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PREFACE

This is the ninetieth volume of issuances (1–369) of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Boards, Administrative Law Judges, and Office Directors. It covers the period from July 1, 2019, to December 31, 2019.

Atomic Safety and Licensing Boards are authorized by Section 191 of the Atomic Energy Act of 1954. These Boards, comprised of three members, conduct adjudicatory hearings on applications to construct and operate nuclear power plants and related facilities and issue initial decisions which, subject to internal review and appellate procedures, become the final Commission action with respect to those applications. Boards are drawn from the Atomic Safety and Licensing Board Panel, comprised of lawyers, nuclear physicists and engineers, environmentalists, chemists, and economists. The Atomic Energy Commission (AEC) first established Licensing Boards in 1962 and the Panel in 1967.

Between 1969 and 1990, the AEC authorized Atomic Safety and Licensing Appeal Boards to exercise the authority and perform the review functions which would otherwise have been exercised and performed by the Commission in facility licensing proceedings. In 1972, that Commission created an Appeal Panel, from which were drawn the Appeal Boards assigned to each licensing proceeding. The functions performed by both Appeal Boards and Licensing Boards were transferred from the AEC to the Nuclear Regulatory Commission by the Energy Reorganization Act of 1974. Appeal Boards represented the final level in the administrative adjudicatory process to which parties could appeal. Parties, however, were permitted to seek discretionary Commission review of certain board rulings. The Commission also could decide to review, on its own motion, various decisions or actions of Appeal Boards.

On June 29, 1990, however, the Commission voted to abolish the Atomic Safety and Licensing Appeal Panel, and the Panel ceased to exist as of June 30, 1991. Since then, the Commission itself reviews Licensing Board and other adjudicatory decisions, as a matter of discretion. *See* 56 FR 29403 (1991).

The Commission also may appoint Administrative Law Judges pursuant to the Administrative Procedure Act, who preside over proceedings as directed by the Commission.

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Issuances are referred to as follows: Commission (CLI), Atomic Safety and Licensing Boards (LBP), Administrative Law Judges (ALJ), Directors' Decisions (DD), and Decisions on Petitions for Rulemaking (DPRM).

The summaries and headnotes preceding the opinions reported herein are not to be deemed a part of those opinions or to have any independent legal significance.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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In the Matter of **Docket No. 50-443-LA-2**

NEXTERA ENERGY SEABROOK, LLC
(Seabrook Station, Unit 1) **July 25, 2019**

LICENSE AMENDMENTS; NO SIGNIFICANT HAZARDS DETERMINATION

Both the Atomic Energy Act of 1954, as amended, and our regulations contemplate the issuance of an amendment to a reactor license during the pendency of a hearing on the amendment, as long as the NRC has first determined that the amendment involves no significant hazards consideration.

NO SIGNIFICANT HAZARDS DETERMINATION

A request for the Commission to review the Staff's no significant hazards consideration determination is inconsistent with 10 C.F.R. § 50.58(b)(6).

NO SIGNIFICANT HAZARDS DETERMINATION

Pursuant to 10 C.F.R. § 2.1213(f), stays are not available on matters limited to whether a no significant hazards consideration determination was proper in proceedings on power reactor license amendments.

REOPENING A RECORD

Reopening the record is an extraordinary action. To reopen a record, a petitioner must show that its motion was timely filed, concerns a significant safety or environmental issue, and demonstrates that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

WAIVER OF RULE

Petitioners cannot challenge NRC regulations in adjudicatory proceedings absent a waiver of the regulation pursuant to 10 C.F.R. § 2.335(a).

MEMORANDUM AND ORDER

C-10 Research and Education Foundation filed a petition related to concrete degradation caused by alkali-silica reaction (ASR) at Seabrook Station, Unit 1.[1] C-10 asks us to exercise our inherent supervisory authority to direct the NRC Staff to address the safety risk posed by ASR in the Seabrook containment building before the Staff acts on the ASR license amendment request (LAR) or license renewal application filed by NextEra Energy Seabrook, LLC.[2]

As discussed below, we have reviewed the filings before us and considered C-10's claims in detail. We decline to grant C-10's requested relief (which, given that the license amendment and renewed license have already been issued, we construe to include a request to stay those actions). C-10 largely raises concerns that could have been or are being considered through other avenues. C-10 is a party to the LAR proceeding where it has raised many of the issues included in this Petition, and C-10 had the opportunity to participate in the license renewal proceeding. C-10 also raises generic issues about how the agency is dealing with ASR, which have been or could be submitted as petitions for rulemaking.[3]

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[1] Emergency Petition by C-10 Research and Education Foundation for Exercise of Commission's Supervisory Authority to Reverse No Significant Hazards Determination and Immediately Suspend License Amendment and License Renewal Decisions (Feb. 13, 2019) (Petition).

