UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	Docket Nos. 50-250 & 50-251
FLORIDA POWER & LIGHT COMPANY	)	ASLBP No. 18-957-01-SLR-DB01
(Turkey Point Nuclear Generating Station, Unit Nos. 3 and 4)	)	November 18, 2019
(Subsequent License Renewal Application)	)	

FRIENDS OF THE EARTH'S, NATURAL RESOURCES DEFENSE COUNCIL'S, AND MIAMI WATERKEEPER'S PETITION FOR REVIEW OF THE ATOMIC SAFETY AND LICENSING BOARD'S RULING IN LBP-19-08

Richard E. Ayres
Ayres Law Group
2923 Foxhall Road, N.W.
Washington, D.C. 20016
202-722-6930
ayresr@ayreslawgroup.com
Counsel for Friends of the Earth

Geoffrey Fettus
Caroline Reiser
Natural Resources Defense Council
1152 15th Street, NW, Suite 300
Washington, DC 20005
202-289-2371
gfettus@nrdc.org
creiser@nrdc.org
Counsel for Natural Resources Defense Council

Kenneth J. Rumelt
Environmental Advocacy Clinic
Vermont Law School
164 Chelsea Street, PO Box 96
South Royalton, VT 05068
802-831-1031
krumelt@vermontlaw.edu
Counsel for Friends of the Earth

Kelly Cox
Miami Waterkeeper
2103 Coral Way 2nd Floor
Miami, FL 33145
305-905-0856
kelly@miamiwaterkeeper.org
Counsel for Miami Waterkeeper

November 18, 2019

TABLE OF CONTENTS

I. PROCEDURAL BACKGROUND 1

II. STANDARD OF REVIEW 2

III. ARGUMENT 2

A. The Board Erred in Denying Contention 5-Eb. 3

B. The Board Erred in Denying Contentions 6-E through 9-E. 6

1. The Board ignored Applicant's admission at oral argument that the 2014 model was based on "particularly wet" weather data and produced "skewed" results. 7

2. The Board arbitrarily disregarded Petitioners' expert reports and evidence of Applicant's failure to lower salinity in the CCS to 34 PSU 9

3. The Board ignored Petitioners' evidence of significant flaws in NRC Staff's analysis of Applicant's groundwater remediation efforts. 14

4. The Board committed reversible error to the extent it relied on the existence of state and county enforcement and oversight. 16

C. The Board Erred in its Ruling Regarding Contention 7-E's Waiver. 19

IV. THE COMMISSION SHOULD GRANT THIS PETITION FOR REVIEW 22

V. CONCLUSION 23

TABLE OF AUTHORITIES

Judicial Decisions

Sierra Club v. Fed. Energy Regulatory Comm'n,
867 F.3d 1357 (D.C. Cir. 2017) 17, 19

NRC Decisions

Crow Butte Res., Inc. (License Renewal for In Situ Leach Facility, Crawford, Nebraska),
CLI-09-9, 69 NRC 331 (2009) 2

Powertech (USA), Inc. (Deqey-Burdock In Situ Uranium Recovery Facility),
CLI-16-20, 84 NRC 219, 228 (2016). 2

Pa'ina Hawaii, LLC (Materials License Application), CLI-10-18, 72 NRC 56 (2010) 2

Gulf States Util. Co. (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43 (1994) 7

La. Energy Servs., L.P. (National Enrichment Facility), CLI-04-35, 60 NRC 619 (2004) 7

USEC, Inc. (American Centrifuge Plant), LBP-05-28, 62 NRC 585 (2005) 7

Luminant Generation Co. (Comanche Peak Nuclear Power Plant, Units 3 & 4), LBP-09-17,
70 NRC 311 (2009) 7

Entergy Nuclear Vt. Yankee, LLC and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-07-3, 65 NRC 13, slip op. (2007) (Vermont Yankee/Pilgrim) 20

Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3),
CLI-05-24, 62 NRC 551 (2005) 20

Regulations

10 C.F.R. Pt. 51, Subpt. A, App. B 22

10 C.F.R. § 2.341 ..... 22, 23

ARGUMENT

Pursuant to 10 C.F.R. § 2.341, Friends of the Earth, Natural Resources Defense Council, and Miami Waterkeeper (together "Petitioners") seek review of the Atomic Safety and Licensing Board's (Board) decision in LBP-19-08.[1] Respectfully, the Nuclear Regulatory Commission ("NRC" or "Commission") should reverse this decision and grant Petitioners a hearing on the merits.

I. PROCEDURAL BACKGROUND

On March 2019, the Nuclear Regulatory Commission Staff (NRC Staff or Staff) published the Draft Environmental Impact Statement (DSEIS) for Florida Power & Light Company's (Applicant) Subsequent License Renewal Application (SLRA).[2] On June 24, 2019, Petitioners timely proffered new Contentions based on the DSEIS[3] and petitioned for a rule waiver.[4] After the parties briefed the merits of the Contentions, the Board scheduled oral argument on the matter for September 9, 2019.[5] Following oral argument,[6] the Board denied

