasoned pages long, supported with declarations from highly qualified experts. The presentation of each contention addresses one by one the elements required under § 2.309(f).

All five contentions focus on discrete, genuine issues of material fact with the 2023 DSEIS. All five contentions cite to specific facts, supported by expert declarations, and specific provisions of law. In short, all five contentions were filed by Petitioners who, "after

[19] Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 1986 WL 328108 (June 30, 1986), at *3. The Commission pointed out that "[t]his is the standard articulated in *Costle v. Pacific Legal Foundation*, 445 U.S. 198 (1980) and other federal court decisions." *Id.*

[20] *Id.*

reviewing all relevant licensing documents, have isolated specific issues they dispute and wish to litigate," the standard for admissibility under the Commission's *Oconee* decision.[21]

Petitioners demonstrate below why each Contention should be admitted.

II. SCOPE OF THE PROCEEDING

All five contentions are within the scope of this proceeding. FPL asserts that because "the information being challenged plainly comes from the 2019 FSEIS . . . the alleged deficiencies are thus not 'new,' and therefore are outside the scope of this proceeding."[22] Not so. Petitioner's contentions challenge the failure of the 2023 DSEIS to adequately address the flaws in the 2019 FEIS that the Commission ordered FPL to remedy. The contentions fall directly within the scope of this proceeding.[23]

In February 2022, Commission orders CLI-22-02 and CLI-22-03 concluded "that the Staff did not conduct an adequate NEPA analysis before issuing FPL licenses for the subsequent license renewal period"[24] and that "the environmental review is incomplete in these

---

[21] *Oconee*, 49 N.R.C. at 337.

[22] FPL Answer Opposing Miami Waterkeeper's Hearing Request and Petition for Leave to Intervene, ADAMS Accession No. ML23356A157 (Dec. 22, 2023) (hereinafter "FPL Answer"), at 38.

[23] FPL and NRC Staff mischaracterize Contentions 1 and 2 as seemingly inappropriate "contentions of omission." NRC Staff Answer at 15, 21, 24, 25, 28; FPL Answer at 42, 47, 52. Here, Contentions 1 and 2 "raise[] a specific substantive challenge to how particular information or issues have been discussed in the application" *In the Matter of Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 N.R.C. 149 (2011) ("A contention of omission is one that alleges an application suffers from an improper omission, whereas a contention of adequacy raises a specific substantive challenge to how particular information or issues have been discussed in the application. A contention can contain an omission component and an adequacy component.") (citing *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-16, 63 N.R.C. 737, 742 & n.7 (2006)).

[24] CLI-22-02 at 14.

cases."[25] The Commission further "direct[ed] the Staff to update the GEIS to cure the NEPA deficiency by addressing the subsequent license renewal period."[26]

Rather than complying with the Commission's order by taking a hard look at environmental impacts of extended operation in the 2023 DSEIS, NRC Staff referred the public back to the inadequate analysis that it had proffered in its 2019 FEIS. NRC Staff cannot evade its NEPA obligations by failing to fix the inadequacies in its 2019 FEIS, then claiming that Petitioner cannot challenge these inadequacies because nothing "new" is contained in its 2023 DSEIS. NRC cannot have it both ways—either NRC Staff added new analysis, of which Petitioner would have the ability to dispute the adequacy, or NRC Staff failed to add the further analysis that the Commission directed it to add. Petitioner's contentions, which challenge the adequacy of the 2023 draft Environmental Impact Statement's NEPA analysis, are therefore within the scope of this proceeding.

The Commission's rulings in CLI-22-03 and CLI-22-02 make clear that subsequent contentions may raise any relevant NEPA issues based on NEPA and its implementing rules. By requiring a new, supplemental EIS "to ensure that the environmental impacts for the period of subsequent license renewal are considered," dismissing without prejudice all existing contentions related to that renewal period,[27] and authorizing new contentions without need to meet the heightened pleading standards governing newly or refiled contentions, CLI-22-03 re-opened the NEPA and hearing process for contentions related to the new SEIS for the period

[25] CLI-22-03 at 4.

[26] CLI-22-02 at 14.

[27] CLI-22-03 at 3-4 ("We dismiss the environmental contentions and motions pending . . . . We will provide an opportunity to file contentions after the NRC (1) updates the GEIS to address environmental impacts during the subsequent license renewal term and (2) completes the site-specific environmental impact statements.").

of subsequent license renewal.[28] The "new information" referred to in CLI-22-03 as the exclusive basis for subsequent contentions was the new 2023 DSEIS, which CLI-22-03 contemplated and required to be fully NEPA-compliant. Nothing in CLI-22-03 purports to limit the scope of review otherwise required by NEPA and its implementing rules.

In other words, the Commission's ruling that the late pleading standard would not apply to subsequent contentions in response to the updated SEIS meant that (1) there would be a new notice for a hearing on the new information, but (2) Petitioner would not be required to meet the heightened pleading standard in § 2.309(c) and instead could refile the same contentions as amended appropriately based on differences between the 2019 and the 2023 Environmental Impact Statements. This understanding is supported by the Commission dismissing the then-existing contentions without prejudice and noting the inefficiency of continuing to litigate any of the pending contentions when the environmental information may change.[29] Had the Commission meant to preclude Miami Waterkeeper from preserving and maintaining its contentions concerning the 2019 FEIS (to the extent they were not cured by the 2023 DSEIS), it would have dismissed those contentions with prejudice. The Commission's dismissal without prejudice therefore provided a clean slate for Miami Waterkeeper to bring similar contentions, because the 2023 DSEIS contains many of the same NEPA deficiencies as the 2019 FEIS.

The Commission directed NRC Staff to fully comply with NEPA and re-opened this proceeding for contentions relevant to the updated EIS. NRC Staff's and Applicant's claim

---

[28] *Id.*

[29] CLI-22-03 at 4 n.6 (explaining that "because the NRC will be updating the GEIS and site-specific environmental analyses, it would be inefficient to continue litigating any of the pending environmental contentions based on environmental information that may change").

that the Commission instead limited the scope of NEPA review and the resulting admissible contentions inexplicably disregard the Commission's clear rulings otherwise. The scope of this current NRC proceeding with respect to environmental issues is established by 10 C.F.R. Part 51, which requires the NRC to weigh all environmental effects of the proposed action in this proceeding.[30] The NRC Staff's failure to prepare an EIS as directed by the Commission, and effort to insulate the 2019 FEIS's inadequacies from review by the simple act of providing no "new information," must be rejected.

Thus, Miami Waterkeeper is permitted to bring contentions challenging where NRC has failed to adequately "update[] the GEIS to address environmental impacts during the subsequent license renewal term and (2) complete[] the site-specific environmental impact statements," as mandated by Commission order CLI-22-03.[31]

III. ANALYSIS OF PROPOSED CONTENTIONS

CONTENTION 1: THE 2023 DRAFT SITE-SPECIFIC ENVIRONMENTAL IMPACT STATEMENT FAILS TO TAKE A HARD LOOK AT IMPACTS TO GROUNDWATER QUALITY

A. The 2023 DSEIS failed to adequately assess the impact to groundwater quality if the proposed action is approved vs. denied, and under that analysis the impact of the continued operation of the CCS during the SLR term is LARGE.

The operation of the Cooling Canal System ("CCS") has significantly and negatively impacted groundwater resources and the Biscayne Aquifer.[32] Indeed, the hypersaline

[30] 10 C.F.R. § 51.71 n.3; 10 C.F.R. § 51.94. *See also* 10 C.F.R. §§ 51.21, 51.70-72, 51.92, 51.94, 51.104.

[31] CLI-22-02 at 3-4.

[32] NUREG–1437, Site-Specific Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 5a, Second Renewal Regarding Subsequent License Renewal For Turkey Point Nuclear Generating Unit Nos. 3 and 4, Draft, ADAMS Accession No. ML23242A216 (Aug. 2023) (hereinafter "2023 DSEIS"), at 2-23 (discussing the cooling canal salinity increasing to 90 psu; the development of the hypersaline plume; and stating that the operation of the CCS

groundwater plume caused by the CCS poses an existential threat to the drinking water of South Florida residents, which is why FPL has been subject to enforcement actions by state and local authorities since 2015 to halt and retract the hypersaline plume.[33]

Despite the severe and well-documented impact of the CCS to groundwater quality, the 2023 DSEIS nevertheless asserts that impacts are SMALL or MODERATE during the subsequent license review period based on an unsubstantiated assumption that FPL will succeed in retracting the hypersaline plume.[34] Attempting to defend that conclusion, FPL posits that the Board can simply ignore the hypersaline plume as a "legacy environmental condition."[35] In its view, that plume "did not result from the 'proposed action' in this proceeding, which is the future operation of Turkey Point during the SLR term."[36] FPL mistakenly asserts that the 2023 DSEIS was correct to conclude that the impacts are SMALL or MODERATE because "the NRC Staff plainly accounted for uncertainty in retracting the legacy plume."[37]

Even if FPL could write off its 50 years of groundwater pollution as a "legacy" condition, its Answer addresses only half the analysis. NEPA requires federal agencies to assess "the environmental impact of the proposed action."[38] This analysis, in other words,

---

contributed to the degradation of groundwater quality beyond the CCS and Turkey Point site boundaries, such that the affected water migrates west toward areas where groundwater within the Biscayne Bay Aquifer is of sufficient quality to serve as a potable water supply).

[33] *Id*. at 2-23 (discussing the 2015 Miami-Dade County Consent Agreement and the 2016 FDEP Consent Order).

[34] 2023 DSEIS at 2-31.

[35] FPL Answer at 18.

[36] *Id.* at 18.

[37] *Id*. at 24.

[38] 42 U.S.C. § 4332(C)(i).

compares the state of the environment if a proposed action is approved against the state of the environment if it is not. Applied here, this means the EIS must compare the groundwater quality if FPL is permitted to operate the CCS as a heat sink for Units 3 and 4 for an additional 20 years vs. the groundwater quality if FPL cools its powerplant by some other means (e.g., a cooling tower). Although FPL cautiously speculates that the patchwork of state and local remedial actions will cause "the CCS [to] effectively no longer contribute[] to the hypersaline plume,"[39] FPL completely ignores that discontinuing the CCS as a heat sink for Units 3 and 4 would significantly (and naturally) lessen the impact and extent of groundwater pollution over time—a point with which even the 2019 FSEIS agrees.[40, 41]

Yet, in its ultimate conclusions, the 2023 DSEIS fails to adequately consider the positive effects on groundwater quality from discontinuing the use of the CCS as a heat sink for Units 3 and 4. As explained by Miami Waterkeeper's expert Dr. William Nuttle, "active exchange between the CCS and the underlying aquifer feeds the growth of a plume of hypersaline water that accelerates the intrusion of saltwater toward well fields used for public

[39] FPL Answer at 10 (citing 2019 FSEIS at 3-57 to 3-59; 2023 DSEIS at 2-24).

[40] NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 5, Second Renewal, Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4, Final Report, ADAMS Accession No. ML19078A330 (Oct. 2019) (hereinafter "2019 FSEIS"), at 4-37 ("The shutdown of Turkey Point would substantially reduce thermal discharges to the CCS as well as cooling water and other effluents from the plant's cooling water system. This flow reduction would reduce groundwater mounding (i.e., a localized increase in the water table) beneath the CCS and reduce the generation of hypersaline water. As a result, the NRC staff expects that the amount of water used to support freshening activities in accordance with the provisions of FPL's 2015 Consent Agreement with Miami-Dade County DERM (MDC 2015a) and the 2016 FDEP Consent Order (FDEP 2016a) could be reduced.").

[41] FPL Answer at 19 (claiming, without citation, that "[a]ny legacy conditions would be present regardless of whether the NRC approves or denies the SLRA.").

water supply."[42] In fact, freshening activities increase flow out of the CCS into the aquifer.[43] Freshening activities are intended to reduce the average annual salinity of the CCS to 34 practical salinity unit (psu) or below—the ambient salinity of seawater.[44] But pursuit of this goal increases the volume of water added to the CCS. Given that the unlined CCS "active[ly] exchange[s]" with the underlying aquifer, the natural result of these "freshening activities" is that more water will leach through the CCS into the aquifer.[45] The long-term reduction in CCS salinity requires reducing the salt mass of the CCS, and the only mechanism to remove this salt from the CCS is to flush it into the aquifer.[46] In other words, the freshening activities undertaken to reduce salinity in the CCS will—by their very design—exacerbate discharges of saline water from the CCS to the underlying aquifer. This environmental impact was articulated in Miami Waterkeeper's Petition,[47] and NRC did not engage with it in its Answer. FPL engages only to the extent that it references Table 2-4 of the 2023 DSEIS, with no substantive discussion whatsoever, as to how a table simply listing groundwater withdrawal well limits constitutes a full NRC staff evaluation.[48]

FPL had initially, and erroneously, believed that 14 million gallons per day (mgd) authorized in 2016 was adequate, though it later realized that the allotment of Upper Floridian

---

[42] William K. Nuttle Declaration, May 14, 2018. Submitted as Exhibit 3 to Miami Waterkeeper's 2023 Petition, in Attachment A at 3. ADAMS Accession No. ML23331A983 (hereinafter "Nuttle Expert Declaration").

[43] *Id.* at 18

[44] *Id*.

[45] *Id.* at 19.

[46] *Id.*

[47] Request for Hearing and Petition to Intervene Submitted by Miami Waterkeeper, ADAMS Accession No. ML23331A971 (Nov. 27, 2023), at 19 (hereinafter "Miami Waterkeeper 2023 Petition").

[48] FPL Answer at 21 (citing 2023 DSEIS at 2-17, tbl. 2-4).

Aquifer water would need to be more than doubled in order to achieve the 34 psu goal required by the state's 2016 Consent Order.[49] To correct for this, FPL's allotment of water from the Upper Floridian Aquifer for freshening the CCS increased by an additional 16 mgd in 2020.[50] These "freshening activities" permit FPL to pump as much as 1,033.6 million gallons of brackish water into the CCS every month,[51] 12 months a year, to attempt to achieve that goal. The NRC has plainly not considered how the increasing additions of Upper Floridian Aquifer water cause increased leakage from the CCS—water that is around 34 psu and tritium-laced—and what impacts that volume of water has on the Biscayne Aquifer and Biscayne Bay over the 20-year license extension.[52] This is reasonably foreseeable to be billions of gallons of salty water leaking out of the CCS and into the sole source drinking water aquifer.[53]

Importantly, if the proposed action is not approved, and the CCS is no longer used as a heat sink for Units 3 and 4, then the "freshening activities"—and the significant increase in groundwater discharges that accompany them—would not be an issue. In its ultimate analysis, the 2023 DSEIS fails to compare these environmental benefits against the negative impacts to groundwater quality resulting from the continued operation of the CCS during the SLR term.

Even still, the 2023 DSEIS's assessment of the impact of continuing to operate the CCS during the SLR term is inadequate. To accept NRC's position that groundwater impacts caused by the CCS operations during the SLR term will be SMALL or MODERATE,[54] the

---

[49] *Id.*

[50] 2023 DSEIS at 2-20.

[51] 2023 DSEIS at 2-17, Reference Table 2-4.

[52] 2023 DSEIS at Section 2.8, Groundwater Resources, and subsections 2.81, 2.82, 2.83.

[53] 1,033.6 mgd, multiplied by 12 months over a 20-year period is approximately 248 billion gallons.

[54] 2023 DSEIS at 2-31.

Board must likewise accept—contrary to all evidence—that pumping as much as 1,033.6 million gallons of brackish water into the unlined CCS, every month, for twenty years, to achieve seawater salinity levels will not perpetuate or exacerbate saltwater intrusion into the Biscayne Aquifer. Such a conclusion is unfounded. FPL and NRC point to no authority to support their theory that impacts on groundwater quality from CCS operations during the SLR term would be SMALL to MODERATE.