[2] *Id.* at 1-2.

[3] C-10 has filed a petition for rulemaking requesting that all licensees comply with American Concrete Institute (ACI) 349.3R and American Society for Testing and Materials (ASTM) C856-11. CLI-18-4, 87 NRC 89, 104 (2018); Improved Identification Techniques Against Alkali-Silica Reaction Concrete Degradation at Nuclear Power Plants; Petition for Rulemaking; Notice of Docketing, and Request for Comment, 80 Fed. Reg. 1476 (Jan. 12, 2015). The petition is open, and the Staff

(Continued)

Finally, to the extent C-10 believes Seabrook is not currently safe to operate or is not complying with our regulations, C-10 may request enforcement action under 10 C.F.R. § 2.206. We believe that our established processes are adequate to address C-10's concerns.

I. BACKGROUND

We begin our discussion with a brief overview of the phenomenon of ASR, the investigation of ASR at Seabrook, and relevant licensing actions at Seabrook.[4]

A. ASR

ASR is one type of alkali-aggregate reaction that can degrade concrete structures.[5] ASR is a slow chemical process in which alkalis, usually predominantly from the cement, react with certain reactive types of silica found in some common coarse aggregates in the presence of moisture.[6] This reaction produces an alkali-silica gel that can absorb water and expand to cause micro-cracking of the concrete.[7] Excessive expansion of the gel can lead to significant cracking that can change the mechanical properties of the concrete.[8] ASR can be identified as a likely cause of degradation during visual inspection by the cracking pattern and the presence of alkali-silica gel.[9] But ASR-induced degradation can only be confirmed by optical microscopy performed as part of petrographic examination of concrete core samples.[10]

ASR may impact the material properties of concrete, which could affect the load-bearing capacity of the structure.[11] Concrete expansion from ASR can also

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has not initiated a rulemaking proceeding on this subject. *See* https://www.nrc.gov/reading-rm/doc-collections/rulemaking-ruleforum/active/PetitionDetails.html?id=9 (last visited June 20, 2019).

[4] *See also* CLI-18-4, 87 NRC at 90-93; LBP-17-7, 86 NRC 59, 68-71 (2017).

[5] "Concrete Degradation by Alkali-Silica Reaction," NRC Information Notice 2011-20 (Nov. 18, 2011), at 2 (ADAMS accession no. ML112241029) (IN 2011-20).

[6] *Id.*

[7] *Id.*

[8] *Id.* Mechanical properties of concrete that can be affected by ASR include compressive strength, tensile strength, and modulus of elasticity.

[9] *Id.*

[10] *Id.*

[11] License Amendment Request 16-03 — Revise Current Licensing Basis to Adopt a Methodology for the Analysis of Seismic Category I Structures with Concrete Affected by Alkali-Silica Reaction (Aug. 1, 2016) (ML16216A250 (package)) (LAR), Encl. 7, NextEra Energy Seabrook's Evaluation *(Continued)*

cause deformation of the structure and may lead to stresses due to internal or external resistance to expansion.[12] The resulting structural deformation can increase the load or demand on the structure, thereby affecting its structural performance.[13]

B. Investigation of ASR at Seabrook

NextEra detected cracking typical of ASR in several seismic Category I structures at Seabrook in 2009.[14] After a root cause investigation into the cracking, NextEra found that the original concrete mix used at Seabrook was susceptible to ASR.[15] This susceptibility, exacerbated by groundwater intrusion during plant life,[16] led to the development of ASR in several structures.[17] In 2012, NextEra completed an interim assessment of the structural adequacy of ASR-impacted structures and concluded that the structures remained operable.[18] But additional testing was necessary to confirm that these structures still meet original design requirements.[19] NextEra commissioned MPR Associates, in collaboration with

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of the Proposed Change (Aug. 1, 2016), § 2.1 (ML16216A240) (non-proprietary version) (LAR Evaluation).