[1] Memorandum and Order (Denying Requests for Rule Waiver and Admission of Newly Proffered Contentions, and Terminating Proceedings), LPB-19-08, __ NRC __ (Oct. 24, 2019) (slip op.) (hereinafter "Dismissal").
[2] NUREG-1437, Supp. 5, Second Renewal, "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, Draft Report for Comment" (Mar. 2019) (ML19078A330) (hereinafter "DSEIS").
[3] [Petitioners'] Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] (June 24, 2019) and [Petitioners'] Amended Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] (June 28, 2019) (ML19179A316) (hereinafter "Motion").
[4] [Petitioners'] Petition for Waiver of 10 C.F.R. § 51.53(C)(3) and 51.71(D) and 10 C.F.R. Part 51, Subpart A, Appendix B (June 24, 2019) at 6 (unnumbered) (ML19175A311).
[5] Order Scheduling Oral Argument (Aug. 9, 2019) (ML19221B552) (hereinafter "Scheduling Order").
[6] Official Transcript of Proceedings, [Applicant] Turkey Point Nuclear Generating Units 3 and 4 (Sept. 9, 2019) (ML19254E569) (hereinafter "Tr.").

Petitioners' request for a rule waiver and ruled inadmissible each Contention, thereby terminating the proceeding.[7]

II. STANDARD OF REVIEW

"The Commission defers to a Board's rulings on standing and contention admissibility in the absence of clear error or abuse of discretion."[8] While the Commission's review of factual findings is deferential, it will correct findings when there is "strong reason to believe that a board has overlooked or misunderstood important evidence."[9] The Commission reviews legal questions "de novo."[10]

III. ARGUMENT

The Board arbitrarily overlooked, misunderstood, or refused to consider important information and applied incorrect legal standards in denying Petitioners' Contentions. Petitioners satisfied each of the NRC's requirements with respect to the six Contentions presented. Thus, the Board erroneously denied admission to the Contentions, and the Commission should reverse.[11]

---

[7] Dismissal at 41.
[8] *Crow Butte Res., Inc.* (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 NRC 331, 336 (2009).
[9] *Powertech (USA), Inc.* (Deqey-Burdock In Situ Uranium Recovery Facility), CLI-16-20, 84 NRC 219, 228 (2016).
[10] *Pa'ina Hawaii, LLC* (Materials License Application), CLI-10-18, 72 NRC 56, 73 (2010).
[11] Petitioners are not appealing the Board's decision as to Contention 1-E(b). While Petitioners believe the Board made clear errors in denying admission to this Contention, the Final Supplemental Environmental Impact Statement (FSEIS) addresses Petitioners concerns such that the FSEIS likely would moot this Contention regardless.

A. The Board Erred in Denying Contention 5-Eb.

Contention 5-Eb states that the DSEIS deficiently analyzed potential impacts of ammonia on threatened and endangered species and their critical habitat.[12] The Board's denial of Contention 5-Eb is in clear error and an abuse of discretion because it overlooked relevant evidence and instead relied on erroneous and immaterial evidence.

The Board rationalized that the DSEIS analyzed ammonia impacts based on which threatened and endangered species "might conceivably be exposed"[13] to ammonia but ignored Petitioners' evidence that the American crocodile might be exposed.[14] Petitioners provided evidence that (1) Turkey Point's cooling canal system (CCS) is a contributing factor to levels of ammonia above regulatory limits in multiple locations and (2) the American crocodile nests in the same location as those high levels of ammonia. Petitioners provided that the DSEIS acknowledged that there are levels of ammonia around Turkey Point above water quality standards and that there has been the suggestion of a statistically increasing trend of ammonia in the CCS.[15] Petitioners next pointed to a document cited by the DSEIS that included specific test

[12] Motion at 21–25 and Reply Reply in Support of Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] (July 26, 2019) at 7–9 (ML19207C092) (hereinafter "Reply").
[13] Dismissal at 14.
[14] *See e.g., id.* at 15 n.25 ("…because the ammonia concentration in the analyzed environments is less than the Miami-Dade water quality standard, the NRC Staff assumes that there would be no lethal effects or impairments to growth, survival, or reproduction of endangered or threatened species. [Petitioners] offer no facts or expert opinions that impugn the NRC Staff's assumption.").
[15] Reply at 7 n.31 citing DSEIS at 3-52 (citing Letter from W. Mayorga, DERM, to M. Raffenberg, FPL (July 10, 2018)) and Tr. at 339.

results of water quality showing high ammonia levels in specific locations.[16] Petitioners then showed how these specific locations of high ammonia are also documented nesting sites for the American crocodile.[17] Thus, Petitioners provided ample evidence that the American crocodile "might conceivably be exposed" to ammonia and that the DSEIS needed to consider it.

In attempting to reconcile why the DSEIS considered impacts of ammonia on the West Indian manatee and not the American crocodile, the Board explained that:

> [D]ifferent analyses for different species based on different circumstances do not perforce equate to inadequate analyses. Rather, case law supports the conclusion that the NRC Staff acts reasonably . . . in analyzing the impact of ammonia *in proportion* to its potential impacts on threatened and endangered species and their habitats.[18]

Petitioners do not contest this, and in fact in Contention 5-E(b) asked for impacts of ammonia to be analyzed in proportion to its potential impacts on specific species.[19] It is backwards then for the Board to fault Contention 5-E(b) because the so-called "sole basis" for the Contention is "that the DSEIS includes a more thorough analysis for the West Indian manatee than for other threatened and endangered species."[20] If the rule is that an issue should be analyzed in proportion to its potential impacts, then the DSEIS should include a more thorough analysis for whichever species are most likely to be impacted by ammonia—and there is