Dr. Nuttle addressed this in his 2018 expert report, where he opined that:

> Current plans to remediate the pollution of the Biscayne Aquifer and protect Biscayne Bay are inadequate. The volume of contaminated water that can be extracted using the recovery well system is barely adequate to offset the rate at which the continued operation of the cooling canals adds water to the plume.[55]

Dr. Nuttle's 2018 expert analysis—that the recovery well system is inadequate—has come to pass. To this end, FPL's Year 5 remediation report concedes that hypersaline water in the lower aquifer continues to persist, where layer 16, in the lower aquifer, is modeled to remain far from retraction, and in some areas is modeled to even advance further westward.[56] The discharge of CCS water to the base of the Biscayne aquifer contributes to the migration of the saltwater interface.[57]

In short, the 2023 DSEIS's determination that the proposed action will have a SMALL or MODERATE impact on groundwater quality is the result of an incomplete and inadequate analysis. It failed to compare the positive and remedial impact to groundwater of reasonable alternatives to the proposed action (i.e., discontinuing the use of the CCS as a heat sink for

---

[55] Nuttle Expert Declaration in Miami Waterkeeper 2023 Petition Attachment A at 3.

[56] FPL Year 5 Remedial Action Annual Status Report (Nov. 15, 2023), at 5-23, Figure 5.3-1d, submitted as Exhibit 9 in Miami Waterkeeper's 2023 Petition. ADAMS Accession No. ML23331A989 (hereinafter "FPL Year 5 RAASR").

[57] 2019 FSEIS at 4-27.

Units 3 and 4 mandating FPL implement a cooling tower) against the perpetuating and exacerbating impact of the proposed action (continuing to operate the CCS as a heat sink for Units 3 and 4). Had it undertaken the correct analysis, the result would be that the impact of the proposed action on groundwater quality is LARGE.

B. The NRC has an independent duty to take a "hard look" at the hypersaline plume caused by the CCS, and may not defer to the limited scope state and local enforcement efforts.

NEPA requires federal agencies to independently take a "hard look" at the environmental impact of major federal actions.[58] The NRC Staff and FPL request the Board to give them a pass on this statutory mandate because State and local agencies have undertaken individual enforcement efforts to address the hypersaline plume caused by the CCS.[59] According to NRC Staff, "Petitioner essentially argues that regulatory processes designed to protect the environment might fail and instead harm the environment and that thus the Staff cannot rely on the regulatory processes of the State and local government agencies."[60] But what Petitioner actually argues is that the NRC has an independent statutory duty to take a "hard look" at the environmental impact of the proposed action, which it cannot punt to limited scope State and local enforcement proceedings.

First, that another governmental agency may have regulatory authority over a project (and its impacts) being considered for a federal action subject to NEPA does not absolve the

[58] 42 U.S.C. § 4332.

[59] FPL Answer at 19-22; NRC Staff Answer Opposing Miami Waterkeeper Hearing Request, ADAMS Accession No. ML23356A162, (Dec. 22, 2023), at 27-29 (hereinafter "NRC Staff Answer").

[60] NRC Staff Answer at 27.

federal action agency from the requirement to analyze those impacts fully.[61] For this reason, the argument advanced here by FPL and NRC Staff was expressly rejected in *Great Basin Resource Watch v. Bureau of Land Management*, 844 F.3d 1095 (9th Cir. 2016), where the Ninth Circuit ruled:

> Eureka Moly argues that the FEIS's air impacts analysis is nonetheless adequate because it relies in part on the fact that the NDEP's Bureau of Air Pollution Control issued a Clean Air Act permit for the Project. **This argument evinces a misunderstanding of the nature of NEPA and its relationship to "substantive" environmental laws such as the Clean Air Act.** *See S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep't of Interior*, 588 F.3d 718, 726 (9th Cir. 2009) (per curiam) (holding that a failure to discuss mercury emissions from a nearby mining facility in an EIS was not excused by the fact that the facility "operate[d] pursuant to a state permit under the Clean Air Act," because "[a] non-NEPA document ... cannot satisfy a federal agency's obligations under NEPA"). The failure to explain the zero-baseline assumption frustrated the BLM's ability to take a "hard look" at air impacts, and the reference to the Project's Clean Air Act permit did nothing to fix that error.[62]

In the case of the FPL water cooling system, licensure under the Clean Water Act (formerly the Water Pollution Control Act) does not change an action agency's obligation to weigh degradation of water quality in its NEPA cost-benefit balance.[63] If the use of cooling towers, compared to the continued operation of the CCS as a heat sink for Units 3 and 4, would reduce the environmental impact of this NRC action, that is relevant to this proceeding.

---

[61] *Davis v. Mineta*, 302 F.3d 1104, 1122-23 (10th Cir. 2002); *TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003); *Friends of the Earth v. U.S. Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000); *Sierra Club v. Marsh*, 769 F.2d 868, 877-882 (1st. Cir. 1985).

[62] *Great Basin Resource Watch v. Bureau of Land Management*, 844 F.3d 1095, 1103-04 (emphasis added) (2016).

[63] *Tennessee Valley Authority* (Yellow Creek Nuclear Plant, Units 1 & 2), ALAB-515, 8 N.R.C. 702, 712-13 (1978).

Under NEPA, "an agency must . . . consider appropriate mitigation measures that would reduce the environmental impact of the proposed action."[64]

Next, the NRC must fully consider this issue because it is the regulatory agency with the authority to holistically address the harm caused by the CCS. Beginning in the 1970s, the federal government licensed—indeed, required—FPL to operate the CCS to cool its nuclear power facility at Turkey Point.[65, 66] Under basic preemption principles, federal action requiring the construction and operation of the CCS binds all state and local regulatory agencies, which may not order FPL to operate differently (for example, by ordering FPL to cease operating the CCS).[67, 68]

The 2023 DSEIS does not provide any basis to support its reliance on state and local authorities to prevent the well-documented, extreme, environmental impact caused by the hypersaline plume. An agency's NEPA analysis must explain its basis for reliance on state or

---

[64] *Protect Our Cmtys. Found. v. Jewell*, 825 F.3d 571, 581 (9th Cir. 2016).

[65] *See* Final Judgment, *United States vs. Fla. Power and Light Co.*, No. 70-328-CA, at ¶¶ 1-5, 13, V (S.D. Fla. Sep. 10, 1971), ADAMS Accession Nos. ML15314A632 & ML16015A182 (final consent judgment requiring FPL to construct the Card Sound Canal, and ordering that "all water used by Florida Power and Light to cool its condensers at its generating facilities at Turkey Point shall be discharged into a cooling system").

[66] *See also* Final Environment Statement Related to Operation of Turkey Point Plant, *Fla. Power & Light Co.*, Dockets No. 50-250, 50-251 (AEC July 1972), ADAMS Accession No. ML23331A987, at iii-iv (approving FPL's use of a "once-through" cooling canal system for Turkey Point Units 3 and 4).

[67] *See, e.g.*, *Pac. Gas & Elec. Co. v. State Energy Res. Cons. & Dev. Comm'n*, 461 U.S. 190, 205 (1983) ("[S]tate law is preempted to the extent that it actually conflicts with federal law. Such a conflict arises when 'compliance with both federal and state regulations is a physical impossibility.'").

[68] *Id.* at 212-213 ("[T]he federal government has occupied the entire field of nuclear safety concerns except in limited powers expressly ceded to the states. When the federal government completely occupies a given field or an identifiable portion of it, as it has done here, the test of preemption is whether 'the matter on which the state asserts the right to act is in any way regulated by the Federal Act.'").

local regulation to adequately address the potential adverse impacts of a proposed federal action.[69]

Miami-Dade County's statements on this issue are instructive. On July 19, 2016, the Miami-Dade Board of County Commissioners unanimously passed Resolution R-722-16, titled "Resolution Supporting the County Mayor in Efforts to Seek a Commitment from Florida Power and Light Company to Discontinue Use of the Cooling Canal System at the Turkey Point Power Plant."[70] Miami Waterkeeper proffered this resolution in its Petition, and FPL summarily dismissed it in its reply as a "vague" argument regarding the effectiveness of state and local regulators.[71] The resolution itself is not vague. It recognizes that the "cooling canal system communicates with the surrounding groundwater," which FPL and NRC Staff do not deny, "and long-term monitoring data has shown that a hypersaline plume of cooling canal water has been migrating in the groundwater, beyond the boundaries of the cooling canals."[72] It further discusses the patchwork of actions "the County has taken" to "address these issues," such as requiring "that Florida Power & Light take certain actions to retract and contain the hypersaline groundwater plume."[73] The Resolution recognizes that "this Board [of County Commissioners], as well as residents of this County and members of the general public, are concerned about these

[69] *See, e.g.*, *Davis v. Mineta*, 302 F.3d 1104, 1122-23 (10th Cir. 2002); *TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003); *Friends of the Earth v. United States Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000).

[70] Miami-Dade County Resolution No. R-722-16, ADAMS Accession No. ML23331A977 (Jul. 19, 2016), submitted as Exhibit 14 in Miami Waterkeeper's 2023 Petition; Miami Waterkeeper 2023 Petition at 38.

[71] FPL Answer at 35-36.

[72] Miami-Dade County Resolution No. R-722-16 at 3, submitted as Exhibit 14 in Miami Waterkeeper 2023 Petition.

[73] *Id.* at 3.

recent discoveries, and such discoveries further highlight the challenges posed by the continued operation of the cooling canal system."[74] Nevertheless, the Board of County Commissioners identified that "Florida Power & Light has a license from the federal government to operate the Turkey Point power plant units that use the cooling canal system until 2033."[75] Given that the Board of County Commissioners lacked authority to enjoin FPL from operating the CCS, it instead expressed its support for the Mayor to seek "a commitment from Florida Power & Light to discontinue the use of the cooling canal system by 2033 in favor of more modern technology such as cooling towers."[76]

Moreover, the Environmental Protection Agency (EPA), the agency with legal authority concerning the discharge of the cooling water for these facilities, submitted scoping comments to NRC in November 2022 concerning Turkey Point's Reactor 3 and 4 operating license extension. In its letter, the EPA commented on "[t]he existing unlined Industrial Waste Facility/Cooling Canal System (CCS) for [Turkey Point] Units 3 and 4" and clarified that it has "**issues regarding radionuclides and hypersalinity that represent the EPA's primary concerns.**"[77] EPA explained that past consent agreements with state and local regulatory agencies "have outlined various corrective actions to address issues related to the CCS", and recommended:

> that NRC consider incorporating language into the SEIS or license stating that FPL develop and submit an alternative mitigation plan to address water quality if FPLs monitoring results demonstrate that corrective measures identified in the consent

[74] *Id.* at 4.

[75] *Id.* at 4.

[76] *Id.* at 4.

[77] Miami Waterkeeper 2023 Petition at 9 n.28 (citing Site-Specific Environmental Impact Statement Scoping Process Summary Report, Turkey Point Nuclear Generating Unit Nos. 3 and 4 Miami-Dade County, FL August 2023, at 7) (emphasis added)

agreements were not effective. As part of this condition, **we recommend that the NRC and the licensee provide a detailed discussion on the re-evaluation process that would reassess alternative corrective measures with respect to the CCS.**[78]

In short, the State and local authorities recognize the severe impact of the CCS on the groundwater of South Florida, but their hands are tied in addressing that issue due to the NRC's primacy in the field of nuclear safety and its licensure of the CCS. Whatever patchwork of remedial steps those agencies have undertaken, they are nothing more than a band-aid on an open wound. The NRC is the regulatory agency with authority to holistically address the hypersaline plume by ordering FPL to cease operating the CCS, and the Board should reject the attempt by NRC Staff and FPL to defer to the necessarily limited efforts of State and local authorities on that issue. The NRC has a statutory duty under NEPA to independently take a "hard look" at the impact of an SLR renewal on the hypersaline plume, and the Board should order the Staff to comply with this duty.

C. The 2023 DSEIS's assessment of the impact of the proposed action to groundwater quality is speculative, contrary to evidence, and arbitrary and capricious.

The extent to which the proposed action will impact groundwater quality is perhaps the most significant environmental issue raised in the 2023 DSEIS.[79] Yet the 2023 DSEIS

---

[78] *Id.*

[79] 2019 FSEIS at 4-27 (emphasis added) ("Hypersaline groundwater containing tritium has migrated beyond the boundaries of the CCS and Turkey Point property at the base of the Biscayne aquifer from Class G-III groundwater (i.e., non-potable groundwater) to the west and to the east beneath Biscayne Bay. As evidenced by elevated levels of tritium, the NRC staff finds that CCS-influenced water has migrated into portions of the Biscayne aquifer that are a potential source of potable water. While the NRC staff also finds that the constituents of concern are not a human health concern at present, the water originating from the CCS has resulted in the degradation of groundwater quality to the west and east of the CCS, at least at the base of the Biscayne aquifer. In addition, as a source of hypersaline water, *the discharge of CCS water to the base of the Biscayne aquifer has been and is currently contributing to the migration of the saltwater interface*.") (emphasis added).

concedes that FPL failed to provide adequate data to reach a definitive conclusion on this issue.[80] FPL chalks this up to the NRC staff's lack of "clairvoyance."[81] But fortune telling and crystal balls are not the NEPA standard; rather, NEPA demands that agencies draw scientifically supported conclusions from reliable data. To assist NRC Staff in meeting this NEPA duty, the Petitioner provided expert reports in its scoping comments. The 2023 DSEIS, however, completely ignored these experts' opinions and instead resorted to guesswork and speculation:

> [I]f FPL can retract and maintain the hypersaline plume to within the FPL site boundary prior to the SLR term, the impacts on groundwater quality from the CCS operations during the SLR term would be SMALL. However, because some uncertainty exists about whether FPL will be able to retract the hypersaline groundwater plume to within the FPL site boundary prior to the SLR term, the impact could be MODERATE. Accordingly, the staff concludes that, depending on FPL's success in retracting the hypersaline plume, the impacts on groundwater quality from the CCS operations during the SLR term would be SMALL to MODERATE.[82]

This conclusion violates NEPA and its implementing regulations in several respects.

To begin, NEPA requires agencies to provide "some quantified or detailed information" supporting their conclusions.[83] The 2023 DSEIS, however, admits that FPL provided no data to support its conclusion that current remedial efforts will retract the

[80] *See* 2023 DSEIS at 2-31 ("The NRC staff notes, however, that FPL has not presented predictive modeling results that extend to either the start or the expiration of the SLR term, which precludes the staff from reaching a definitive conclusion about the likely extent of hypersaline plume retraction during the SLR term.").

[81] FPL Answer at 24.

[82] 2023 DSEIS at 2-31.

[83] *Great Basin Res. Watch v. Bureau of Land Mgmt.*, 844 F. 3d 1095, 1104 (9th Cir. 2016). ("Without such information, neither the court nor the public . . . can be assured that the [agency] provided the hard look that it is required to provide.") (citation omitted).

hypersaline plume during the SLR term, much less the extent of any such retraction.[84] Despite this deficiency, the NRC Staff conducted no independent analysis to fill that informational gap. As a result, the 2023 DSEIS relies on no "quantified or detailed information" to form its conclusion on the impact of the CCS operations on groundwater quality during the SLR term. The Staff's resort to guesswork and speculation fails to satisfy NEPA's "hard look" standard,[85] as well as NEPA's explicit mandate that "to the fullest extent possible . . . all agencies of the Federal Government shall . . . make use of reliable data and resources in carrying out" NEPA assessments.[86]

Not only did the Staff fail to base their conclusion on data and science, they affirmatively ignored three expert peer reviews submitted by the Petitioner that directly addressed the issue. In response to scoping comments, the Petitioner submitted the expert peer reviews of Groundwater Tek Inc. and Arcadis.[87] Pertinent to the impact of the hypersaline plume caused by the proposed action, these expert reports cast serious doubt on—and create a genuine dispute about—the 2023 DSEIS's claim that impacts on groundwater quality will be SMALL to MODERATE.