[12] *Id.*

[13] *Id.*

[14] *Id.* Seismic Category I structures include structures necessary to control the release of radioactive material or otherwise mitigate the consequences of an accident. *See* "Seismic Design Classification for Nuclear Power Plants," Regulatory Guide 1.29, rev. 5 (July 2016), at 5 (ML16118A148) (Reg. Guide 1.29).

[15] LAR Evaluation § 2.1. The ASTM testing standard used during Seabrook's construction "has since been revised to caution that the specified aggregate test is not effective in identifying slow-reacting aggregate, and other ASTM testing standards have been issued to more reliably identify concrete mixtures to minimize the susceptibility to ASR." *Id.* at 8 n.1 of 73 (unnumbered); *see also* Letter from Kevin T. Walsh, NextEra, to William Dean, NRC, "Seabrook Station, Response to Confirmatory Action Letter" (May 1, 2013) (ML13151A328) (Response to CAL), Encl. 1, "ASR Root Cause Evaluation Summary," at 1 of 5 (unnumbered).

[16] NextEra believes that the waterproof membrane was damaged during original installation or backfill activities allowing water intrusion, resulting in ASR problems. IN 2011-20 at 3; *see also* Response to CAL, Encl. 1, "ASR Root Cause Evaluation Summary," at 2 of 5 (unnumbered). Groundwater has leaked into below grade structures at Seabrook since construction. Response to CAL, Encl. 1, "ASR Root Cause Evaluation Summary," at 2 of 5 (unnumbered). Water intrusion was exacerbated by the abandonment of dewatering channels following construction. IN 2011-20 at 3.

[17] IN 2011-20 at 3. According to the Staff, there are 26 seismic Category I structures at Seabrook that are or could be affected by ASR. LBP-17-7, 86 NRC at 78-79.

[18] LAR Evaluation §§ 2.1.1, 3.2.1.

[19] *Id.* § 2.1.1.

the Ferguson Structural Engineering Laboratory (FSEL) at the University of Texas at Austin, to conduct a large-scale test program.[20]

C. Licensing Actions for Seabrook

Our regulations require, at a minimum, that nuclear power plant structures, systems, and components important to safety be designed to withstand the effects of earthquakes and other natural phenomena without loss of their ability to perform their safety functions.[21] The seismic Category I structures must remain functional during a safe shutdown earthquake.[22] The Updated Final Safety Analysis Report (UFSAR) for Seabrook addresses design requirements for seismic Category I structures. In August 2016, NextEra submitted a LAR related to ASR at Seabrook.[23] The proposed license amendment revised the UFSAR to include a method for incorporating the material effects and loads of ASR into the Seabrook design basis to ensure that structures impacted by ASR, including the containment building, continue to meet the design requirements specified in the original licensing basis.[24]

NextEra used the results from its large-scale test program and existing literature to develop the methodology in the LAR.[25] NextEra proposed several modifications to the design calculations in the UFSAR to account for the additional loads from ASR expansion.[26] These proposed changes update the licensing basis to set limits for allowable ASR expansion in seismic Category I structures and recommend criteria for monitoring future changes due to ASR expansion and related structural deformation.[27]

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[20] *Id.* § 3.2. In addition, according to NextEra, because the evaluations of structural impact must consider the reinforcement details of the affected structure, the impacts cannot be directly measured by testing unrestrained removed concrete core samples. Response to CAL, Encl. 2, "ASR Project Corrective Action Plan," at 3 of 12 (unnumbered).

[21] 10 C.F.R. pt. 50, app. A, criterion 2.

[22] *See* Reg. Guide 1.29 at 5; 10 C.F.R. pt. 100, app. A, III(c).

[23] *See* LAR.

[24] LAR Evaluation § 2.1.1. Seismic Category I structures aside from the containment building were initially designed to comply with ACI 318-71, "Building Code Requirements for Reinforced Concrete," and the containment building was originally designed according to section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. *Id.* §§ 1.0, 2.2. Neither of these standards includes methodology for analyzing structures affected by ASR. *Id.*

[25] *Id.* §§ 2.1.1, 3.2.1.

[26] *Id.,* Attach. 1, "Markup of UFSAR Pages" (non-proprietary version). "[T]he expansion effects from ASR have imposed an additional static load that was not accounted for in [the concrete structures'] original design." *Id.* § 1.0.