---

[16] Tr. at 353 (describing document FPL-2017c, page 67, Table 6 title "Ammonia in Surface Waters" in which multiple lines between 99 and 110 documenting samples taken at locations TPS-WC7 and TPS-WC8 are high in ammonia and low in dissolved oxygen).
[17] Reply at 9 and Tr. at 353 (describing how the map in Figure 12 from the Biological Assessment at page 28 titled "Locations of Crocodile Nests in the Turkey Point Cooling Canal System" shows American crocodile nests in the same locations as water sample locations TPS-WC7 and TPS-WC8, which had the high ammonia levels).
[18] Dismissal at 15 (emphasis added).
[19] Reply at 9.
[20] Dismissal at 15.

significant evidence in the record that the American crocodile is more likely to be impacted by ammonia than the West Indian manatee. The Board explained that "the stagnant or dead-end canals where the elevated ammonia concentrations are located do not provide preferred habitat for manatees" and therefore there is a "very low likelihood of manatees being exposed to contaminants associated with the CCS, including ammonia. . . "[21] On the other hand, Petitioners offered all of the evidence above that there is a high likelihood of American crocodiles being exposed to ammonia because crocodiles nest in locations with high ammonia concentrations. The NRC Staff therefore did not act reasonably in its analysis of ammonia impacts on species because it failed to analyze the issue in proportion to the potential impacts.

Yet the Board ignored all of this evidence and instead focused on aspects of the DSEIS that are immaterial to the admissibility of Contention 5-Eb. The Board stated how the DSEIS generally discussed "the environment at the Turkey Point facility and the role ammonia might play in that environment,"[22] yet somehow the Board did not address any of the details Petitioners provided on ammonia levels above water quality standards in crocodile habitat. The Board also cited multiple parts of the DSEIS that do not even mention ammonia to support its conclusion that "the NRC Staff also analyzed the impact of the CCS, including its ammonia content."[23]

---

[21] *Id.* at 14–15 (internal citations omitted).
[22] *Id.* at 12–14.
[23] *See id.* at 15.

The Board abused its discretion by overlooking relevant evidence Petitioners offered and instead basing its decision on erroneous and immaterial evidence. The Commission should reverse the Board's Order and admit Contention 5-Eb.

B. The Board Erred in Denying Contentions 6-E through 9-E.

In Contentions 6-E through 9-E, Petitioners argued that the DSEIS failed to take the "hard look" required by the National Environmental Policy Act (NEPA) at the environmental impacts of continuing to operate the CCS. The CCS is the source of a hypersaline groundwater plume that violates water quality standards beyond the plant's boundary.[24] State and county regulators therefore took enforcement actions to require Applicant to reduce the annual average salinity in the CCS to 34 practical salinity units (PSU) and retract the hypersaline plume within 10 years.[25] Thus, Applicant instituted a "freshening" plan to dilute the CCS by pumping 15 million gallons per day (mgd) of groundwater into the CCS. It designed this plan using a 2014 model that predicted salinity levels would reach 34 PSU within "less than a year" of commencing the project.[26] Applicant also instituted a plan to retract the hypersaline plume using a series of wells to extract the hypersaline plume water and inject it deep underground. Applicant

[24] DSEIS at 3-67.
[25] *See* Florida Department of Environmental Protection, *Consent Order*, OGC File Number 16-0241 (June 20, 2016) (ML16216A216); Miami-Dade County, *Consent Agreement Concerning Water Quality Impacts Associated with the Cooling Canal System at Turkey Point Power Plant* (Oct. 6, 2015) (ML15286A366).
[26] Dismissal at 21 (citing DSEIS at 3-49).

developed this plan using a 2016 model, which assumed Applicant's "freshening" plan maintains CCS salinity at 34 PSU.[27]

Petitioners' contended the DSEIS erroneously relied on these unproven efforts to manage CCS salinity and retract the hypersaline plume in concluding that impacts will be "small" on nearby surface waters via the groundwater pathway (Contention 6-E), groundwater quality (Contention 7-E), groundwater use conflicts (Contention 8-E), and cumulative impacts on groundwater resources (Contention 9-E).[28] The Board rejected Contentions 6-E through 9-E in clear error because the Board overlooked, misunderstood, or ignored important information presented in Petitioners' Contentions and confirmed in these proceedings.

1. The Board ignored Applicant's admission at oral argument that the 2014 model was based on "particularly wet" weather data and produced "skewed" results.