---

[84] 2023 DSEIS at 2-31 (stating that "FPL has not presented predictive modeling results that extend to either the start of expiration of the SLR term, which precludes the staff from reaching a definitive conclusion about the likely extent of hypersaline plume retraction during the SLR term.").

[85] *Great Basin*, 844 F. 3d at 1101, 1104-05 (NEPA requires agencies to employ "accurate information and defensible reasoning").

[86] 42 U.S.C. § 4332(e).

[87] Groundwater Tek Inc Peer Review Study (July 2020), submitted as Exhibit 12 to Miami Waterkeeper 2023 Petition, ADAMS Accession No. ML23331A975 (hereinafter "Groundwater Tek Inc Study"). *See also* Exhibit 13: ARCADIS-DERM Letter re FPL Year 4 RAASR, ADAMS Accession No. ML23331A976 (Aug. 3, 2023) (hereinafter "Arcadis Final Review").

Groundwater Tek Inc.'s July 2020 review found that the recovery well system would have "little remedial effect to the hypersaline plume currently in the deep portion of the Biscayne Aquifer west and north of the CCS."[88] Groundwater Tek Inc. also found that the current recovery well system "does not appear to be capable of meeting the remediation objectives of retracting the hypersaline plume to the FPL's property from either west or north of the CCS[.]".[89] Moreover, Groundwater Tek Inc.'s report anticipates that, if the recovery well system ceases to operate, the hypersaline plume in the lower layers will likely remain a source of pollution and the salt will likely diffuse back to the layers above due to the concentration gradient.[90]

Arcadis' September 2020 report found that the recovery well system may not fully capture the hypersaline plume in Layers 9 and 10, as the area greater than 19,000 mg/L appears to have increased between 2018 and 2019.[91] Moreover, Arcadis expressed concern about the reliability of FPL's data, specifically, that FPL's assessment of mathematical relationships between variables and the magnitude of uncertainty, particularly in absolute plume volume, was not robust enough and not technically defensible. (Arcadis expressed concern about the accuracy of FPL's calculation of the absolute plume volume again in 2023, as Miami Waterkeeper cited in its Petition.[92])

[88] Groundwater Tek Inc Study at 3.

[89] *Id.* at 3.

[90] *Id.* at 34.

[91] Arcadis Final Review at 26.

[92] Miami Waterkeeper 2023 Petition at 24-25, 32.

Additionally, Arcadis' October 2021 comment letter noted evidence suggesting the westward migration of the plume has not entirely been halted.[93] They recommend generating layer-by-layer figures for each year that clearly show areas of expansion and contraction relative to the 2018 baseline.[94] Arcadis also declared that FPL had underemphasized the areas of plume expansion or potentially no net change.[95]

Far from painting a "worst case scenario,"[96] these peer reviews objectively assessed the data and concluded that there is significant doubt about the accuracy of FPL and NRC Staff's speculation of a best-case-scenario about the ability of the recovery well system to retract the plume in the lower portion of the aquifer. In a November 2022 scoping comment letter, Petitioner notified NRC Staff of these peer reviews as new information that had come to light after FPL's first Remedial Action Annual Status Report (RAASR), issued in 2019. FPL's 2019 RAASR stated that FPL believed the recovery well system operations were on track to meet the hypersaline groundwater plume remediation objectives of the Miami-Dade County Consent Agreement and the FDEP Consent Order.[97] These peer reviews indicated a different story by calling into question FPL's conclusions and the means and methods upon which FPL relied. This is the importance of peer review: the scrutiny of other experts is meant to uphold integrity in the scientific process.

---

[93] Letter from Arcadis to DERM, re: Part 1 Review Comment Letter on Statistics for the Annual Florida Power and Light Turkey Point Remedial Action Annual Status Reports (Oct. 22, 2021), at 2-3, submitted in Exhibit 11 to Miami Waterkeeper 2023 Petition.

[94] *Id.* at 3.

[95] *Id.* at 3.

[96] NRC Answer at 20.

[97] Miami Waterkeeper FOE Center NRDC Scoping Comments (Nov. 27, 2023), at 6, submitted as Exhibit 11 to Miami Waterkeeper 2023 Petition, ADAMS Accession No. ML23331A974.

Subsequent FPL remediation reports (Year 3, Year 4, and Year 5 RAASRs) began to concede that the remediation of the plume in the lower aquifer was dubious, and showed by way of modeling that the remediation system is unlikely to achieve hypersaline plume retraction by Year 10 in all layers of the aquifer.[98] In the Year 5 report, FPL admits that "[w]hile further remediation is achievable over the next 5 years, full retraction of the existing hypersaline plume to the L-31E canal is unlikely after ten years of recovery well system operation.[99] Moreover, FPL's own modeling in its Year 5 report predicts that the hypersaline interface in layer 16 will have expanded in some areas.[100] This is a far cry from FPL's 2019 report, where FPL stated it believed the recovery well system operations were on track to meet the hypersaline groundwater plume remediation objectives of the Miami-Dade County Consent Agreement and the FDEP Consent Order.

NRC Staff, however, chose to disregard these expert reviews. According to the Staff, these reports were not "significant" to any issue under consideration in the 2023 DSEIS, though the Staff provided no explanation for this conclusion.[101] This violates NEPA because the impact of the proposed action on the hypersaline plume over the SLR term—the subject matter of these reports—is obviously critical and "significant" to the 2023 DSEIS's discussion of the hypersaline plume and its impacts on a sole source drinking water aquifer. These three documents are directly relevant to NRC Staff's review of impacts on groundwater quality from

[98] Miami Waterkeeper 2023 Petition at 20 (citing FPL's Year 3-5 Remedial Action Annual Status Reports).

[99] FPL Year 5 RAASR at 7-4, submitted as Exhibit 9 to Miami Waterkeeper 2023 Petition.

[100] *Id.* at 5-23, Figure 5.3-1d.

[101] Site Specific EIS Scoping Process Summary Report for Turkey Point Nuclear Generating Unit Nos. 3 & 4, ADAMS Accession No. ML23198A271 (Aug. 2023), at 25 (providing no explanation as to why NRC believes that these reports were not significant issues that bear on the proposed action or its impacts).

CCS operations during the SLR term in the 2023 DSEIS.[102] Moreover, NEPA does not allow agencies to ignore opposing viewpoints "central to" an EIS that "directly challenge the scientific basis upon which" it rests—and especially not where, as here, the agency failed to base its contrary conclusion on science or data at all.[103]

Finally, NEPA demands that "all agencies of the Federal Government shall . . . ensure the professional integrity, including scientific integrity, of the discussion and analysis in an environmental document."[104] By ignoring the contrary opinions of three experts and reaching scientific conclusions without any supporting data or analysis, the 2023 DSEIS fails to reflect professional and scientific integrity in its analysis of the environmental impacts of the continued use of the CCS a heat sink for Units 3 and 4—including its impacts on groundwater, contributions to the migration of the saltwater interface into the sole source aquifer, and the success of remediation activities during the SLR term.

For all these reasons, and those set forth in the Petitioner's request for hearing, the Board should remand this matter back to the NRC Staff with instructions to conduct a NEPA-compliant "hard look" analysis of the proposed action's impact to groundwater quality.

---

[102] 2023 DSEIS at 2-31 (stating that impacts on groundwater quality from the CCS during the SLR term would be SMALL to MODERATE, depending on FPL's success in retracting the hypersaline plume).

[103] *Ctr. for Biological Diversity v. U.S. Forest Serv.*, 349 F.3d 1157, 1167-68 (9th Cir. 2003) ("The Service's failure to disclose and analyze these opposing viewpoints violates NEPA and 40 C.F.R. § 1502.9(b) of the implementing regulations."); 10 C.F.R. §51.71(b); *see also* 40 C.F.R. § 1502.9(b) ("At the appropriate points in the draft statement, the agency shall discuss all major points of view on the environmental impacts of the alternatives including the proposed action."); *Pacific Gas & Elec Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 N.R.C. 427, 444 (2011) (noting that under its "longstanding policy" the Commission looks "to CEQ regulations for guidance").

[104] 42 U.S.C. § 4332(d).

CONTENTION 2: THE DRAFT SITE-SPECIFIC ENVIRONMENTAL IMPACT STATEMENT FAILS TO ADEQUATELY ANALYZE COOLING TOWERS AS A REASONABLE ALTERNATIVE THAT COULD MITIGATE ADVERSE IMPACTS OF THE COOLING CANAL SYSTEM IN CONNECTION WITH THE SUBSEQUENT LICENSE RENEWAL OF TURKEY POINT UNITS 3 AND 4.

A. Contention 2 is within the scope of this proceeding.

NRC and FPL incorrectly claim that Contention 2 is (1) outside the scope of this proceeding and (2) is an inappropriate contention of omission. However, the references in Contention 2 to the 2019 FSEIS are within the scope of this proceeding because the failure of the 2023 DSEIS to remedy the inadequacies in the 2019 FSEIS is the primary issue in this current proceeding.

1. The Board's prior decisions rejecting related contentions do not stand.

FPL and NRC Staff mistakenly claim that Contention 2 is inadmissible because the Board's reasoning in previously rejecting "similar contentions" applies here. This is incorrect both because the Commission subsequently vacated the Board's reasoning, and because factual circumstances have changed.

The Board is not prevented from considering Petitioner's Contention 2 anew simply because it already considered similar contentions. The Commission did not make a final determination on the admissibility of the previously rejected contentions and "dismiss[ed] without prejudice the motions, petitions, and appeals pending before" it in the Turkey Point proceeding.[105] This dismissal provided a clean slate for Miami Waterkeeper to bring cumulative impacts-related contentions. And because the 2023 DSEIS contains many of the

[105] CLI-22-03 at 4.

same NEPA deficiencies as the 2019 FSEIS, Miami Waterkeeper can bring a similar contention as it had filed against the 2019 FSEIS.

Furthermore, while Petitioner did bring a similar contention against the 2019 FEIS, the Board's reasoning in rejecting those previous similar contentions does not apply here. The Board previously rejected contention 1-EB on the grounds that it failed to show a genuine dispute with the 2019 FEIS because it did not adequately address the portions of the 2019 FEIS that discussed the benefits of discontinuing use of the CCS as a heat sink.[106] As discussed in Section III(2)(B)(1)(a), Contention 2 shows a genuine dispute by identifying and addressing specific deficient portions of the 2023 DSEIS.

2. By limiting subsequent contentions to "new information," Commission Order CLI-22-03 did not preclude Miami Waterkeeper from raising a contention about the 2023 DSEIS's failure to remedy the 2019 FEIS's inadequate analysis of the water cooling tower alternative.

NRC Staff and FPL are mistaken that CLI-22-03's language limiting contentions to "new" information in the 2023 DSEIS precludes Petitioner from asserting that the 2023 DSEIS failed to correct the deficiencies CLI-22-02 and CLI-22-03 found in the 2019 FSEIS. The 2023 DSEIS fails to adequately analyze "alternatives available for reducing or avoiding adverse environmental effects," as required by 10 C.F.R. § 51.71(d). Contention 2 does not challenge "pre-existing information" from the 2019 FSEIS but instead challenges the failure of the site-specific 2023 DSEIS to adequately address the flaws in the 2019 FEIS that the Commission's Order required NRC staff to remedy.

[106] *In the Matter of Florida Power & Light Company*, LBP-19-8, 90 N.R.C. 139, 151-55 (2019) (Turkey Point Nuclear Generating Units 3 and 4) Nuclear Regulatory Commission (N.R.C.) Atomic Safety and Licensing Board LBP-19-8

A NEPA analysis is inadequate when it doesn't find what it didn't look for.[107] The 2023 DSEIS violates NEPA for the same reason the Eleventh Circuit found the NEPA analysis inadequate in *Sierra Club v. Martin*. There, the Forest Service admitted there were sensitive species within the project sites but gathered no inventory or population data on the species and no baseline population data from which to measure the impact on the species' overall population. The Court ruled it would be arbitrary and capricious to rely on the Forest Service's conclusion that there would be no significant impact on the species.[108] In this proceeding, the claim by NRC Staff and FPL that the choice to simply not include "new information" in the 2023 DSEIS insulates that analysis from Contention 2 must be rejected for the same reason.

NRC Staff and FPL erroneously characterize Contention 2 as an inappropriate effort to relitigate the 2019 FEIS, rather than acknowledging that Contention 2 is about the failure to adequately analyze environmental impacts as required by NEPA.[109] As explained in the Section III(2)(B), the Commission's prior rulings dismissing the contentions directed at the 2019 FEIS were without prejudice, so Petitioner may resubmit related contentions to the extent NEPA deficiencies were not cured by the 2023 DSEIS that the Commission directed NRC Staff to undertake. Contention 2 explains that the 2023 DSEIS "relies on,"[110] "defaults to,"[111] and "carries forward"[112] the information in the 2019 FSEIS, rather than resolving the flaws the Commission found to exist in the 2019 FSEIS. Contention 2 thus demonstrates that the 2023 DSEIS failed "to

---

[107] *Sierra Club v. Martin*, 168 F. 3d 1 (11th Cir. 1999).

[108] *Id*. at 4-5.

[109] *See* NRC Staff Answer at 35; FPL Answer at 19, 27 n.139, 29.

[110] Miami Waterkeeper 2023 Petition at 34.

[111] *Id.* at 44.

[112] *Id.* at 37.

ensure that the environmental impacts for the period of subsequent license renewal are considered,"[113] to cure the NEPA deficiencies,[114] and to "prepare an EIS to comply with the National Environmental Policy Act,"[115] as mandated by CLI-22-02 and CLI-22-03.

NRC Staff makes the circular claim that the Board should dismiss Contention 2 because the 2023 DSEIS "does not include any new and significant information regarding the cooling towers alternative."[116] But FPL's assertion that "[t]here is no new information on cooling towers in the 2023 DSEIS for Miami Waterkeeper to challenge" admits the very legal deficiency that is the basis for Contention 2. NRC Staff effectively admits that it has failed to fix the flaws in the 2019 FEIS that the Commission had directed the Staff to remedy. Contention 2 is about inadequacies in the "new" 2023 DSEIS, which NRC Staff cannot insulate from challenge simply by ignoring the Commission's order to remedy the inadequacies in the 2019 FSEIS, and is within the scope of the proceeding, per 10 C.F.R. § 2.309(f)(1)(iii). It should be admitted.

B. Contention 2 shows that a genuine dispute exists.

1. Contention 2 raises an admissible claim that the 2023 DSEIS analysis of a Cooling Tower Alternative is too conclusory and devoid of quantified analysis to comply with NEPA.

a. Contention 2 challenges the inadequate analysis of the environmental benefits of a water cooling tower.

NRC Staff incorrectly claims that Miami Waterkeeper has not shown that a genuine dispute with the 2023 DSEIS exists on a material issue of law or fact. Their claim that "Petitioner does not contest, with supporting reasons, the portions of the final SEIS that discuss the issue of

[113] CLI-22-03 at 3.

[114] CLI-22-03 at 4.

[115] CLI-22-02 at 2, 6.

[116] NRC Staff Answer at 35.

the benefits of cooling towers that Petitioner claims has been omitted"[117] is simply untrue.

Contention 2 states:

> The 2023 DSEIS relies on the 2019 FSEIS, which, at best, only analyzes the adverse impacts of constructing and operating an alternative cooling system without looking specifically and in any detail at the environmental and other benefits that would accrue from replacing the current CCS with a cooling tower.[118]

Specifically, Miami Waterkeeper's Petition contests the inadequacy of the analysis on page 3-2 of the 2023 DSEIS—which merely states that in Chapter 4 of the 2019 FSEIS, NRC evaluated an alternative to the continued use of the CCS, found no new and significant information to change its findings in the 2023 DSEIS, and summarily concludes that the 20-year subsequent license renewal is the "environmentally preferred alternative."[119, 120]

NRC Staff claims that it "extensively" analyzed cooling towers in the 2019 FSEIS—thus conceding the relevance of that issue to the NEPA analysis. But NRC Staff's consideration of benefits from this alternative in the 2019 FSEIS was limited to a cursory statement. The 2023 DSEIS failed to do any meaningful analysis or attempt to quantify the benefits of the use of

---

[117] NRC Answer at 35.