[27] *Id.* § 4.2; *see also id.* §§ 3.2.1, 3.5. Because the large-scale test program did not assess more

(Continued)

In response to a notice of opportunity to request a hearing on the LAR, C-10 requested a hearing and submitted a petition to intervene.[28] The Board found that C-10 had standing to intervene and admitted one reformulated contention related to the representativeness of the large-scale test program to ASR at Seabrook.[29] We affirmed the Board's decision.[30] An evidentiary hearing on this matter is scheduled to be held in September 2019.[31] C-10's instant petition raises issues encompassed by its admitted contention, as well as some that are beyond its scope.

Separately, in 2010, NextEra submitted an application to renew the operating license for Seabrook for an additional twenty years.[32] The adjudicatory proceeding associated with the license renewal application was terminated in 2015, and no contentions related to ASR-induced concrete degradation were filed.[33] Earlier this year, the Staff announced its plan to issue the license amendment, a final no significant hazards consideration determination (NSHCD) on the amendment, and the renewed facility operating license in January 2019.[34] But in response to significant public interest, the Staff notified the Board and parties that it intended to hold a public meeting near the plant before issuing the amendment or the renewed license.[35] Shortly thereafter, C-10 filed the instant petition. The

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advanced levels of ASR, "periodic monitoring of ASR at Seabrook is necessary to ensure that the conclusions of the large-scale test program remain valid and that the level of ASR does not exceed that considered under the test programs." *Id.* § 3.2.1.

[28] C-10 Research and Education Foundation, Inc. Petition for Leave to Intervene: Nuclear Regulatory Commission Docket No. 50-443 (Apr. 10, 2017).

[29] LBP-17-7, 86 NRC at 127, 137. That contention is as follows: "The large-scale test program, undertaken for NextEra at the FSEL, has yielded data that are not 'representative' of the progression of ASR at Seabrook. As a result, the proposed monitoring, acceptance criteria, and inspection intervals are not adequate." *Id.* at 127. C-10 raises similar concerns in the instant petition about the representativeness of the test program. Petition at 2, 14.

[30] CLI-18-4, 87 NRC at 110.

[31] Licensing Board Order (Scheduling Evidentiary Hearing) (Apr. 5, 2019) (unpublished).

[32] License Renewal Application, NextEra Energy Seabrook, LLC, et al., Docket No. 50-443, Seabrook Station, Unit No. 1, Facility Operating License No. NPF-86 (May 25, 2010) (ML10159-0098). Seabrook will enter its period of extended operation in 2030.

[33] *See NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-16-3, 83 NRC 52, 52-54 (2016); *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), LBP-15-22, 82 NRC 49, 50 (2015); *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), LBP-11-2, 73 NRC 28, 35 (2011).

[34] NRC Staff's Answer to C-10's Emergency Petition (Feb. 25, 2019), at 4 (Staff Answer).

[35] *Id.* (citing Letter from Anita Ghosh Naber, NRC Staff, to Atomic Safety and Licensing Board, NRC (Jan. 22, 2019)). The Staff held this public meeting on February 13, 2019. "U.S. Nuclear Regulatory Commission Public Meeting Summary, Public Meeting on the Seabrook Station, Unit No. 1, Alkali-Silica Reaction (ASR) License Amendment Request and License Renewal Application" (Feb. 26, 2019) (ML19046A383).

Staff issued the license amendment on March 11, 2019, and the renewed license the next day.[36]

II. DISCUSSION

C-10 asks that we exercise our inherent supervisory authority to reverse the Staff's NSHCD related to NextEra's LAR and "take other appropriate actions in this proceeding to ensure adequate consideration and resolution of the seismic risk implications of ongoing and increasing [ASR]-related degradation in the Seabrook containment and other concrete safety structures."[37] C-10 requests that we review and reverse the Staff's NSHCD to allow the adjudicatory hearing on C-10's ASR contention to take place before action on the LAR.[38] C-10 also requests that we suspend the Staff's LAR and license renewal decisions, investigate best practices for assessing ASR, and provide guidance to the Staff for evaluating ASR-related safety risks at Seabrook and other reactors.[39] NextEra and the Staff oppose the Petition.[40]

A. Request to Exercise Supervisory Authority to Review and Reverse the Staff's NSHCD

The Staff and NextEra presumed the Petition was filed pursuant to 10 C.F.R.