The Board committed clear error because it overlooked, misunderstood, or ignored important information that established Petitioners' genuine dispute with the DSEIS conclusions on impacts from the CCS.[29] The DSEIS relied on Applicant's "freshening plan" for the CCS that

[27] Decl. of E.J. Wexler in Support of [Petitioners'] (Jun. 28, 2019) (ML19179A314) at 4 (hereinafter "Wexler Dec."); Reply at 14–15; *see also*, Tr. at 430:12–18.
[28] *See, e.g.*, Motion at 32 n.144 (citing the NRC Staff's conclusions on impacts on adjacent water bodies via the groundwater pathway (DSEIS at 4-23), impacts on groundwater quality (DSEIS at 4-27), and cumulative impacts on groundwater resources (DSEIS at 4-117).
[29] *Gulf States Util. Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994) (quoting 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)); *see also La. Energy Servs., L.P.* (National Enrichment Facility), CLI-04-35, 60 NRC 619, 623 (2004); *USEC, Inc.* (American Centrifuge Plant), LBP-05-28, 62 NRC 585, 596-97 (2005); *Luminant Generation Co.* (Comanche Peak Nuclear Power Plant, Units 3 & 4), LBP-09-17, 70 NRC 311, 329 (2009).

is based on the 2014 model that predicted decreasing salinity levels in the CCS.[30] At oral argument, however, counsel for Applicant confirmed the 2014 model that predicted decreasing salinity levels in the CCS was unreliable because it was based on a "particularly wet" year of weather data that "skewed" its predictions.[31] Counsel "had to dispel any notion that that specific model, the 2014 one, really is still even relevant . . . the model has been subsequently updated and recalibrated."[32] Apparently, the "recalibrated" model "encompasses a much broader range of hydrologic conditions, including drier conditions."[33] These are the same less favorable climatic conditions referenced in the DSEIS that Petitioners pointed to in support of their Contentions.[34] Counsel also referenced Applicant's public comments on the DSEIS,[35] which explain:

> The updated modeling indicates a wider range of evaporative conditions exist, particularly during the dry seasons, which exceed 14 mgd and suggest that *when such drier conditions occur, more freshening water or longer timeframes will be needed* to offset the drought related evaporative losses from the CCS.[36]

Counsel's statements confirm: (1) the 2014 model was unreliable because it failed to account for less favorable climatic conditions in predicting how salinity levels will change in the

---

[30] DSEIS at 3-49.
[31] Tr. at 428:8–15.
[32] Tr. at 429:4–7. Counsel also testified that Applicant included this information in its publicly available DSEIS comments. These comments, however, did not provide a copy, reference, or weblink to the "refined" model that would allow the Staff or the public an opportunity to review the model or its results. [Applicant's] Comments Regarding the Turkey Point Nuclear Generating Unit Nos. 3 and 4 Subsequent License Renewal Draft Supplement 5 Generic Environmental Impact Statement (May 20, 2019) (ML19141A047) (hereinafter "Applicant's Comments").
[33] Tr. at 428:16–18.
[34] Motion at 41.
[35] Tr. at 428:16–429:3 (referencing ML19141A047).
[36] Applicant's Comments (attachment at 9) (emphasis added). None of this information appears in the DSEIS despite its obvious importance. Nor was this refined model otherwise made available or referenced in this proceeding before oral argument.

CCS;[37] (2) the DSEIS conclusions on impacts from the CCS were based on this unreliable model that produced "skewed" results;[38] (3) the NRC Staff never took a "hard look" at the effect of less favorable climatic conditions on Applicant's CCS freshening plan;[39] and (4) Applicant's current plan will not succeed unless more favorable climatic conditions return for good.[40] Thus, the Board committed clear error in denying Contentions 6E through 9E by overlooking or ignoring Counsel's confirmation that DSEIS conclusions about impacts from Applicant's CCS were based on a flawed assessment of Applicant's freshening effort.

2. The Board arbitrarily disregarded Petitioners' expert reports and evidence of Applicant's failure to lower salinity in the CCS to 34 PSU.

Petitioners supported their Contentions with evidence from the DSEIS and expert reports, yet the Board arbitrarily disregarded this evidence to decide erroneously that Petitioners failed to support their contentions and establish a genuine dispute. As indicated in the DSEIS, instead of the CCS salinity levels reaching 34 PSU as predicted by the 2014 model, Applicant's freshening efforts yielded an average salinity concentration of 64.9 PSU.[41] The DSEIS discusses this discrepancy as follows: "Comparing CCS data and model results, the [Applicant's] modelers concluded that during this period (most of which occurred in the dry season), evaporation rates exceeded precipitations rates."[42] Therefore, "[t]he modelers anticipate that under more favorable

---

[37] *See* Tr. at 428:16–18; 429:4–7.
[38] *See* Tr. at 428:8–15.
[39] *See* DSEIS at 3-49.
[40] *See* Applicant's Comments (attachment at 9).
[41] Dismissal at 21 (citing DSEIS at 3-49).
[42] *Id*.

climatic conditions (e.g., less severe dry seasons), the addition of . . . water should help to reduce CCS water salinities to 34 PSU."[43] In their Contentions, Petitioners argued the 2014 model was unreliable since there was "no effort to determine what climatic conditions would be necessary to achieve the salinity target, or whether these necessary climatic conditions will or are likely to exist during the subsequent license renewal period."[44]

Petitioners also offered the expert opinion of Dr. William Nuttle who, based on a recent study, opined that more favorable climatic conditions "are unlikely to occur."[45] Consistent with Dr. Nuttle's opinion, the DSEIS states that the average annual temperature in South Florida is projected to increase by up to 3.5 degrees by 2050.[46] Petitioners Contentions showed that in light of the climate disruption already being experienced in Florida, the DSEIS's failure to analyze less favorable climate conditions fails NEPA's "hard look" test.