[118] Miami Waterkeeper 2023 Petition at 34-35.

[119] 2023 DSEIS at 3-2. ("[T]he NRC staff evaluated an alternative cooling water system to mitigate potential impacts associated with the continued use of the existing cooling canal system"; "[T]he NRC staff has identified no significant new information that would change these discussions in the FSEIS"; "Based on the evaluation in the FSEIS, as supplemented by this EIS, the NRC staff concludes that the environmentally preferred alternative is the proposed action of authorizing SLR for Turkey Point (i.e. operation for a period of 20 years beyond the expiration dates of the initial renewed licenses. . . .)".

[120] Miami Waterkeeper 2023 Petition at 35 n.136 (describing the inadequacy of the 2019 FSEIS, and thereby contesting the portion of the 2023 DSEIS that discusses the issue of benefits of cooling towers by simply referring to the discussion in the 2019 FSEIS). Footnote 136 reads: "See, e.g., 2019 FSEIS at 2-13 (stating that the benefits of the alternative cooling water system are that the impacts of utilizing the CCS for cooling for Turkey Point Units 3 and 4 would be avoided)."

cooling towers, even as new information on the groundwater plume remediation became available in the NRC's scoping process.

As for NRC Staff's claim that Petitioner has not demonstrated that the analysis of the cooling towers alternative in the Staff's environmental review was inadequate, Contention 2 specifically identifies the inadequacies as:

1. "The 2023 DSEIS relies on the 2019 FSEIS, which, at best, only analyzes the adverse impacts of constructing and operating an alternative cooling system without looking specifically and in any detail at the environmental and other benefits that would accrue from replacing the current CCS with a cooling tower."[121]
2. "The 2019 FSEIS unlawfully fails to provide any analysis of the benefits to groundwater and aquatic organisms that would follow from replacing the cooling canal system with the cooling water system alternative."[122]
3. "NRC staff failed to adequately analyze alternatives by failing to discuss how replacing the existing CCS with cooling towers would reduce adverse environmental impacts, as required by NRC regulations."[123]

NRC Staff incorrectly claims that Miami Waterkeeper fails to acknowledge "those portions of the final SEIS that address the benefits of the cooling towers alternative or demonstrate that the final SEIS is insufficient, as is required by 10 C.F.R. § 2.309(f)(1)(vi)."[124] NRC Staff cite Sections 4.2.7, 4.3.7, 4.4.7, 4.5.2, 4.5.7, 4.6.7, 4.7.7, 4.9.4, 4.10.7, 4.11.7, 4.12.4, and 4.13.7 of the 2019 FEIS as sufficient to meet this requirement.[125] FPL cites 2019 FSEIS Sections 2.2.3, 2.2.12, 2.2.13, 2.22-14, 4.2.7, 4.3.7, 4.4.7, 4.5.2, 4.5.7, 4.6.7, 4.7.7, 4.9.4, 4.10.7,

[121] Miami Waterkeeper 2023 Petition at 34-35 (citing 2019 FEIS at 2-13, 4-11, 4-18–4-19, 4-41–4-44).

[122] Miami Waterkeeper 2023 Petition at 35.

[123] *Id.*

[124] NRC Staff Answer at 38.

[125] NRC Staff Answer at 38.

4.11.7, 4.12.4 and 4.13.7 as the necessary analysis of the benefits of replacing use of the CCS with towers.[126] But these sections of the EIS discuss only the costs of using the CCS as the heat sink for Units 3 and 4. Contention 2 explains that NRC regulations require that an EIS include a mitigation discussion analyzing "alternatives available for reducing or avoiding adverse environmental effect of the proposed project,"[127] and that this mitigation discussion must include an analysis of the "benefits and costs of the proposed action and alternatives"[128] as a vital part of the action forcing function of NEPA.

Contention 2 establishes that a material dispute exists about the alternatives analysis, which fails to adequately consider the environmental and other benefits that would accrue from an alternative cooling system.[129] Contention 2 specifically refers to the scant observation in Section 4.5.2 of the 2019 FSEIS, touted by NRC Staff as the requisite analysis,[130] that the "benefits of the alternative cooling water system are that the impacts of utilizing the CCS for cooling of Turkey Point Units 3 and 4 would be avoided[.]"[131]

Contention 2 further explains the statement in the 2019 FSEIS—that the impacts of a cooling water system alternative on surface and groundwater resources would be SMALL—is devoid of any actual substance on the environmental benefits of the alternative.[132] The NRC Staff did not fully explore the adverse impacts of the proposed action *that the alternative could reduce or avoid*, as required by 10 C.F.R. § 51.71(d). The substantive discussion of cooling tower

[126] FPL Answer at 30, 31, 36.

[127] Miami Waterkeeper 2023 Petition at 35 (citing 10 C.F.R. § 51.71(d)).

[128] *Id.* at 36.

[129] Miami Waterkeeper 2023 Petition at 34–35.

[130] NRC Staff Answer at 38.

[131] Miami Waterkeeper 2023 Petition at 34–35.

[132] Miami Waterkeeper 2023 Petition at 36

benefits on groundwater in Section 2.2.3 of the 2019 FSEIS is limited to this bare conclusory statement:

> The benefits of the alternative cooling water system are those impacts of utilizing the CCS for cooling of Turkey Point Units 3 and 4 [that] would be avoided.[133]

The 2019 FSEIS's discussion of cooling tower benefits at 4.5.2.1 is cursory at best, simply conceding that surface water temperatures in the CCS would be much lower and the rate of evaporation would decrease under the no-action alternative (where the no-action alternative would cease hot water discharges to CCS by Units 3 and 4).[134] Using the CCS as a heat sink drives evaporative losses, and as explained in the 2023 DSEIS, evaporation drives increases in total dissolved solids.[135]

The statement at Section 4.5.2.2 of the 2019 FSEIS is similarly sparse:

> The shutdown of Turkey Point would substantially reduce thermal discharges to the CCS as well as cooling water and other effluents from the plant's cooling water system. This flow reduction would reduce groundwater mounding (i.e., a localized increase in the water table) beneath the CCS and reduce the generation of hypersaline water. As a result, the NRC staff expects that the amount of water used to support freshening activities in accordance with the provisions of FPL's 2015 Consent Agreement with Miami-Dade County DERM (MDC 2015a) and the 2016 FDEP Consent Order (FDEP 2016a) could be reduced.[136]

But despite these compelling statements, NRC Staff fails to further explore and quantify the substantial reduction in thermal discharges that drive evaporation losses that concentrate salt in the CCS. Nor does NRC Staff further explore and quantify the reduction in groundwater mounding and reduction of the generation of hypersaline water or the amount of water used for freshening activities that could be reduced.

---

[133] 2019 FSEIS at 2-13.

[134] 2019 FSEIS at 4-36–4-37.

[135] 2023 DSEIS at 2-22.

[136] 2019 FSEIS at 4-37.

Section 4.6.2 of the 2019 FSEIS states that under the no-action alternative, CCS conditions could change, "because less heat would be discharged to the system[, which] would potentially reduce evaporation resulting in less saline conditions that would be more favorable for birds and wildlife."[137] Despite acknowledging the potential benefits of the no-action alternative, NRC Staff declined to fulfill their NEPA obligations and objectively analyze, using best available science, how, exactly, environmental conditions would benefit from the no-action alternative.

Section 4.6.2 of the 2019 FSEIS also states:

> On the other hand, CCS flow would likely decrease because Turkey Point Units 3 and 4 would withdraw substantially reduced quantities of water during the shutdown period, and eventually Turkey Point Units 3 and 4 would cease to circulate water through the CCS entirely. This could lead to stagnant conditions, which could be less favorable for birds and wildlife and promote algae growth.[138]

This statement requires the NRC to further investigate,[139] potentially resulting in an obvious mitigative measure: pumps to keep water circulating, as are common all over lakes and ponds in Florida.

Sections 4.7.2 and 4.8.2 of the 2019 FSEIS repeat Section 4.6.2 verbatim.[140]

b. The analysis of the cooling tower alternative does not comply with NEPA, which requires quantified or detailed information.

[137] 2019 FSEIS at 4-49.

[138] 2019 FSEIS at 4-49.

[139] Miami Waterkeeper 2023 Petition at 34 ("An EIS must look at the economic, technical, and other benefits and costs of not just the proposed action but also the alternatives") (citing 10 CFR 51.71(d)). *See also id.* At 35 ("NRC regulations require that an EIS include a mitigation discussion analyzing "alternatives available for reducing or avoiding adverse environmental effects" . . . . This mitigation discussion must include an analysis of "[the] benefits and costs of the proposed action and alternatives.").

[140] 2019 FSEIS at 4-60 ("CCS conditions could change under the no-action alternative because less heat would be discharged to the system. This would potentially reduce evaporation resulting in less saline conditions that would be more favorable to aquatic life.").

This superficial analysis is inadequate. A NEPA-compliant analysis is required to analyze the full scope and effect of benefits to the environment—particularly groundwater pollution, groundwater use conflicts, and impacts to aquatic organisms, as discussed in Petitioner's Contention 1.

Under NEPA "some quantified or detailed information is required."[141] In Great Basin Resource Watch, the Ninth Circuit found that the NEPA analysis conducted by the Bureau of Land Management was flawed because it:

> did not provide sufficiently detailed information in its cumulative air impacts analysis. The BLM *made no attempt to quantify the cumulative air impacts* of the Project . . . . *Nor did the BLM attempt to quantify or discuss in any detail the effects of other activities* . . . that are identified elsewhere in the FEIS as potentially affecting air resources.[142]

NEPA does not permit "conclusory" analysis.[143] An agency "must provide some quantified or detailed information."[144] Where available information allows such an assessment, an agency must explain "why more definitive information could not be provided."[145] Without this required analysis, "neither the courts nor the public can be assured that the agency provided the hard look that it is required to provide."[146]

Commission Order CLI-22-03 is clear: no further licenses for subsequent renewal terms will be issued until the NRC Staff has completed an adequate NEPA review for each

---

[141] *Great Basin Resource Watch v. Bureau of Land Management***,** 844 F.3d 1095, 1104 (9th Cir. 2016).

[142] *Id.* at 1105 (emphasis added).

[143] *Te-Moak Tribe of Western Shoshone v. United States Department of Interior*, 608 F.3d 592, 604 (9th Cir. 2010).

[144] *Ctr. for Cmty. Action & Env't Justice v. Fed. Aviation Admin*., 61 F.4th 633, 644 (9th Cir. 2023).

[145] *Bark v. U.S. Forest Service*, 958 F.3d 865, 872 (9th Cir. 2020).

[146] *Te-Moak Tribe*, 608 F.3d at 603.

application.[147] As the 2023 DSEIS only carries forward the prior, inadequate alternatives analysis, the agency must evaluate the economic, technical, and other benefits and costs of the cooling tower alternative. This analysis is crucial in light of new information concerning the CCS's impacts on surface and groundwater resources.[148]

The 2023 DSEIS for Turkey Point Units 3 and 4 fails to assess how, and to what extent, the cooling water system alternative could reduce adverse impacts to groundwater use conflicts,[149] groundwater quality degradation,[150] and the effects of non-radiological contaminants on aquatic organisms.[151]

As Miami Waterkeeper has established in Contention 1, the impacts of operating the CCS as a heat sink have driven evaporative losses in the canals, causing hypersaline water to contaminate groundwater in all directions through the aquifer.[152] Further, tritium—a reliable tracer of the CCS water—indicates that phosphorus-laden water has emerged through conduits in the bay bottom and contributed to the degraded health of adjacent marine ecosystems in Biscayne Bay.[153] The continued operation of the CCS without remediation of the hypersaline plume threatens public water supplies[154] and ecosystems surrounding the plant.[155] It is a deficiency of the

[147] CLI-22-03.

[148] Miami Waterkeeper 2023 Petition at 34–35.

[149] 2023 DSEIS at 2-16–2-22.

[150] *Id.* at 2-22–2-23.

[151] *Id.* at 2-46–2-47.

[152] Miami Waterkeeper 2023 Petition at 14-26, 37.

[153] Miami Waterkeeper 2023 Petition at 37.

[154] 2019 FSEIS at 4-27 ("[A]s a source of hypersaline water, the discharge of CCS water to the base of the Biscayne aquifer has been and is currently contributing to the migration of the saltwater interface.").

[155] Miami Waterkeeper 2023 Petition at 25-30, 67-70.

2023 DSEIS that it did not quantify these positive environmental benefits. A NEPA analysis that underestimates impacts is inadequate.[156]

Contention 2 meets the test for determining if a genuine dispute exists set forth in 10 C.F.R. § 2.309(f)(1):

> Where the intervenor believes the application and supporting material do not address a relevant matter, it will be sufficient for the intervenor to explain why the application is deficient.[157]

Contention 2 shows that a genuine dispute exists as to whether the 2023 DSEIS complies with the requirement in the NEPA and CEQ regulations that an environmental impact statement "[r]igorously explore and objectively evaluate all reasonable alternatives."[158] Far from rigorous, NRC's alternatives analysis is categorically thin, devoid of any meaningful detail, and fails to take the "hard look" required by NEPA.[159]

C. Contention 2 raises an admissible claim that a Cooling Tower Alternative is reasonable.

FPL and NRC Staff argue that Contention 2's claims regarding the inadequacy of the 2023 DSEIS's analysis of the cooling tower alternative should be dismissed because requiring a specific type of water cooling system is beyond the scope of NRC's regulatory authority and thus the scope of this proceeding.[160] However, that another governmental agency may have some regulatory authority over a project being considered for a federal action subject to NEPA does not

---

[156] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

[157] 10 C.F.R. § 2.309(f)(1).

[158] 40 C.F.R. § 1502.14. The Council on Environmental Quality's regulations implementing NEPA apply to all federal agencies, including the NRC. *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 569 n.1 (D.C. Cir. 2016) (citing 40 C.F.R. § 1500.3); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-02-8, 55 N.R.C. 171, 191 (2002).

[159] Miami Waterkeeper 2023 Petition at 36-41.

[160] FPL Answer at 20, 24, 35; NRC Staff Answer at 27.

absolve the federal action agency from the requirement to analyze those impacts fully.[161] For this reason, the argument advanced here by FPL and NRC Staff has been expressly rejected by the Ninth Circuit.[162] Furthermore, if the use of cooling towers, compared to the CCS, would reduce the environmental impact of this NRC action, then that is relevant to this proceeding. Under NEPA, "an agency must . . . consider appropriate mitigation measures that would reduce the environmental impact of the proposed action."[163]

Contention 2 is relevant to FPL's compliance with the factors that govern the issuance of initial licenses per 10 C.F.R. § 50.91, which in turn require compliance with the 10 C.F.R. Part 51.[164] NRC rules demonstrate Contention 2's relevance.[165] Notably, footnote 3 to § 51.71 states that:

> **Compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act** (imposed by EPA or designated permitting states) **is not a substitute for, and does not negate the requirement for NRC to weigh all**

---

[161] *Davis v. Mineta*, 302 F.3d 1104, 1122-23 (10th Cir. 2002); *TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003); *Friends of the Earth v. U.S. Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000); *Sierra Club v. Marsh*, 769 F.2d 868, 877-82 (1st. Cir. 1985); *Natural Resources Defense Council v. Morton*, 458 F.2d 827 (D.C. Cir. 1972). The fact that the Commission is not empowered to implement alternatives does not absolve it from its duty to consider them. *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 & 2), CLI-77-8, 5 N.R.C. 503 (1977).