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[36] *See* NextEra Energy Seabrook, LLC; Seabrook Station, Unit No. 1; License Amendment, 84 Fed. Reg. 9564 (Mar. 15, 2019); NextEra Energy Seabrook, LLC; Seabrook Station, Unit No. 1; License Renewal and Record of Decision, 84 Fed. Reg. 9563 (Mar. 15, 2019).

[37] Petition at 1-2.

[38] *Id.* at 16. Though the LAR has already been granted, we could stay its effectiveness.

[39] *Id.* at 4, 16.

[40] NextEra's Answer Opposing C-10's Emergency Petition (Feb. 25, 2019) (NextEra Answer); Staff Answer. C-10 moved for leave to reply to the NextEra Answer and the Staff Answer and submitted its proposed reply. C-10 Research and Education Foundation's Motion for Leave to File Reply to Oppositions by NextEra and NRC Staff to Emergency Petition (Mar. 1, 2019); C-10 Research and Education Foundation's Reply to Oppositions by NextEra and NRC Staff to Emergency Petition for Exercise of Commission's Supervisory Authority to Reverse No Significant Hazards Determination and Immediately Suspend License Amendment and License Renewal Decisions (Mar. 1, 2019) (C-10 Reply). NextEra opposed this motion. NextEra's Answer Opposing C-10's Motion for Leave to File a Reply to Answers to C-10's Emergency Petition (Mar. 5, 2019). We agree with NextEra that C-10 did not demonstrate compelling circumstances — for example, that it could not reasonably have anticipated the arguments to which it seeks leave to reply — to justify a reply. *See* 10 C.F.R. § 2.323(c) (providing that a moving party has no right to reply, except as permitted when compelling circumstances exist). Even if we were to treat the Petition as an application for a stay, C-10 would have no right to reply. *Id.* § 2.1213(c). Therefore, we deny C-10's motion for leave to file a reply. Nevertheless, we have reviewed the C-10 Reply and have determined that it would not affect our decision.

§ 2.323 but argued it was procedurally improper.[41] We agree. Both the Atomic Energy Act of 1954, as amended (AEA), and our regulations contemplate the issuance of an amendment to a reactor license during the pendency of a hearing on the amendment, as long as the NRC has first determined that the amendment involves no significant hazards consideration.[42] The Staff's decision on an amendment request and the NSHCD associated with the amendment are two distinct actions.[43] A decision on the amendment request here requires reasonable assurance of adequate protection of the health and safety of the public and the common defense and security, while a determination on the significant hazards consideration addresses whether a hearing must be held before — rather than after — issuance of an amendment.[44] If a proposed license amendment meets any of the three criteria listed in 10 C.F.R. § 50.92(c), a significant hazards consideration exists.[45] If a hearing on such a license amendment request is sought and granted, that hearing must take place before the Staff's action on the request.[46]

C-10 asks us to review the Staff's NSHCD. Such a request is inconsistent with 10 C.F.R. § 50.58(b)(6), which states that "[n]o petition or other request for review of or hearing on the staff's significant hazards consideration determination will be entertained by the Commission. The staff's determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination."[47] Further, while C-10 does not refer to its request for review of the Staff's NSHCD as an "application for a stay," C-10 is essentially asking for a stay of the Staff's action by requesting that the amendment not take effect until the hearing is complete. Under § 2.1213(f), however, "[s]tays are not available on matters limited to whether a no significant hazards consideration determination was proper in proceedings on power reactor license

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[41] Staff Answer at 1, 4-5; NextEra Answer at 2, 5-6. C-10 references 10 C.F.R. § 2.323(b) at the end of the Petition for the purpose of stating that it consulted with other parties, but C-10 does not assert that this regulation authorizes the Petition's filing. Petition at 17.

[42] *See* AEA § 189a.(2)(A), 42 U.S.C. § 2239(a)(2)(A); 10 C.F.R. §§ 50.91(a)(4), 50.92.

[43] Final Procedures and Standards on No Significant Hazards Considerations; Final Rule, 51 Fed. Reg. 7744, 7749 (Mar. 6, 1986).

[44] *See id.*; 10 C.F.R. §§ 50.40, 50.92.

[45] To determine whether a significant hazards consideration exists, the Staff considers whether the proposed amendment would (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. 10 C.F.R. § 50.92(c).