The Board recognized these issues were in dispute and asked the parties to address several questions on these points during oral argument:

> In determining that CCS salinity levels should reach the required level of 34 [PSU] within or close to the designated [subsequent relicensing] period, the NRC Staff relied on "continued actions by [Applicant] . . . and regulatory oversight by Florida." DSEIS at 3-49. How is that determination reconciled with [Applicant's] freshening experience in

[43] *Id*.
[44] *See, e.g.*, Motion at 41.
[45] Reply at 17 (citing Motion at 28 and Expert Report of William Nuttle, Ph.D (Jun. 24, 2019) (ML19179A315) at 8).
[46] Scheduling Order at 4 (citing DSEIS at 4-117).

> 2017, which only reduce the PSU level to 64.9 rather than to the expected 35?[47]

The Board further asked what climatic assumptions were used in the freshening model, what steps the NRC Staff took to ensure assumptions were reasonable, and where one could look for the Staff's confirmation of the model's reasonableness in the DSEIS.[48]

Yet the Board ignored these issues and evidence to hold that Petitioners based Contentions 6-E through 9-E "on an erroneous view of the DSEIS's analysis."[49] First, the Board rejected Petitioners' characterization of Applicant's freshening efforts as "unsuccessful," finding instead that the DSEIS showed Applicant "achieved a measure of success."[50] But the Board's focus on how to characterize Applicant's freshening results does not cure those flaws that Petitioners identified in the DSEIS. Whether couched as "unsuccessful," a "measure of success," or perhaps as a "measure of failure," the facts still demonstrate a significant gap in the DSEIS analysis insofar as it fails to take the requisite "hard look" at the impact of less favorable climatic conditions. The Board's finding that Applicant was able to reduce salinity values compared to historically higher levels[51] does not address this gap either.

Next, the Board held that Applicant's inability to reduce salinity levels in the CCS as predicted does not "raise a credible inference that [Applicant's] model is fatally flawed or that its

---

[47] Scheduling Order at 4.
[48] *Id*.
[49] Dismissal at 23.
[50] *Id*. at 22.
[51] *Id*. at 22 n.30.

freshening efforts are doomed to failure."[52] This conclusion is clearly erroneous. The Board found support for this conclusion in Applicant's Consent Order with Florida, which provides an extended deadline for Applicant to reach the 34 PSU target and that the NRC Staff "independent[ly] assess[ed] the reasonableness of the model underlying the freshening plan upon which that deadline is based."[53] However, Applicant's freshening model is no more or less reliable simply because Florida granted Applicant additional time to meet the 34 PSU target or because the Staff assessed the 2014 model's reasonableness. Neither of these facts reconcile the gap between the anticipated results of freshening the CCS within one year (34 PSU) and Applicant's actual experience (64.9 PSU).

The Board's reliance on the Staff's review of the 2014 model is similarly unavailing. The Board held a single "passage from the DSEIS supports the conclusion that the NRC Staff independently assessed the reasonableness of [Applicant's] modeling."[54] But according to this passage, the NRC Staff never reconciled the actual effect of less favorable climatic conditions (64.9 PSU) with the model-derived predictions (34 PSU).[55] The DSEIS passage does not mention or even reference the 2017 salinity results or climatic conditions; it only references information from 2012 and 2014, i.e., before Applicant commenced its "freshening" plan. Thus, the NRC Staff never considered the effect of less favorable climatic conditions on impacts from the CCS. Indeed, statements by Applicant's counsel at oral argument dispel any conceivable

[52] *Id.* at 22.
[53] *Id.* at 22 n.31.
[54] *Id.* at 20.
[55] *See id.* at 21 (citing DSEIS at 3-49).

notion that the Board's findings are correct. The deadline in the Consent Order with Florida reflects the "refined" model described by Applicant's counsel, not the "skewed" 2014 version that Staff assessed in the DSEIS.[56]

Finally, the Board rejected the statement about "more favorable climatic conditions" as support for Petitioners' Contentions, holding that "the DSEIS does not indicate that [Applicant's 2014] model relies on more favorable climatic conditions as an essential assumption for achieving a CCS salinity of 34 PSU. . . ."[57] The 2014 model merely "discusses the observed effects of drier conditions, and the anticipated effects of less severe dry seasons, on the model predictions and results."[58] But these statements do not support the Board's conclusion; rather, they drive home Petitioners' point by recognizing two important facts: (1) that unfavorable climatic conditions affected the 2014 model predictions and results, and (2) that the DSEIS never reconciled the 2014 model in light of Applicant's 2017 salinity results.

In short, Petitioners presented more than sufficient evidence to show that a genuine dispute exists over the effectiveness of Applicant's remediation efforts for decreasing salinity in the CCS and associated impacts on the groundwater pathway (Contention 6-E), groundwater quality (Contention 7-E), groundwater use conflicts (Contention 8-E), and cumulative impacts on groundwater resources (Contention 9-E). NRC regulations therefore require that the Board

[56] Tr. at 428:21–25.
[57] Dismissal at 22.
[58] *Id*. at 22–23.

authorize a hearing on these issues. The Board committed reversible error when it "overlooked or misunderstood" the important evidence provided in Petitioners' Contentions.

3. The Board ignored Petitioners' evidence of significant flaws in NRC Staff's analysis of Applicant's groundwater remediation efforts.