[162] *See supra* at 17 (discussing *Great Basin Resource Watch v. Bureau of Land Management*, 844 F.3d 1095, 1103-045 (9th Cir. 2016)). *See also S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep't of Interior*, 588 F.3d 718, 726 (9th Cir. 2009) (per curiam) (holding that a failure to discuss mercury emissions from a nearby mining facility in an EIS was not excused by the fact that the facility "operate[d] pursuant to a state permit under the Clean Air Act," because "[a] non-NEPA document ... cannot satisfy a federal agency's obligations under NEPA"). The failure to explain the zero-baseline assumption frustrated the BLM's ability to take a "hard look" at air impacts, and the reference to the Project's Clean Air Act permit did nothing to fix that error." *Id.*

[163] *Protect Our Cmtys. Found. v. Jewell*, 825 F.3d 571, 581 (9th Cir. 2016).

[164] *Northern States Power Company* (Prairie Island Nuclear Generating Plant, Units 1 & 2), ALAB-455, 7 N.R.C. 41, 44 (1978).

[165] See 10 C.F.R. §§ 51.21, 51.70, 51.71, 51.72, 51.92 (requiring a NEPA analysis, including a NEPA-compliant EIS).

> **environmental effects of the proposed** action, including the degradation, if any, of water quality, **and to consider alternatives to the proposed action that are available for reducing adverse effects.**[166]

Ultimately, of course, 10 C.F.R. § 51.94 requires that:

> **The final environmental impact statement, together with any comments and any supplement, will** accompany the application or petition for rulemaking through, and **be considered in, the Commission's decision making process.** The final environmental impact statement, together with any comments and any supplement, will be made a part of the record of the appropriate adjudicatory or rulemaking proceeding.[167]

All such matters—supported by admissible contentions, must be considered in this proceeding.[168]

For this reason, even if NRC Staff were correct that the NRC lacks authority to require the facility to make use of cooling towers, Contention 2 remains admissible, as this matter is clearly relevant to the Commission's decision.

Finally, the most direct evidence that the NRC has authority to require the facility to make use of cooling towers comes from the 1972 operating license that also authorizes the construction of the cooling canal system for hot water discharges from Turkey Point Reactors 3 and 4. The 1972 EIS indicates that FPL has been under obligation since 1971 to look for ways of improving the proposed cooling channel system.[169] This EIS references a 1971 federal consent decree, signed by FPL, stating:

> The consent decree which settled the Federal suit against the Applicant requires FPL to arrange joint studies immediately with appropriate Government officials to seek ways of improving on the proposed cooling channel system. Alternative sources of groundwater and surface water are to be sought. Mechanical cooling methods to

---

[166] 10 C.F.R. § 51.71 n.3.

[167] 10 C.F.R. § 51.94 (emphasis added).

[168] 10 C.F.R. § 51.104.

[169] Turkey Point 1972 Final Environmental Impact Statement, ADAMS Accession No. ML23331A987, (July 1972), (hereinafter "1972 EIS"), at X-21, submitted as Exhibit 7 in Miami Waterkeeper's 2023 Petition.

> replace or supplement the system are to be examined. These methods will include both powered spray modules and mechanical draft cooling towers. The Applicant has agreed to utilize such improvements as these research programs develop, with resolution of uncertainties in favor of the environment.[170]

Moreover,

> Results developed in the study programs are to be utilized in improving and modifying the operation of the plant and its cooling system so as to achieve a minimal environmental impact.[171]

These provisions of the federal consent decree were included as special conditions of the 1972 operating license:

> The Applicant shall pursue evaluations of alternatives to the proposed cooling channel system during construction, interim operation, and evaluation of the channel system. These evaluations shall include at least the following:
>
> > (1) Study of availability of groundwater or other alternative sources of surface water to use in the cooling system.
> >
> > (2) **Study of applicability of mechanical cooling devices, including** powered spray modules and **cooling towers.**
> >
> > (3) Study of marine environmental impacts of the once-through cooling alternatives described in Section X of this statement.[172]

The subsequent special condition of the operating license reads:

> The Applicant shall take appropriate corrective action on any adverse effects determined as a result of monitoring and study programs. To the fullest extent practicable, the Applicant shall utilize results of study programs in improving and modifying the operation of the Plant and its cooling system so as to achieve a minimal adverse environmental impact.[173]

The Commission attached these conditions to the operating license for these facilities over 50 years ago. These conditions support Petitioner's assertion that, prior to granting an

---

[170] *Id.*

[171] *Id.*

[172] *Id*. at iv (emphasis added).

[173] *Id*. at iv-v.

unprecedented extension of that license to a total term of 80 years, NRC must perform a rigorous analysis of alternative cooling systems as has been required by condition of the operating license for decades.

Finally, NRC Staff mistakenly claims that Petitioner is wrong to assert that the CCS would be replaced with cooling towers. The issue raised in Contention 2 is not whether Miami Waterkeeper thinks the NRC should require FPL to fill in the CCS and build a cooling tower directly on top of it—nowhere is this stated in Miami Waterkeeper's petition. The issue raised in Contention 2 "relates directly to the NRC's role in protecting public health and safety and the environment because it prematurely selects the CCS as the preferred cooling system option while disregarding historical and ongoing challenges caused by the CCS."[174]

NRC Staff's failure to comply with NEPA by proffering an inadequate alternatives analysis is within the scope of this proceeding. In fact, the exploration of alternatives "so as to achieve a minimal adverse environmental impact" has been required for Turkey Point since the 1972 operating license for Units 3 and 4 was issued.[175] As such, Contention 2 must be admitted.

CONTENTION 3: THE DRAFT SITE-SPECIFIC ENVIRONMENTAL IMPACT ASSESSMENT FAILS TO ADEQUATELY CONSIDER THE CUMULATIVE IMPACTS OF CONTINUED OPERATION OF UNITS 3 AND 4.

A. Contention 3 is within the scope of this proceeding.

As discussed at length in Section II, Contention 3 falls squarely within the scope of this proceeding. FPL asserts that because "the information being challenged plainly comes from the 2019 FSEIS . . . the alleged deficiencies are thus not 'new,' and therefore are outside the

[174] Miami Waterkeeper 2023 Petition at 31.

[175] 1972 EIS at iv-v ¶ 7(d); Final Judgement (appended to the EIS in Appendix C-6, at paragraph 11(c)), submitted as Exhibit 7 in Miami Waterkeeper's 2023 Petition.

scope of this proceeding."[176] Yet the fact that NRC's 2023 DSEIS does not contain the new information that the Commission ordered it to add in order to cure deficiencies in the 2019 FSEIS is exactly the issue here. Commission order CLI-22-02 concluded "that the Staff did not conduct an adequate NEPA analysis" and "direct[ed] the Staff to update the GEIS to cure the NEPA deficiency by addressing the subsequent license renewal period."[177] NRC cannot evade its NEPA obligations by failing to fix the inadequacies in its 2019 FSEIS, then claiming that Petitioner cannot challenge it because nothing "new" is contained in its 2023 DSEIS. Therefore, Contention 3, like Petitioner's other contentions, is within the scope of this proceeding.

B. Contention 3 is adequately supported and raises a genuine material dispute with the 2023 DSEIS.

1. The Board's prior decisions rejecting related contentions do not stand.

FPL and NRC Staff mistakenly claim that Contention 3 is inadmissible because the Board's reasoning in previously rejecting "similar contentions" applies here. This is incorrect both because the Commission subsequently vacated the Board's reasoning, and because factual circumstances have changed.

The Board is not prevented from considering Petitioner's Contention 3 anew simply because it already considered similar contentions. The Commission did not make a final determination on the admissibility of the previously rejected contentions and "dismiss[ed] without prejudice the motions, petitions, and appeals pending before" it in the Turkey Point proceeding.[178] This dismissal provided a clean slate for Miami Waterkeeper to bring

[176] FPL Answer at 38.

[177] CLI-22-02.

[178] CLI-22-03 at 4; *see also* Section II, *supra*.

cumulative impacts-related contentions. And because the 2023 DSEIS contains many of the same NEPA deficiencies as the 2019 FSEIS, Miami Waterkeeper can bring a similar contention as it had filed against the 2019 FSEIS.

Furthermore, while Petitioner brought a similar contention against Applicant's Environmental Report and a third similar contention against the 2019 DSEIS, the Board's reasoning in rejecting those previous similar contentions does not apply here given the changed factual circumstances and legal precedent.

Petitioners asserted in Contention 2-E against FPL's Environmental Report that "the [Environmental Report] fails to adequately consider the cumulative impacts of continued operation of Units 3 and 4."[179] The Board rejected Contention 2-E in LBP-19-3 because it found that the consent decree would prevent environmental impacts from the hypersaline plume.[180] But new information released after LBP-19-3 from FPL's three latest consecutive annual reports on the remediation efforts show the remediation is unlikely to be successful.[181] And while the Board in LBP-19-3 found that Contention 2-E did not provide adequate factual support or and demonstrates a material dispute, Petitioner here explains at length in subsection 4 & 5 why Contention 3 meets both of these criteria for admissibility.[182] Notably, the Commission later explained that the central factor in the Board's rejection of the 2018

[179] Request for Hearing and Petition to Intervene Submitted by Friends of the Earth, Natural Resources Defense Council, and Miami Waterkeeper, ADAMS Accession No. ML18213A418 (Aug. 1, 2018) (hereinafter "Miami Waterkeeper 2018 Petition") at 30.

[180] *In the Matter of Florida Power & Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), LBP-19-3, 89 N.R.C. 245 (2019).

[181] Miami Waterkeeper 2023 Petition at 20.

[182] See analysis in subsections 4 & 5.

contentions was the Board's flawed interpretation of 51.53(c)(3),[183] which was overturned by Commission order CLI-22-02. The Board's grounds in LBP-19-3 for rejecting Contention 2-E therefore do not apply here.

Petitioners then asserted in Contention 8-E of their 2019 amended petition that the 2019 DSEIS "fail[ed] to take the requisite 'hard look' at cumulative impacts on water resources."[184] The Board rejected this contention in large part because of projections that "FPL's groundwater remediation efforts would be successful,"[185] a projection that has not borne out.[186] New information from FPL's three latest consecutive annual reports on the remediation efforts show by way of modeling that the remediation system is unlikely to achieve hypersaline plume retraction by Year 10 in all layers of the aquifer.[187] Moreover, FPL's modeling predicts that the hypersaline interface in layer 16 will have actually expanded in some areas.[188]

The Board's reasoning in previous decisions rejecting cumulative impacts-related contentions does not bear out given the changed factual circumstances and legal precedent. Therefore, as the current ASLB considers Contention 3 anew, the Board's previous reasoning provides no basis for rejecting Contention 3.

---

[183] CLI-20-3, 91 N.R.C. 133 (2020) ("[T]he Board did not admit the other contentions, or any portions thereof, because of its interpretation that section 51.53(c)(3) applies to subsequent license renewal.").

[184] Natural Resources Defense Council's, Friends of the Earth's, and Miami Waterkeeper's Amended Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's Supplemental Draft Environmental Impact Statement, ADAMS Accession No. ML19179A316 (Jun. 28, 2019) (hereinafter "2019 FOE Amended Petition") at 47-52.

[185] LBP-19-8, 90 N.R.C. 139 (2019).

[186] Miami Waterkeeper 2023 Petition at 20.

[187] *Id.* at 20.

[188] *Id.* at 20.

2. NEPA requires a cumulative impacts analysis, and the Commission ordered the NRC to include one in its 2023 DSEIS.

Contrary to FPL's assertion that the information NRC Staff included in Appendix E was "voluntary" and included "as a matter of efficiency,"[189] NRC Staff was required to provide analysis of climate change impacts on environmental resources by both NEPA and the Commission's orders in CLI-22-02 and CLI-22-03.[190] Yet NRC Staff failed to do so.

a. NEPA Requirements

It is well-established that an EIS must address the cumulative environmental impacts of operating the plant during the relevant time period.[191] NRC Staff has acknowledged that an EIS should contain a discussion of "the incremental potential environmental impacts of license renewal, including the impacts of climate change during the license renewal period."[192] NRC Staff has long recognized this—its 2013 GEIS provides that each SEIS will include a plant-specific analysis of "any cumulative impacts caused by potential climate change upon the affected resources during the license renewal term."[193] In a memo regarding its March 2023 rulemaking, NRC Staff provides a succinct summary of NEPA requirements for considering environmental impacts:

---

[189] FPL Answer at 40.

[190] CLI-22-03. In CLI-22-03, the Commission directed the NRC Staff to "review and update" the GEIS "so that it covers operation during the subsequent license renewal period." *Id.*

[191] *Massachusetts v. United States*, 522 F.3d 115, 120 (1st Cir. 2008); NUREG-1437, Vol 1, Rev 1 "Generic Environmental Impact Statement, Main Report, Final Report, ADAMS Accession No. ML13106A241, (June 2013), at S-2 (hereinafter "2013 GEIS") (recognizing the need to evaluate environmental impacts and additional issues that change over time).

[192] NRC Staff's Corrected Response to Petitions to Intervene and Requests for Hearing Filed By (1) Friends of The Earth, Natural Resources Defense Council and Miami Waterkeeper, and (2) Southern Alliance for Clean Energy, ADAMS Accession No. ML18239A458, (Aug. 27, 2018), at 47.

[193] 2013 GEIS at 1-30.

> NEPA requires that "agencies take a hard look at environmental consequences [and] provide for broad dissemination of relevant environmental information." As part of that hard look review, agencies must employ "accurate information and defensible reasoning." The Council on Environmental Quality (CEQ) has promulgated regulations that expound on these concepts. Specifically, as stated in 40 CFR 1502.23, "Methodology and scientific accuracy," "Agencies shall ensure the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents." While the NRC has not adopted all CEQ regulations, the Commission has frequently emphasized that these regulations are entitled to persuasive authority.[194]

NRC Staff further acknowledged that "consideration of the following issues would further the Staff's 'hard look' at relevant NEPA information for both SLR and initial license renewal terms" and "[i]ncorporate lessons learned and knowledge gained related to environmental issues from ongoing subsequent license renewal reviews (i.e., groundwater quality degradation and threatened, endangered, and protected species of essential fish habitat)."[195] Therefore, despite FPL's suggestion to the contrary, the cumulative impacts analysis in the 2023 DSEIS is required, not "voluntary."[196]

b. NRC's March 2023 Proposed Rule

---

[194] NRC, Rulemaking Plan for Renewing Nuclear Power Plant Operating Licenses—Environmental Review (RIN 3150-AK32; NRC-2018-0296), SECY-22-0024, ADAMS Accession No. ML22062B643, (Mar. 25, 2022), at 4 (emphasis added) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989); *Great Basin Resource Watch v. BLM*, 844 F.3d 1095, 1101 (9th Cir. 2016); *2 Pacific Gas & Elec Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 N.R.C. 427, 444 (2011) (noting that under its "longstanding policy" the Commission looks "to CEQ regulations for guidance").

[195] NRC, Rulemaking Plan for Renewing Nuclear Power Plant Operating Licenses—Environmental Review (Rin 3150-Ak32; NRC-2018-0296), SECY-22-0024, ADAMS Accession No. ML22062B643 (Mar. 25, 2022), at 4 (emphasis added). *See also* NRC, Proposed Rule: Renewing Nuclear Power Plant Operating Licenses—Environmental Review (RIN 3150-AK32; NRC-2018-0296), SECY-22-0109, ADAMS Accession No. ML22165A004 (Dec. 6, 2022) ("These proposed changes are intended to ensure that future environmental reviews meet the 'hard look' standard under NEPA and to maintain the relevance and efficiency of the NRC's license renewal environmental review process.").