The Board erroneously rejected Petitioners' Contentions related to Applicant's effort to retract the hypersaline plume, which stretches beyond Turkey Point and is harming ground and surfacewater resources in south Florida. The Board claimed that Petitioners failed to point to specific evidence and therefore offered no support for the Contentions.[59] In fact, Petitioners presented substantial evidence, which the Board overlooked, ignored, or refused to consider. While the Board recognized Petitioners' Motion included a supposedly "lengthy" five-page section of expert opinions and reports, it held (incorrectly) that this information failed to satisfy the NRC's admissibility standards.[60] Those standards require "'a concise statement of the alleged facts or expert opinions' that support the contention, along with 'references to the specific sources and documents.'"[61] The Board erred because this five-page section of the Motion contained *exactly* what the rules require. The section includes numbered headings for each of Petitioners' proffered experts. Under each experts' heading, there is a bulleted list of their opinions. Each bulleted expert opinion in turn cites specific pages of that expert's report where

[59] *Id.* at 23.
[60] *Id.* at 32 n.41.
[61] *Id.*

further support for the opinion can be found.[62]The Board's decision to ignore this evidence that Petitioners presented was an abuse of discretion.

This five-page section included the expert opinion of Mr. E.J. Wexler with corresponding references to his report. Mr. Wexler, who reviewed Applicant's efforts to retract the hypersaline plume, identified "serious flaws" in Applicant's modeling that were "especially critical" in light of Applicant's failure to reduce salinity levels to 34 PSU as predicted.[63] In particular, Applicant's modeling "assumed that the CCS would be maintained at 34 PSU for the duration of the recovery period,"[64] a fact confirmed at oral argument.[65] Since CCS salinity is the "key driver" for Applicant's remediation of the hypersaline plume, flaws identified in Applicant's freshening model carry over to Applicant's predictions for retracting the hypersaline plume. Mr. Wexler then ran the same 2016 plume retraction model assuming a salinity level of 60 PSU (4.9 PSU less than the 2017 observed levels).[66] The results showed that after ten years of pumping, the hypersaline plume would continue to extend more than two miles (12,000 feet) west of the CCS boundary.[67] Mr. Wexler also ran Applicant's updated versions of the 2016 model, which

[62] Motion at 25–31.
[63] *Id.* at 28.
[64] Wexler Decl. at 2.
[65] Tr. 421:7–11 (Applicant's counsel stating that "the 3D solute transport model, that's the groundwater remediation model, essentially does assume a salinity of 34 PSU").
[66] Wexler Decl. at 2–3.
[67] *Id.* at 5, Figure 2.

demonstrated that "meeting the 2016 order with [the State] is not achievable with the number of wells and pumping volumes proposed."[68]

Mr. Wexler's opinions and underlying report, which the Board improperly ignored, provided the necessary support to show the existence of a genuine issue of material fact for Contentions 6E through 9E. As the Board recognized, the "NRC Staff concluded that [Applicant's] groundwater remediation efforts would be successful" based on Staff's mere "review of (1) [Applicant's] groundwater modeling and modeling results; (2) the operation and efficacy of [Applicant's] hypersaline groundwater recovery well system; (3) [Applicant's] groundwater monitoring program; and (4) the regulatory enforcement and oversight of Florida and Miami-Dade County."[69] Mr. Wexler demonstrated that the first three aspects of the NRC Staff's review were seriously flawed and that futher inquiry in depth is warranted. The Board's dismissal of this information is an abuse of discretion which the Commission should reverse.

4. The Board committed reversible error to the extent it relied on the existence of state and county enforcement and oversight.

The only remaining basis for the DSEIS's conclusions on "small" impacts from the CCS was the "fundamental fact—relied upon by the Staff's DSEIS"—that the state and county will ensure Applicant's remediation efforts are successful.[70] To rely on a measure of success that is not based on the model predictions or actual observations, but on the existence of agreements

[68] Motion at 28–29 (citing Wexler Decl. at 5).
[69] Dismissal at 34.
[70] NRC Staff's Answer to Joint Petitioners' (1) Amended Motion to Migrate or Amend Contentions 1-E and 5-E and to Admit Four New Contentions, and (2) Petition for Waiver (July 19, 2019) (ML19200A300) at 49.

with the state and county that specify compliance at some point in the future does not satisfy NEPA.[71] The DSEIS only offered rank speculation that a revised strategy would succeed if Applicant's current plans fail. Rather than admit a genuine dispute as to the effectiveness of Applicant's strategy, the NRC Staff assumed some other unspecified "revised" strategy would achieve what the current strategy does not. This is magical thinking as shown by the Board's reliance on a lone statement in the DSEIS stating "that if [Applicant] fails to reach an annual average salinity of 34 PSU or lower within four years . . . the Consent Order with Florida requires [Applicant] to submit a plan detailing additional mitigation measures, and a revised timeframe for achieving the salinity target."[72] While the Consent Order provides Applicant an opportunity to revise its current salinity-related plans, the future opportunity to correct problems with the existing plan—like failing to address less favorable climatic conditions—does not fill the void today in the DSEIS's analyses.

In Contentions 6-E through 9-E, Petitioners also contended that reliance on state and county oversight was misplaced for another reason. As explained by Petitioners' expert Dr. Nuttle, there is an ongoing inter-agency dispute between Florida and Miami Dade County.[73] The dispute centers on Florida's amendment to Applicant's Everglades Mitigation Bank Phase II Permit[74] and its resulting "material and significant changes to the hydrology of the Turkey Point

---

[71] *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1375 (D.C. Cir. 2017).
[72] Dismissal at 21–22.
[73] Reply at 18.
[74] Motion at 26.

region."[75] Miami Dade County challenged the permit modification arguing it "may exacerbate the existing water quality violations that [Applicant] is otherwise working to abate and remediate, thus hindering the progress of those efforts and harming [nearby] wetlands. . . ."[76] Dr. Nuttle opined that an ongoing dispute between the two agencies responsible for overseeing Applicant's salinity management "is evidence that achieving compliance with requirements for remediation . . . does not reliably predict future compliance with state and local water quality requirements."[77] This evidence and testimony demonstrated that "the NRC cannot simply rely on a presumption of compliance when the regulating entities are litigating whether compliance with both of their requirements is even possible."[78] Not only is compliance with the Agreements no guarantee of "small" impacts, compliance with both Agreements may not be possible.

The Board misconstrued Petitioners' argument on this point. The Board faulted Petitioners for claiming "NEPA proscribes the NRC Staff from considering enforcement requirements and oversight activities . . . when preparing the DSEIS."[79] Petitioners never argued that NEPA "proscribes" consideration of regulatory oversight; but it does proscribe speculative reliance on the existence of oversight by another agency as a substitute for a proper NEPA analysis. The D.C. Circuit rejected this kind of blind reliance on other agencies as a substitute for

[75] *Id.* at 28.
[76] *Id.* at 27.
[77] *Id.* at 28.
[78] Reply at 25.
[79] Dismissal at 24.

a proper NEPA analysis.[80] In sum, there is no basis to conclude the existence of oversight by state and county regulators will result in "small" impacts. Any reliance by the Board on such speculation is clearly erroneous.

C. The Board Erred in its Ruling Regarding Contention 7-E's Waiver.

Petitioners ordinarily must obtain a waiver from the Commission to challenge an NRC environmental impact statement's review of issues that were analyzed in a generic environmental impact statement (GEIS). But neither the Board nor the Commission has ever held that a waiver is required to challenge the site-specific review of environmental impacts of a Category 1 issue that NRC Staff conducted on its own accord.

Here, the Staff noted that:

> These aspects of [CCS] operations and their effects on groundwater quality were not considered in the GEIS as part of the technical basis for the Category 1 issue, "Groundwater quality degradation (plants with cooling ponds in salt marshes)." The NRC staff has determined that this information is both new and significant.[81]

Following its site-specific review of this normally Category 1 issue, Staff found that the groundwater quality impacts at Turkey Point are currently "moderate" whereas the GEIS found those impacts would be "small."[82] The Board overlooked that prior case law only prohibits "any contention on a 'category one' issue [that] amounts to a challenge to our regulation that bars

---

[80] *Sierra Club*, 867 F.3d at 1375.
[81] DSEIS at 4-27.
[82] *Id.*

challenges to *generic environmental findings*."[83] Because Staff applied site-specific information to an ordinarily Category 1 issue and found a different impact than that in the GEIS, Petitioners are not challenging a generic environmental finding. Instead, they are challenging the Staff's new, site-specific finding. Thus, the Board erred in concluding that Contention 7-E, challenging Staff's new analysis, required a waiver.

In the alternative, the Board erred in concluding Petitioners failed to satisfy the rule waiver criteria. If Petitioners were required to request a waiver for Contention 7-E, Petitioners satisfied the four-factor *Millstone* test used to resolve waiver petitions.[84] The Board denied Petitioners' waiver request based on its conclusion that Petitioners had failed to satisfy the first *Millstone* factor—that the rule's strict application would not serve the purposes for which it was adopted.[85] However, the Board committed clear legal error in its application of the *Millstone* test.

Petitioners did not argue that any new information will always satisfy factor #1, as the Board stated.[86] Rather, Petitioners argued that new information *identified and evaluated for the*

---

[83] *Entergy Nuclear Vt. Yankee, LLC and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-07-3, 65 NRC 13, 20 (2007) (emphasis added).

[84] The *Millstone* test says that to obtain a rule waiver, Petitioners must show: (1) the rule's strict application would not serve the purposes for which it was adopted; (2) special circumstances exist that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived; (3) those circumstances are unique to the facility rather than common to a large class of facilities; and (4) waiver of the regulation is necessary to reach a significant safety [or environmental] problem. *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005).

[85] Dismissal at 28.

[86] *Id*. at 29.

first time in a DSEIS will satisfy factor #1.[87] The Board explained that the Commission's designation of an issue as a Category 1 issue reflects the Commission's expectations that its NEPA obligations have been satisfied by the environmental analysis in the GEIS. We agree. That means that when the NRC Staff look at new information on a Category 1 issue in a DSEIS, it is an acknowledgement that in this instance the division of issues as Category 1 and 2 will not serve the purpose for which the rule was adopted and thus needs to be waived.

The Board also clearly erred in depicting and applying the rule in both too large and too narrow a fashion. The Board too broadly stated the rule that "a petitioner must show that new and significant information, unique to a particular plant, exists" in order to waive the specific NRC regulations at issue in Petitioners' waiver.[88] This is the overarching rule to satisfy the requirements of a waiver petition, not the rule to meet factor #1, as the Board depicted it. The Board's depiction was erroneous and the Board provided no basis for its reading of the requirements that Petitioners must meet under factor #1.