[196] FPL Answer at 40.

On March 3, 2023, the NRC published a draft rule proposing to amend 10 C.F.R. Part 51 and update the NRC's findings concerning the environmental impacts of renewing the operating license of a nuclear power plant during subsequent license reviews.[197] The proposed rule would add new Category 2 issues to Table B-1, including "climate change impacts on environmental resources."[198]

FPL attempts to characterize NRC's March 2023 proposed rule as irrelevant.[199] However, the proposed rule's regulatory history, viewed alongside the Commission's order that NRC draft a supplemental site-specific EIS, clearly indicates the Commission's intention that NRC Staff should consider cumulative impacts in its NEPA analysis. The proposed rule therefore, although not by itself "legally binding" until finalized, is highly persuasive in demonstrating that the 2023 DSEIS must include a cumulative impacts analysis of climate-change-related impacts.

The regulatory history of the proposed rule demonstrates that it is a reflection of the Commission's orders in CLI-22–02 and CLI-22-03. On February 24, 2022, the same day that the Commission decided CLI-22–02 and CLI-22-03, the Commission issued a memo disapproving of Alternative 1 and instead directing NRC Staff to:

> immediately begin to develop a plan for a rulemaking that aligns with the Commission's Order, CLI-22-03, and recent decisions in Turkey Point, CLI-22-02, and Peach Bottom, CLI-22-04 regarding the agency's National Environmental Policy Act (NEPA) analysis of

[197] Renewing Nuclear Power Plant Operating Licenses-Environmental Review, 88 Fed. Reg. 13,329 (Mar. 3, 2023).

[198] *Id.* at 13,345. The proposed rule explains that "[a]s part of a comprehensive environmental review to meet its obligations under NEPA, the NRC must consider the impacts of climate change on environmental resource conditions that could also be affected by continued nuclear power plant operation and any refurbishment as a result of the proposed action (license renewal)." *Id.*

[199] FPL Answer at 41.

> subsequent license renewal (SLR) applications. Within 30 days of the date of this SRM, the staff should provide the Commission a rulemaking plan . . . .[200]

The Commission's memo further specified that:

> The GEIS should be updated to clearly include, but not be limited to, *a thorough evaluation of the environmental impacts of renewing the operating license of a nuclear power plant for one term of SLR*. The updates should be noticed for public comment and clearly inform the public of the scope of the agency's review."[201]

The memo further directed NRC Staff to remove the word "initial" from 10 CFR § 51.53(c)(3) in light of the Commission's order in Turkey Point.[202]

One month later, on March 25, 2022, NRC Staff published a paper responding to the Commission's rulemaking memo, explaining that: "The staff anticipates that the scope of these changes would reduce applicant burden in preparing environmental reports, improve the efficiency of staff environmental reviews, ensure that future environmental reviews meet the 'hard look' standard under NEPA, and clearly address the environmental impacts of nuclear power plant subsequent license renewals."[203] NRC Staff proposed three possible timelines, and recommended the shortest timeline of 24 months, in order "[t]o expeditiously restore clarity and reliability to the regulatory framework for license renewal."[204] The Staff explained that this is "a high-priority rulemaking because it would significantly contribute to multiple safety strategies

---

[200] NRC, Staff Requirements – SECY-21-0066 – Rulemaking Plan for Renewing Nuclear Power Plant Operating Licenses – Environmental Review (RIN 3150 AK32; NRC 2018 0296), ADAMS Accession No. ML22053A308, (Feb. 24, 2022).

[201] *Id.*

[202] *Id.*

[203] NRC, Rulemaking Plan for Renewing Nuclear Power Plant Operating Licenses—Environmental Review (RIN 3150-AK32; NRC-2018-0296), SECY-22-0024, ADAMS Accession Number No. ML22062B643, (Mar. 25, 2022), at 4.

[204] *Id.* at 6.

and would significantly improve the efficiency and efficacy of the NRC's license renewal environmental reviews (i.e., initial and subsequent) and would respond to expressed direction from the Commission."[205]

The draft rule itself explicitly identifies Commission orders CLI-22-03 and CLI-22-02 as the impetus for the rulemaking:

> The Commission . . . directed the staff to develop a rulemaking plan that aligned with the Commission Order CLI-22-03, and recent decisions in Turkey Point, CLI-22-02, and Peach Bottom, CLI-22-04, regarding the NEPA analysis of SLR applications. These orders concluded that the staff did not conduct an adequate NEPA analysis for the SLR period and further stated that the staff cannot exclusively rely on the LR GEIS for Category 1 issues in SLR environmental reviews. The SRM also directed the staff to include in the rulemaking plan a proposal to remove the word "initial" from § 51.53(c)(3) and to revise the LR GEIS and Table B-1 and associated guidance to fully account for one term of SLR. The SRM also directed the staff to provide options for a future rulemaking effort regarding the 10-year regulatory update. **Revisions were made to ensure a "thorough" evaluation of the environmental impacts.**[206]

The proposed rule's regulatory history, viewed alongside the Commission's order that NRC draft a supplemental site-specific EIS, clearly indicates the Commission's directive that NRC Staff should consider cumulative impacts in its NEPA analysis. A final rule is forthcoming, and is likely to be promulgated during the current proceeding and appeals process. Under NRC Staff's current plan, it is to "[d]eliver final rule to the Commission . . . 7 months after the close of the 60-day public comment period for the proposed rule."[207] According to the 2023 DSEIS,

---

[205] *Id.* at 4.

[206] *See* Renewing Nuclear Power Plant Operating Licenses-Environmental Review, 88 Fed. Reg. 13329 (Mar. 3, 2023) (emphasis added).

[207] NRC, Rulemaking Plan for Renewing Nuclear Power Plant Operating Licenses—Environmental Review (RIN 3150-AK32; NRC-2018-0296), SECY-22-0024, ADAMS Accession No. ML22062B643, (Mar. 25, 2022), at 4 (emphasis added). In April 2022, the Commission secretary approved this timeline, directing the Staff to conduct the rulemaking within 24 months. NRC, Staff Requirements – SECY-22-0024 – Rulemaking Plan for Renewing Nuclear Power

"[f]inalization and publication of the 2023 LR GEIS and the proposed rule, is expected to occur in or about May 2024."[208] Therefore, the proposed rule therefore, although not yet "legally binding" by itself, is highly persuasive in demonstrating that the 2023 DSEIS must include a cumulative impacts analysis of climate-change-related impacts.

3. FPL and NRC Staff mischaracterize the standard for admissibility.

NRC Staff and FPL claim that Contention 3 does not provide sufficient information to identify and support a material dispute with NRC's analysis of the cumulative environmental impacts of sea level rise. This is not the case. Petitioner provides ample information to identify and support a genuine dispute with NRC's inadequate analysis of sea level rise.

First, FPL and NRC mischaracterize the legal standard for admissibility by suggesting that Petitioners must prove the merits of its contentions at the admissibility stage. Yet as NRC Staff acknowledges, "a petitioner does not have to prove its contention at the admissibility stage, the contention admissibility standards are meant to afford hearings only to those who 'proffer at least some minimal factual and legal foundation in support of their contentions.'"[209] "The [petitioner] must make a minimal showing that material facts are in dispute, thereby demonstrating that an 'inquiry in depth' is appropriate."[210] "For factual disputes, a petitioner need not proffer facts in 'formal affidavit or evidentiary form,' sufficient 'to withstand a summary disposition motion.'"[211]

Plant Operating Licenses—Environmental Review (RIN 3150-AK32; NRC-2018-0296), ADAMS Accession No. ML22096A035, (Apr. 5, 2022).

[208] 2023 DSEIS at E-3.

[209] NRC Staff Answer at 16 (citing *Oconee*, CLI-99-11, 49 NRC at 334).

[210] *In the Matter of Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), ASLBP 05-842-03-LR, 63 N.R.C. 314, 342 (2006).

[211] *Id.*

Petitioners supported this contention with ample evidence to indicate "that further inquiry is appropriate."[212]

FPL and NRC Staff again miss the mark when they claim that Petitioner must provide new, significant, and previously unavailable information to challenge statements regarding the same issues in the 2019 final SEIS. This is not the applicable standard here.

That standard applies when NRC is required to conduct a SEIS because of "(1) substantial changes in the proposed action that are relevant to environmental concerns; or (2) . . . significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."[213] Neither of these circumstances is the reason NRC Staff developed a SEIS here. Rather, the Commission ordered additional environmental review because the proffered EIS was deficient.[214] The Commission essentially already, in CLI-22-02 and CLI-22-03, met the standard FPL and NRC Staff claim Petitioner needed to make of "identify[ing] information that was not considered in the environmental review for the application at issue and explain, with asserted facts or expert opinion, how it presents a 'seriously different picture of the environmental impact of the proposed project from what was previously envisioned.'"[215] Petitioner therefore does not need to provide new, significant, and previously unavailable

---

[212] *Id.*

[213] 10 C.F.R. § 51.72.

[214] CLI-22-02; CLI-22-03. Neither of the cases cited by NRC Staff for its claim that Petitioner must provide new, significant, and previously unavailable information involve a proceeding where the Commission previously found the EIS in question to be deficient and ordered NRC Staff to draft a SEIS. *See* NRC Staff Answer at 42 (citing *Comanche Peak*, CLI-12-7, 75 N.R.C. at 390–91; *Dominion Virginia Power* (North Anna Power Station, Unit 3), CLI-17-18, 85 N.R.C. 157, 184–88 (2017)).

[215] NRC Staff Answer at 42.

information to challenge the deficiencies from the 2019 FSEIS that NRC failed to cure in its 2023 DSEIS.

Nonetheless, as explained below, Petitioner does provide new, significant information on sea level rise and rising temperatures that NRC Staff failed to consider in its 2023 DSEIS, including from the 2022 NOAA report.[216]

4. Contention 3 provides sufficient information to identify and support a genuine dispute with NRC's inadequate analysis of cumulative impacts with respect to sea level rise.

Contrary to FPL's assertions, Petitioner has provided ample information demonstrating that the Turkey Point site is at risk of being flooded and the CCS overtopped or breached.[217]

FPL suggests that these projections are too uncertain and not specific enough to demonstrate that overtopping will occur at Turkey Point.[218] However, NEPA does not require that an outcome be certain to occur in order to mandate that an agency consider its impacts—instead, it mandates consideration of all "reasonably foreseeable environmental impacts."[219] FPL's own projections of sea level rise during the current licensing period demonstrate that FPL believes that the risk of overtopping of the cooling canal system barriers at Turkey Point is reasonably foreseeable.[220] In its 2016 Mitigating Strategies Assessment (MSA) for FLEX Strategies report,

---

[216] Miami Waterkeeper 2023 Petition at 52-57.

[217] Miami Waterkeeper 2023 Petition at 52-57; Kopp Declaration at ¶ 15-16, and in Attachment D at 1309 (submitted as Exhibit 6 in Miami Waterkeeper 2023 Petition); and Thomas R. Knutson et al., *Climate Change is Probably Increasing the Intensity of Tropical Cyclones*, at 1-6 (submitted as Exhibit 15 in Miami Waterkeeper's 2023 Petition).

[218] FPL Answer at 39.

[219] *In the Matter of Pa'ina Hawaii, LLC*, CLI-10-18, 72 N.R.C. 56 (2010).

[220] NEI 12-06, Revision 2, Appendix G, G.4.2, Mitigating Strategies Assessment (MSA) for FLEX Strategies report for the New Flood Hazard Information, ADAMS Accession No. ML17012A065 (Dec. 20, 2016).

FPL explained that "in the longer term, sea level rise may result in wave run-up overtopping the north and south barriers in the turbine building."[221] Since this 2016 FPL report, SLR projections are "expected to rise on average as much over the next 30 years . . . as it has over the last 100 years,"[222] with the likelihood of moderate high tide flooding events in 2050 raising 10 times 2020 rates,[223] resulting in an even higher risk. The 2019 FSEIS (which the 2023 DSEIS references), provides no rationale or modeling to support its assertion that overtopping would cause minimal changes to water quality.[224]

Neither NRC Staff nor Petitioner disputes that should the NRC grant FPL's application, Turkey Point will be operating during a time when sea levels and temperatures will be significantly higher. As explained at length in Miami Waterkeeper's Petition and in a declaration by Robert Kopp, one of the world's foremost sea level rise experts, extreme high-water levels are projected to arise at Turkey Point from the superimposition of tidal and storm influences on top of a higher average sea level.[225] Nationally, the frequency of moderate high tide flooding events (approximately 2.8ft above current mean higher high water) in 2050 is expected to be 10 times

---

[221] *Id.*

[222] Miami Waterkeeper 2023 Petition at 52; Sweet et al. 2022. (referenced in Miami Waterkeeper 2023 Petition Exhibit 6 at https://oceanservice.noaa.gov/hazards/sealevelrise/noaa-nos-techrpt01-global-regional-SLR-

scenarios-US.pdf)

[223] Miami Waterkeeper 2023 Petition at 56-57; Sweet et al. 2022 at 41-42 (referenced in Miami Waterkeeper 2023 Petition Exhibit 6 at https://oceanservice.noaa.gov/hazards/sealevelrise/noaa-nos-techrpt01-global-regional-SLR-

scenarios-US.pdf)

[224] 2019 FSEIS at 3-41–3-45, 4-125, A-29–A-30, A-38–A-40.

[225] Miami Waterkeeper 2023 Petition at 52-57; Kopp Declaration (Miami Waterkeeper 2023 Petition Exhibit 6)

greater than in 2020.[226] Petitioner therefore adequately supports its assertions regarding cumulative impacts and sea level rise.

FPL and NRC Staff mistakenly claim that Contention 3 does not identify a genuine dispute with respect to sea level rise. In order to show a genuine dispute, a contention of adequacy must "raise[] a specific substantive challenge to how particular information or issues have been discussed in the application.[227]

Petitioner has met this burden by explicitly contesting the adequacy of the 2023 DSEIS's analysis. NRC Staff claims that Petitioner does not explain how these statements dispute information in the 2023 DSEIS. However, Contention 3 outlines a number of specific inadequacies with the 2023 DSEIS's cursory review of sea level rise-related impacts. First, the 2023 DSEIS fails to cure deficiencies in its 2019 FSEIS, as ordered by the Commission.[228] Commission orders CLI-22-02 and CLI-22-03 found that the 2019 FSEIS did not adequately analyze environmental impacts on a site-specific basis.[229] The 2023 DSEIS fails to cure this deficiency because it does not adequately consider the reasonably foreseeable environmental impacts of Bay waters increasingly over-topping the banks of the cooling canal system in its 2023 DSEIS. The 2023 DSEIS mentions sea level rise but neither describes or analyzes the impacts of overtopping the Unit 3 and 4 cooling canal system during the subsequent license renewal

---

[226] Miami Waterkeeper 2023 Petition at 52-57.

[227] *In the Matter of Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 N.R.C. 149 (2011) ("A contention of omission is one that alleges an application suffers from an improper omission, whereas a contention of adequacy raises a specific substantive challenge to how particular information or issues have been discussed in the application. A contention can contain an omission component and an adequacy component.") (citing *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-16, 63 N.R.C. 737, 742 & n.7 (2006)).

[228] Miami Waterkeeper 2023 Petition at 46-57.

[229] CLI-22-02; CLI-22-03.

period.[230] The 2023 DSEIS fails to provide adequate site-specific analysis of sea level rise-related impacts.[231] A cursory description of the generic environmental impacts that sea level rise might cause on a global or national scale, with no mention of the effects of sea level rise at Turkey Point during the subsequent license renewal period, is insufficient—and does not discharge NEPA's requirement that the EIS take a "hard look" at this issue.

Second, contrary to NRC Staff's assertion that Petitioner has provided no new and significant information, NRC failed to include new and significant information it was required to consider.[232] 2023 DSEIS Appendix E purports to analyze whether "there is any significant new information that would change the NRC staff's conclusions concerning Category 2 issues (specific to individual nuclear power plants) in the FSEIS."[233] Yet, as explained at length in the petition, it fails to do so. The 2023 DSEIS merely refers back to the 2019 FSEIS and states that "new information published by the IPCC does not alter the conclusions in the FSEIS regarding climate change."[234] The fact that NRC Staff was not even aware that—let alone took the time to review—a new, major NOAA report had been published the previous year demonstrates that they are treating NEPA as a box checking exercise, rather than taking a hard look at cumulative impacts associated with sea level rise.[235] Nor does the 2023 DSEIS apply the latest interagency federal guidance for regionally-based sea level rise projections, as directed by the 2023 National

[230] Miami Waterkeeper 2023 Petition at 52-57.

[231] 2023 DSEIS at E-8-E-9.

[232] Miami Waterkeeper 2023 Petition at 52-60.

[233] 2023 DSEIS at E-1.

[234] 2023 DSEIS at E-8–E-9.

[235] 2023 DSEIS at E-9 ("There have been no updates to the climate change reports from the USGCRP and the NOAA since the publication of the FSEIS.").

Climate Task Force.[236] The failure to consider recent preeminent scientific studies violates NEPA requirements. CEQ regulations, which are entitled to persuasive authority for NRC, provide that "[a]gencies shall ensure the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents."[237] NRC Staff has failed to comply with this regulation in its cursory review of sea level rise impacts.

These deficiencies in the 2023 DSEIS are material. To show that a dispute is "material," a petitioner must show that its resolution would make a difference in the outcome of the proceeding.[238] Here, taking a hard look at sea level rise might alter NRC's conclusions about terms of a permit renewal or whether or not to grant the renewal. As CLI-22-03 explained: "We believe the most efficient way to proceed is to direct the Staff to review and update the 2013 GEIS, *then take appropriate action* with respect to the pending subsequent license renewal applications to ensure that the environmental impacts for the period of subsequent license renewal are considered."[239] Although NEPA is procedural and does not mandate that an agency take a specific action, it requires agencies to thoroughly consider the environmental impacts in its decision making.[240]

[236] Miami Waterkeeper 2023 Petition at 54.

[237] 40 C.F.R. § 1502.23.

[238] *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 N.R.C. 328, 333-34 (1999).

[239] CLI-22-03.

[240] *See* 42 U.S.C. § 4332.

5. Contention 3 provides sufficient information to identify and support a genuine dispute with NRC's inadequate analysis of cumulative impacts with respect to rising temperatures.

Despite FPL's and NRC Staff's claims to the contrary, Contention 3 provides ample factual support demonstrating that the higher temperatures risk increasing evaporation in the CCS to an extent that will affect the environment. In its petition and exhibits, Petitioner explains that temperatures in the Southeast are projected to rise from 3.40°F to 4.30°F in the coming decades.[241] The CCS and surrounding environment are already experiencing the effects of these rising temperatures. In 2014, FPL requested and received emergency permission to increase the CCS' running temperature by 4°F due to elevated temperatures.[242] Fundamentally, as temperatures increase, water evaporation increases. Petitioner has provided ample evidence of this phenomenon. IPCC's 2021 Technical Summary (attached to Exhibit 6), concludes: "It is *virtually certain* that evaporation will increase over the ocean and very likely that evapotranspiration will increase over land, with regional variations under future surface warming."[243] This evaporation will increase total dissolved solids,[244] including salinity,[245] which in turn exacerbates groundwater contamination in all directions of the CCS through the aquifer.[246]

As discussed at length in Contention I, rising temperatures cause greater evaporative losses, which leads to increased salinity. This necessitates additional freshening of the CCS to meet the 34 psu annual average salinity target, requiring greater allotments of water to do so, which would force an even greater volume of salty water into the Biscayne Aquifer.[247] Accordingly, rising temperatures will result in impacts on groundwater—which NRC Staff is required to address in its NEPA analysis.

As explained above, Petitioner need not show that a specific environmental impact is certain to occur, but rather that it is reasonably foreseeable.[248] Petitioner has met this standard.

Petitioner has therefore demonstrated that the higher temperatures increase evaporation in the CCS to an extent that it is reasonably foreseeable that it will affect the environment.

In addition to providing ample factual support, Contention 3 identifies a genuine dispute with NRC's inadequate analysis of rising temperatures and evaporation. FPL claims that Petitioner did not cite to or dispute the discussion of increasing air temperatures and CCS contained in the 2023 DSEIS. However, Petitioner specifically disputes the 2023 DSEIS's discussion of evaporation at 2-22, where NRC Staff acknowledges the "increases include total dissolved solids (TDS) primarily due to water losses to evaporation"—yet concludes that the "the potential for groundwater use conflicts as MODERATE with respect to the Upper Floridan Aquifer under current pumping levels."[249] The discussion of rising temperatures and CCS evaporation in the 2023 DSEIS was cursory and general. First, the 2023 DSEIS states generally that a variety of factors, including "air temperature," affect the CCS temperature.[250] Second, FPL briefly describes its efforts to improve water quality and thermal conditions, although it does not

[241] Miami Waterkeeper 2023 Petition at 57-58.

[242] *Id.* at 58.

[243] Robert E. Kopp Declaration, ADAMS Accession No. ML23331A986, (Nov. 7, 2023), in Attachment C at 85 (emphasis added), submitted as Exhibit 6 to Miami Waterkeeper 2023 Petition.

[244] 2023 DSEIS at 2-22, stating that total dissolved solids increase primarily due to water losses to evaporation.

[245] Miami Waterkeeper 2023 Petition at 14, 59.

[246] Miami Waterkeeper 2023 Petition at 37, 59.

[247] Miami Waterkeeper 2023 Petition at 19-20.

[248] *In the Matter of Pa'ina Hawaii, LLC*, CLI-10-18, 72 N.R.C. 56 (2010).

[249] Miami Waterkeeper 2023 Petition at 59 (citing 2023 DSEIS at 2-22).

[250] 2023 DSEIS at 2-35.

mention salinity levels or evaporation here.[251] Third, the 2023 DSEIS briefly discusses salinity and temperature in the context of eutrophication and fish disease.[252] This discussion fails to analyze evaporation or the link between rising temperatures and evaporation, or any effects that this may have on groundwater quality. Furthermore, NRC failed to include new information it was required to consider, including the extremely high temperatures experienced in the CCS this past summer.[253]

In conclusion, Contention 3 is squarely within the scope of this proceeding, and contains sufficient information or support to identify a genuine, material dispute with the cumulative impacts analysis regarding both sea level rise and rising temperatures in the 2023 DSEIS.

CONTENTION 4: THE DRAFT SITE-SPECIFIC ENVIRONMENTAL IMPACT STATEMENT FAILS TO TAKE A HARD LOOK AT IMPACTS TO ENDANGERED SPECIES.

A. The NRC Staff and FPL Responses Concede that the Final Site-Specific Environmental Impact Statement Must Address the Miami Cave Crayfish and its Proposed Listing as a Threatened Species.

NRC Staff and FPL both effectively concede in their responses that (1) now that the Miami cave crayfish has been proposed for listing as a threatened species, NRC Staff have additional legal requirements they must comply with, and that (2) Miami Waterkeeper has the right to challenge the agency's compliance with those requirements.[254] Their argument is only

[251] 2023 DSEIS at 2-34–2-36.

[252] 2023 DSEIS at 2-34–2-36.

[253] Miami Waterkeeper 2023 Petition at 52-60.

[254] NRC Staff Answer at 48 ("[T]he Miami cave crayfish is material to the NRC's findings in this proceeding"); FPL Answer at 48 ("At the appropriate time, Petitioner will have an opportunity to review and challenge any Staff action (or inaction) related to the proposed listing of the Miami cave crayfish.").

with the timing of Miami Waterkeeper's challenge.[255] In short, all parties agree that for species proposed for listing as endangered or threatened, an agency must "confer" with FWS if the proposed action is likely to jeopardize the continued existence of the species or result in the adverse modification of proposed critical habitat.[256] For listed species, the agency must "consult" with the FWS if the proposed action "may affect" the species.[257] Both of these requirements are significant and substantive.

Because the Miami cave crayfish was proposed for a threatened listing in September 2023, NRC must assess whether the proposed relicensing is likely to jeopardize the species or adversely modify its proposed critical habitat.[258] The requirement to initiate the conference is placed on both the action agency—in this case, the NRC—and the FWS.[259]

The process required by the ESA and its implementing regulations generally begins with the action agency conveying "(1) a written request for a list of any listed or proposed species or designated or proposed critical habitat that may be present in the action area; or (2) a written notification of the species and critical habitat that are being included in the biological

[255] *Id*.

[256] FPL Answer at 45; NRC Staff Answer at 47; 50 C.F.R. § 402.02 (defining conferences and formal and informal consultation); 16 U.S.C. § 1536(a)(4).

[257] 50 C.F.R. § 402.14; FPL Answer at 45; NRC Staff Answer at 46; 16 U.S.C. § 1536(a)(3).

[258] 50 C.F.R. § 402.10(a) (explaining that federal agencies must "confer with the [FWS] on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat"); 51 Fed. Reg. 19,941 (June 3, 1986) ("[T]he conference process fills the need to alert Federal agencies of possible steps that the agency might take at an early stage to adjust their actions to avoid jeopardizing a proposed species. The Service strongly encourages the implementation of the recommendations so the action would not violate section 7(a)(2) if the species is listed or the critical habitat designated.").

[259] 50 C.F.R. § 402.10(b).

assessment."[260] If the FWS is sent a list, it has 30 days to concur or revise the list.[261] The action agency then drafts a biological assessment to "evaluate the potential effects of the action on listed and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action."[262] This biological assessment "is used in determining whether formal consultation or a conference is necessary."[263] "If only proposed species or proposed critical habitat may be present in the action area . . . preparation of a biological assessment is not required unless the proposed listing and/or designation becomes final."[264] However, even if a biological assessment is not required, the Federal agency must still "confer with the Service" if the proposed action is likely to jeopardize the species proposed for listing or adversely modify proposed critical habitat.[265]

Based on the documents available, it does not appear that the NRC sent a new request to FWS requesting a list of listed and proposed species in response to the NRC's 2022 Memorandum and Order (CLI-22-03).[266] Nor is there an updated biological assessment discussing potentially affected listed and proposed species as required by 50 C.F.R. § 402.12.[267] Although the NRC now concedes that the "Miami cave crayfish is material to the NRC's findings in this proceeding and will be addressed in the final Site-Specific EIS" and

---

[260] *Id.* at § 402.12(c).

[261] *Id.* at § 402.12(d).

[262] *Id.* at § 402.12(a) (emphasis added).

[263] *Id.* (emphasis added).

[264] *Id.* at § 402.12(d)(1).

[265] *Id.*

[266] *Compare* 2019 FSEIS at §§ 3.8, 4.8 (noting NRC submitted a biological assessment to the FWS in December 2018) *with* 2023 DSEIS at Appendix B-1 (referencing letter reinitiating consultation limited to exceedance of allowable take of American crocodile).

[267] *See Id.*

urges that "[t]he Staff will comply with the FWS regulations concerning conferences on proposed species," it provides no documents or specific evidence to support any ongoing discussions with FWS.[268] Instead, it falls back on what it calls the "well-recognized presumption of administrative regularity" to support a conclusion "that the Staff will comply with all regulations relevant to the Miami cave crayfish."[269]

Because both listed and proposed species are present, the NRC can and should draft a biological assessment to "evaluate the potential effects of the action on listed and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action.[270]

B. Miami Waterkeeper's Contention 4 is Appropriate for Consideration at This Time.

In Contention 4, Miami Waterkeeper raised both the NRC's failure to meet NEPA's "hard look" standard and its failure to comply with the conference and consultation requirements of the Endangered Species Act.[271] As noted above, NRC and FPL concede that NRC must consider whether and how the proposed license extension will adversely affect the Miami cave crayfish, but find fault with the timing of Miami Waterkeeper's contention. Neither, however, addresses Contention 4's broader argument that the NRC failed to meet NEPA's "hard look" standard by completely omitting any discussion at all of the effects of the permit extension on the Miami cave crayfish.

---

[268] NRC Staff Answer at 48.

[269] *Id.*

[270] 50 C.F.R. § 402.12(a) (emphasis added).

[271] Miami Waterkeeper 2023 Petition at 70.

NEPA regulations do not require an assessment of the environmental impacts of a proposed action only on endangered, threatened, or otherwise protected species. FPL, for example, cites the NRC regulation governing environmental reports for license extensions, claiming "[f]or license renewal, NRC regulations require only consideration of threatened or endangered species."[272] But FPL misstates that requirement. The rule specifies that:

> **All license renewal applicants shall assess the impact of refurbishment, continued operations, and other license-renewal-related construction activities on important plant and animal habitats.** Additionally, the applicant shall assess the impact of the proposed action on threatened or endangered species in accordance with Federal laws protecting wildlife, including but not limited to, the Endangered Species Act, and essential fish habitat in accordance with the Magnuson-Stevens Fishery Conservation and Management Act.[273]

Thus the DSEIS was required to consider "the impact of . . . continued operations . . . on important plant and animal habitats"—including the Miami cave crayfish and its groundwater habitat in the vicinity of FPL's facilities, regardless of whether FWS had completed and published its proposal to list the species as threatened at the moment the DSEIS was published.[274] It completely fails to do so.

This is in accord with the broad reach of the Council of Environmental Quality's NEPA regulations.[275]

---

[272] *See* FPL Answer at 47 n.242 (citing 10 C.F.R. § 51.53(c)(3)(ii)(E) and noting that the environmental report scope is incorporated by reference into for draft EISs, per 10 C.F.R. § 51.71(a)).

[273] 10 C.F.R. § 51.53(c)(3)(ii)(E) (emphasis added).

[274] 10 C.F.R. § 51.53(c)(3)(ii)(E).

[275] 40 C.F.R. § 1502.15 (explaining that an EIS "shall succinctly describe the environment of the area(s) to be affected…[and] may combine the description with evaluation of the environmental consequences"); § 1502.16 (defining environmental consequences as "environmental impacts of the proposed action and reasonable alternatives to the proposed action and the significance of those impacts"); § 1502.24 (noting "agencies shall prepare draft environmental impact statements concurrent and integrated with environmental impact analyses and related surveys and studies required by all other Federal environmental review laws"). The Commission has consistently

Here, although the FWS did not publish its proposed listing of the Miami cave crayfish as a threatened species until a few weeks after the DSEIS was published, the agency's plan to make a listing determination relative to species was published several months prior to the proposal.[276] Moreover, NRC was on notice that FWS has been considering the crayfish for protections since it determined listing the crayfish "may be warranted" as far back as 2011.[277]

NRC and FPL contend in their responses that Petitioners will be able to challenge the NRC's analysis of impacts on the Miami cave crayfish later, by way of an amended petition.[278] However, the NRC ruling requiring the development of this site-specific EIS (CLI-22-03) made clear that petitioners would not be held to the heightened pleading standards that generally apply for amended petitions challenging NRC actions. The NRC Memorandum and Order states:

> After each site-specific review is complete, a new notice of opportunity for hearing— limited to contentions based on new information in the site-specific environmental impact statement—will be issued. **This approach will not require intervenors to meet heightened pleading standards in 10 C.F.R. § 2.309(c) for newly filed or refiled contentions.**[279]

---

emphasized that CEQ regulations are entitled to persuasive authority. *Pacific Gas & Elec Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 N.R.C. 427, 444 (2011) (noting that under its "longstanding policy" the Commission looks "to CEQ regulations for guidance").