The Board then focused the discussion of the rule's purpose too narrowly on why the Commission designated the issue as a Category 1 issue. The Board focused on the fact that the Category 1 impact is small. However, the purpose of the rule is broader than just that a single significance level can be assigned. Rather, an issue is Category 1 if (1) it applies to all plants *and* (2) site-specific mitigation measures will be warrantless. Issues are Category 2 if they cannot

---

[87] *See* [Petitioners'] Petition for Waiver of 10 C.F.R. § 51.53(C)(3) and 51.71(D) and 10 C.F.R. Part 51, Subpart A, Appendix B (June 24, 2019) (ML19175A311) at 6 (unnumbered).
[88] Dismissal at 29.

meet one or more of the Category 1 criteria, "and therefore, additional plant-specific review is required."[89] The Board thus focused on only one of the criteria that makes an issue Category 1—the significance level—and dismissed the second criteria regarding site-specific measures. The Board erroneously applied the *Millstone* test. The Commission should reverse and grant the waiver.

IV. THE COMMISSION SHOULD GRANT THIS PETITION FOR REVIEW

The Commission considers several factors in determining whether to grant a petition for review.[90] Here, the Petition identifies findings of fact that are "clearly erroneous," "substantial and important questions of law, policy, or discretion," and "public interest" considerations.[91]

First, whether an applicant (and the NRC) can rely on compliance with state and county oversight in the evaluation of cumulative impacts raises a substantial and important questions of law, policy, or discretion. As Applicant observed elsewhere, this legal issue has broad significance in NRC proceedings.[92] Second, several Contentions raise substantial and important questions regarding the need to analyze changing climatic conditions in subsequent license renewal proceedings.

Last, granting this Petition is in the public interest. The Turkey Point plant is located adjacent to Biscayne Bay in Southeast Florida. It is also the only nuclear power plant that uses a

---

[89] 10 C.F.R. Pt. 51, Subpt. A, App. B.
[90] 10 C.F.R. § 2.341(b)(4).
[91] *Id*. § 2.341(b)(4)(i), (iii), (v).
[92] [Applicant's] Answer to [Petitioners'] Petition for Waiver of Certain 10 C.F.R. Part 51 Regulations (July 19, 2019) at 16 (ML19200A298).

5,900-acre CCS as the ultimate heat sink for its operations, which is the source of a hypersaline plume that is harming groundwater and surface water resources in a region where water resources are already stressed. It is in the public's interest to ensure the NRC makes an informed decision about extending Applicant's license until 2053 when climatic conditions will be markedly worse than today. With respect, that analysis is lacking and there appears to be no interest in taking a hard look at the reasonably foreseeable impacts of operating Units 3 and 4 when the affected environment will be more stressed due to increased temperatures and higher sea levels. Granting this Petition and giving Petitioners an opportunity to present their case at a hearing would only further the public's interest, particularly when the license renewal will not take effect for another 13 years.

V. CONCLUSION

The Commission should remedy these clear errors in material facts and departures from governing precedents and established law, which raise substantial and important questions of law and policy warranting review.[93]

[93] *See* 10 C.F.R. § 2.341(b)(4).

Respectfully submitted,

Executed in Accord with 10 C.F.R. § 2.304(d)
/s/ Ken Rumelt
Kenneth J. Rumelt
Environmental Advocacy Clinic
Vermont Law School
164 Chelsea Street, PO Box 96
South Royalton, VT 05068
802-831-1031
krumelt@vermontlaw.edu
Counsel for Friends of the Earth

/s/ Geoffrey Fettus
Geoffrey Fettus
/s/ Caroline Reiser
Caroline Reiser
Natural Resources Defense Council
1152 15th Street, NW, Suite 300
Washington, DC 20005
202-289-2371
gfettus@nrdc.org
creiser@nrdc.org
Counsel for Natural Resources Defense Council

/s/ Richard Ayres
Richard E. Ayres
Ayres Law Group
2923 Foxhall Road, N.W.
Washington, D.C. 20016
202-722-6930
ayresr@ayreslawgroup.com
Counsel for Friends of the Earth

/s/ Kelly Cox
Kelly Cox
Miami Waterkeeper
2103 Coral Way 2nd Floor
Miami, FL 33145
305-905-0856
kelly@miamiwaterkeeper.org
Counsel for Miami Waterkeeper

November 18, 2019

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	Docket Nos. 50-250 & 50-251
FLORIDA POWER & LIGHT COMPANY	)	ASLBP No. 18-957-01-SLR-DB01
(Turkey Point Nuclear Generating Station, Unit Nos. 3 and 4)	)	November 18, 2019
(Subsequent License Renewal Application)	)	

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305, I certify that, on this date, copies of the foregoing "Friends of the Earth's, Natural Resources Defense Council's, and Miami Waterkeeper's Petition for Review of the Atomic Safety And Licensing Board's Ruling in LBP-19-08" were served by Electronic Information Exchange (the NRC's E-Filing System) to all parties of record in the above-captioned docket.

/s/ Ken Rumelt
Kenneth J. Rumelt
Environmental Advocacy Clinic
Vermont Law School
164 Chelsea Street, PO Box 96
South Royalton, VT 05068
802-831-1031
krumelt@vermontlaw.edu

Counsel for Friends of the Earth