[276] *See* U.S. Fish & Wildlife Serv., National Domestic Listing Workplan: Calendar Year 2023 Workload (April 14, 2023 Version), https://www.fws.gov/sites/default/files/documents/stepdown-national-domestic-listing-workplan-2023.pdf (last visited Jan. 3, 2024); U.S. Dep't of Interior, Spring 2023 Unified Agenda, https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202304&RIN=1018-BG31&operation=OPERATION_PRINT_RULE (last visited Jan. 3, 2024).

[277] *See* 76 Fed. Reg. 59836, (Sept. 27, 2011).

[278] NRC Staff Answer at 48; FPL Answer at 48; 10 C.F.R. § 2.309(c).

[279] CLI-22-03 at 4 (emphasis added). The ruling indicates that the site-specific EIS would need to be *complete* —presumably with public comments submitted, and the draft site-specific EIS revised accordingly—before the NRC grants an opportunity for petitioners or intervenors to submit new or amended contentions. CLI-22-03 at 3, 4. It would be ironic indeed for the NRC to *prematurely* require would-be challengers to file new petitions raising contentions related to the

And yet the NRC and FPL Answers would hold petitioners to precisely these higher standards to challenge the agency's assessment of the potential impacts of the license extension on the Miami cave crayfish.[280] This makes no sense.

Even if doubt exists as to the ripeness of Contention 4, the Board should use its discretion and consider it now. The case FPL cites in its response to support the proposition that petitioners could raise Contention 4 as part of an amended petition makes clear that administrative courts have procedural discretion in the management of adjudicatory procedures.[281] In the same order from *Crow Butte*, the NRC further stated: "[NRC's] adjudicatory process requires petitioners to 'carefully review' the application at issue 'and raise all their distinct challenges at the outset, avoiding piecemeal supplemental contentions unless they could not have been raised earlier.'"[282] Contrary to FPL's arguments, this case suggests that, in the interest of judicial efficiency, petitioners should aim to raise all possible

---

draft—non-final—EIS and then require them also to meet the heightened pleading standards for "amended petitions" to address environmental evaluation requirements that arose weeks after the draft site-specific EIS was published, but long before any final document was released. *See* NRC Staff Answer at 48 n.243 (suggesting an appropriate process for raising ESA challenges would be by way of 10 C.F.R. § 2.309(c) with its "heightened pleading standards").

[280] NRC Staff have relied on these heightened pleading standards to challenge the timeliness of Petitioner's amended contentions in an earlier phase of this relicensing process. In 2018, in their response to amended contentions Miami Waterkeeper and others raised, NRC argued that petitioners had not shown that "'good cause' exists to support these new contentions, many months after the deadline for filing initial contentions, contrary to the requirements of 10 C.F.R. §§ 2.309(c) and 2.309(f)(2)." NRC Answer to New Contentions and Waiver Petition (July 7, 2019), at 31.

[281] *Crow Butte Res., Inc.*, CLI-20-08, 92 N.R.C. 255, 269 (2020) ("While the Board must apply [NRC] contention admissibility rules, it still has leeway to structure the proceeding as it views appropriate to best promote efficiency.").

[282] *Crow Butte Res., Inc.*, CLI-20-08, 92 N.R.C. 255, 259 (2020) (citing *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.*, CLI-12-10, 75 N.R.C. 479, 482-83 (2012)).

issues in its contentions at the earliest opportunity. While the regulations do provide an avenue for amended and new contentions, this tribunal already has before it all the information it needs to consider Contention 4, so there is no need for delay.

NRC Staff argues Contention 4 is not yet ripe because Staff has further opportunity to consult or confer with FWS, presumably in preparation of the final site-specific EIS; once a final EIS is published, "Petitioner will have an opportunity to review and challenge any Staff action."[283] The NRC has held, however, that the data and conclusions from a variety of NEPA-related documents can form the basis of contentions.[284] While this holding relates specifically to the filing of new or amended contentions, it suggests a draft EIS is not necessarily a premature document upon which to base contentions.

Here, sufficient information exists within the DSEIS and through publicly available information supplied by FWS, that Contention 4 is ripe for consideration. While "Petitioner cannot fault the 2023 DSEIS for not discussing a circumstance that had not yet occurred at the time of its publication," Petitioner can find fault with the DSEIS's lack of consideration of ecological impacts in spite of FWS's intent to list the crayfish, which was published prior to the release of the DSEIS.[285]

---

[283] FPL Answer at 48.

[284] *In re Detroit Edison Co.*, CLI-12-12, 75 N.R.C. 742, 752 (2012) (A petitioner "may amend [NEPA] contentions or file new [NEPA] contentions if there are data or conclusions in the NRC draft or final environmental impact statement, environmental assessment, or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant's documents.") (citing 10 C.F.R. § 2.309(f)(2)).

[285] *See* U.S. Fish & Wildlife Serv., National Domestic Listing Workplan: Calendar Year 2023 Workload (April 14, 2023 Version), https://www.fws.gov/sites/default/files/documents/stepdown-national-domestic-listing-workplan-2023.pdf (last visited Jan. 3, 2024); U.S. Dep't of Interior, Spring 2023 Unified Agenda, https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202304&RIN=1018-BG31&operation=OPERATION_PRINT_RULE (last visited Jan. 3, 2024).

If, however, this tribunal determines that Contention 4 is premature, Miami Waterkeeper respectfully requests this tribunal take notice that both NRC Staff and FPL have effectively stipulated that Miami Waterkeeper will have an opportunity to challenge the process and substance of the NRC's ongoing evaluation (pursuant to both NEPA and the ESA) of the effects of the relicensing and extended permit term on the Miami cave crayfish, by way of an amended petition after the final site-specific EIS is published or after the FWS finalizes and publishes a listing for the Miami cave crayfish.[286]

For the foregoing reasons, Petitioner therefore requests Contention 4 be admitted. Should this tribunal determine that Contention 4 is premature, Petitioner preserves the right to raise new or amended contentions after the final site-specific EIS is published or after the FWS finalizes and publishes a listing for the Miami cave crayfish.

CONTENTION 5: THE DRAFT SITE-SPECIFIC ENVIRONMENTAL IMPACT STATEMENT FAILS TO CONSIDER THE EFFECTS OF CLIMATE CHANGE ON ACCIDENT RISK.

Contention 5 challenges the 2023 DSEIS for its failure to consider the effects of climate change on accident risk.[287] Both FPL and the NRC Staff argue the contention is inadmissible. However, their arguments lack merit.

---

[286] *See* NRC Staff Answer at 48 ("[T]he appropriate process for advancing any argument regarding the Miami cave crayfish would be via a new or amended contention on the final Site-Specific EIS."); FPL Answer at 48 ("At the appropriate time, Petitioner will have an opportunity to review and challenge any Staff action (or inaction) related to the proposed listing of the Miami cave crayfish.").

[287] Miami Waterkeeper 2023 Petition at 75. The full contention statement is:

> The Draft EIS does not consider the effects of climate change on accident risk, which are potentially significant. As a result, the Draft EIS fails to meet NEPA's requirement for a "hard look" at the potential environmental consequences of a proposed agency action. *Robertson v. Methow Valley Citizens Council,* 490 U.S. 3342, 350 (1989). The NRC's failure to consider climate change impacts on the operation of Turkey Point safety systems is also inconsistent with federal guidance that agencies should consider climate change

FPL argues that Contention 5 is deficient because "Petitioner does not engage with or attempt to dispute any specific risk evaluation that it claims is inadequate."[288] Similarly, the Staff criticizes Contention 5 for failing to "dispute" the accident analyses in the 2023 DSEIS.[289] But FPL and the Staff fail to recognize that Contention 5 is a contention of omission. As stated in the contention and in the supporting declaration of Jeffrey T. Mitman (par. 5), the 2023 DSEIS contains *no analysis* of the impacts of climate change on accident risk. Neither FPL nor the Staff denies this is true. It is not possible to criticize the adequacy of a non-existent analysis.

FPL also asserts that Contention 5 is unacceptably "generalized" and "vague," and that the contention fails to identify specific initiating event frequencies or failure probabilities that will be increased by climate change.[290] But FPL overlooks the significant details provided in the contention regarding potential climate change-related factors that can increase the probability of failure of design features or mitigation equipment.[291] These assertions are supported by Mr. Mitman's declaration in paragraphs 5-14. Petitioner therefore has met its burden of showing that the 2023 DSEIS omits information that could have a significant effect on the accident analysis for

---

impacts on proposed actions and mitigative actions to "reduce climate risks and promote resilience and adaptation." Council on Environmental Quality, National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1,196, 1,209 (Jan. 9, 2023). As a result of its inadequate impact analysis, the NRC generally underestimates the environmental impacts of continuing to operate Turkey Point for another twenty years. This underestimate causes the NRC to omit or understate the benefits of the no-action alternative and mitigation alternatives.

[288] FPL Answer at 50.

[289] NRC Staff Answer at 51.

[290] FPL Answer at 51. To the extent FPL would have Petitioner distinguish between the effects of climate change on design basis accident risks and severe accident risks, Petitioner respectfully submits that the NRC is responsible for those distinctions in the first place, and therefore should be the party responsible for addressing any appropriate distinctions.

[291] Miami Waterkeeper 2023 Petition at 75-78.

Turkey Point Units 3 and 4. As stated in the preamble to 10 C.F.R. § 2.309, the "factual support necessary to show that a genuine dispute exists" need not be "in formal evidentiary form" or "of the quality necessary to withstand a summary disposition motion."[292] To the contrary, Petitioner is only required to "make a minimal showing that material facts are in dispute, thereby demonstrating that an inquiry in depth is appropriate."[293]

FPL also claims that Petitioner has not explained why the 2023 DSEIS's accident analysis is "*materially*" deficient."[294] To the contrary, based on Mr. Mitman's expert opinion and on examples provided in his Declaration, Contention 5 states that the effects of climate change on accident risk are "potentially significant."[295]

FPL also argues that the 2023 DSEIS does indeed consider the effects of climate change on accident risk.[296] But the only possible reference to climate change in Appendix D of the Draft EIS is a statement that the NRC considered unspecified "new meteorological information" and found it did "not contribute sufficiently to impacts to warrant their inclusion in the severe accident analysis."[297] The statement is too brief and vague to qualify as the "hard look" required by NEPA.[298]

---

[292] Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989).

[293] *Id.* (quoting *Connecticut Bankers Ass'n v. Board of Governors*, 627 F.2d 245 (D.C. Cir. 1980) (internal quotation marks omitted)).

[294] FPL Answer at 50.

[295] Miami Waterkeeper 2023 Petition at 75; *see also* Miami Waterkeeper 2023 Petition, Exhibit 18 - Mitman Declaration, ADAMS Accession No. ML23331A981 at ¶¶ 5, 6-14.

[296] FPL Answer at 52. FPL also argues that the NRC addressed climate change in the accident analysis for the 2019 EIS. *Id.* (citing 2019 SEIS at § 4.11.1.3, Appendix E). But Petitioner could not locate any mention or analysis of the climate change issue in those sections.

[297] 2023 DSEIS at D-6.

[298] *Robertson v. Methow Valley Citizens Council,* 490 U.S. 3342, 350 (1989).

Finally, both FPL and the Staff argue that it is too late for Petitioner to challenge the NRC's policy that the effects of climate change on Turkey Point safety equipment are outside the scope of this proceeding because that policy was stated in the 2019 EIS.[299] To the contrary, the contention is not too late because it raises issues that the NRC erroneously barred from consideration in 10 C.F.R. § 51.53(c)(3) and are now permitted under the Commission's decision in CLI-22-02. Prior to this proceeding, Petitioner was prohibited from challenging the adequacy of the NRC's generic determinations of "SMALL" impact regarding design-basis and severe accident risks.[300] No purpose would have been served by raising questions about the lawfulness of the NRC Staff's policy to refuse to consider the effects of climate change in its accident analyses. Prior to this SLR proceeding, only the severe accident mitigation alternatives ("SAMA") analysis was subject to challenge in a SLR hearing.[301] In this proceeding, as a result of the Commission's decision in CLI-22-02, Petitioner is now permitted to challenge the adequacy of the NRC's

[299] FPL Answer at 53; NRC Staff Answer at 50.

[300] As shown in Table B-1 of 10 C.F.R. Part 51 Appendix B, the NRC has generically determined that the environmental impacts of severe accidents are "SMALL." As the Commission has explained, that determination has been "codified" and therefore is not subject to challenge:

> [W]e have generically determined, based on probability-weighted consequences, that the environmental impacts from severe accidents at plants operating under renewed licenses are expected to be 'small'—our lowest impact category. *See* 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1 (*codifying license renewal GEIS finding on environmental impacts of postulated severe accidents*).

Entergy Nuclear Operations, Inc. (Indian Point, Units 2 and 2), CLI-16-07, 83 N.R.C. 293, 323 n.156 (2016) (emphasis added).

[301] Final Rule, Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 78 Fed. Reg. 37,282, 37,290 (June 20, 2013) ("Although the NRC has determined that impacts from severe accidents are small for all facilities, the NRC continues to maintain that severe accidents cannot be a Category 1 issue because plant-specific mitigation measures vary greatly based on plant designs, safety systems, fuel type, operating procedures, local environment, population, and siting characteristics.").

accident analyses and the NRC Staff's related policies.[302] In conclusion, Contention 5 is squarely within the scope of this proceeding, and contains sufficient information to identify and support a genuine material dispute with the 2023 DSEIS's failure to consider the effects of climate change on accident risk.

CONCLUSION

As explained above, Petitioner has demonstrated that at least one, and indeed all, of its proposed contentions, satisfy all of the contention admissibility requirements. It has shown that, as a result of the Commission's prior orders related to this proceeding, each of its contentions remain within the scope of this proceeding and identify a genuine, material dispute with the 2023 DSEIS. Petitioners supported this contention with ample evidence to indicate that further inquiry is appropriate.

Respectfully submitted,

/s/ *Cameron Bills*
Cameron Bills
Miami Waterkeeper
PO Box 141596
Coral Gables, FL 33114-1596
Phone: (305) 905-0856
Email: cameron@miamiwaterkeeper.org

[302] Additional arguments by FPL and the Staff that Contention 5 raises impermissible Part 54 safety issues are also without merit. FPL Answer at 53; NRC Staff Answer at 50. As is quite clear from even a single EIS that has addressed the environmental impacts of continuing to operate Turkey Point, starting with the 1996 Generic Environmental Impact Statement and running through the Draft EIS, the environmental impacts of reactor accidents are relevant considerations under NEPA. In order to evaluate those impacts, it is necessary to understand the effects of external events on the ability of reactor safety equipment to perform its safety functions. The fact that the same inquiry may be appropriate under NRC safety regulations does not render it irrelevant under NEPA. *See* Miami Waterkeeper 2023 Petition at 79 and citations therein to *Limerick Ecology Action v. NRC*, 869 F.2d 719, 730 (3rd Cir. 1989); *Citizens for Safe Power, Inc. v. NRC*, 524 F.2d 1291, 1299 (D.C. Cir. 1975).

Counsel for Miami Waterkeeper

Filed January 8, 2024

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	
FLORIDA POWER & LIGHT COMPANY	)	Docket No. 50-250
	)	Docket No. 50-251
(Turkey Point Nuclear Generating Station, Unit Nos. 3 and 4)	)	January 8, 2024
	)	
(Subsequent License Renewal Application)		

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305, I certify that, on this date, a copy of the foregoing "*Reply in Support of Request for Hearing and Petition to Intervene Submitted by Miami Waterkeeper*" was served upon the Electronic Information Exchange ("EIE," the NRC's E-Filing System), in the above-captioned docket, which to the best of my knowledge resulted in transmittal of same to those on the EIE Service List for the captioned proceeding.

/Signed (electronically) by/ Cameron Bills
Cameron Bills
Miami Waterkeeper
PO Box 141596
Coral Gables, FL 33114-1596
Phone: (305) 905-0856
Email: cameron@miamiwaterkeeper.org

Counsel for Miami Waterkeeper