[46] *Id.* § 50.91(a)(4).

[47] *Id.* § 50.58(b)(6). In accordance with NRC regulations, the Staff offered the public the opportunity to comment on the draft NSHCD. C-10 filed comments on the LAR (as opposed to the NSHCD), in which it raised some of the issues it raises in its Petition. Letter from Natalie Hildt Treat, C-10, to Cindy Bladey, NRC (Mar. 9, 2017) (ML17081A015) (C-10 Comments on LAR).

amendments."[48] Therefore, sections 50.58(b)(6) and 2.1213(f) each bar C-10 from requesting that we delay issuance of the license amendment until we have reviewed the Staff's NSHCD.

C-10 also essentially asks us to immediately stay the LAR and license renewal application decisions to ensure that the Staff does not issue the license amendment or the renewed license while we review the NSHCD.[49] With respect to the LAR, as explained above, such a request is prohibited by our regulations. With respect to the renewed license, C-10 did not submit a motion to reopen that proceeding, which under Commission procedure would be a prerequisite to a request for a stay of the issuance of the license renewal.[50]

We consider reopening the record to be an extraordinary action.[51] To reopen a record, a petitioner must show that its motion was timely filed, concerns a significant safety or environmental issue, and demonstrates that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.[52] C-10 does not address these standards. C-10 also does not address the stay criteria of section 2.1213, pursuant to which we consider "(1) [w]hether the requestor will be irreparably injured unless a stay is granted; (2) [w]hether the requestor has made a strong showing that it is likely to prevail on the merits; (3) [w]hether the granting of a stay would harm other participants; and (4) [w]here the public interest lies."[53] As C-10 does not demonstrate how these standards are met, we decline its request to stay the effectiveness of the renewed license.[54] We also note that, like the ASR license amendment, the renewed license could be revoked or modified, if necessary, to reflect the outcome of the hearing process.[55]

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[48] 10 C.F.R. § 2.1213(f); *see also* Amendments to Adjudicatory Process Rules and Related Requirements; Final Rule, 77 Fed. Reg. 46,562, 46,580, 46,585 (Aug. 3, 2012) (explaining that section 50.58(b)(6) bars challenges to NSHCDs and exclusion of such challenges from the stay provisions is consistent with federal case law treating NSHCDs as final agency actions).

[49] Petition at 16.

[50] The adjudicatory proceeding related to Seabrook's license renewal has been closed since 2015. *See Seabrook,* CLI-16-3, 83 NRC at 54; *Seabrook,* LBP-15-22, 82 NRC at 50. C-10 did not seek to intervene in the license renewal proceeding. *See Seabrook,* LBP-11-2, 73 NRC at 34.

[51] *Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 NRC 333, 338 (2011) (citing Criteria for Reopening Records in Formal Licensing Proceedings; Final Rule, 51 Fed. Reg. 19,535, 19,538 (May 30, 1986)).

[52] 10 C.F.R. § 2.326(a).

[53] *Id.* § 2.1213(d).

[54] An application for a stay must contain a statement of the grounds for a stay, with reference to the factors in section 2.1213(d). *Id.* § 2.1213(b)(2).

[55] *See Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237-38 (2006); 10 C.F.R. §§ 2.340(a)(2)(ii), 54.31(c).

As C-10 acknowledges, it is asking us to exercise our discretionary authority in this matter.[56] In the past, we have exercised our discretionary authority to consider petitions similar to the one that C-10 has filed here.[57] We decline, however, to do so today. While we may exercise discretion to take review of a matter to address a novel or important issue, our decision to do so stems from our inherent supervisory authority over adjudications and "in no way implies that parties have a right to seek interlocutory review on that same ground."[58] As discussed more fully below, we find no compelling reason to exercise our discretionary authority here.

Despite the designation of its filing as an "emergency petition," C-10 does not demonstrate that there is an urgent safety matter that we must address. We understand that C-10 believes the license amendment does not adequately address the ASR-induced concrete degradation at Seabrook, but that is already the subject of an ongoing adjudicatory proceeding.

This amendment revises the UFSAR to reflect the occurrence of ASR at Seabrook, proposes a method for evaluation of ASR-affected structures, sets limits for allowable ASR expansion in seismic Category I structures, and proposes a method for monitoring ASR progression. But it does not change the original design basis, physical configuration, or method of operation of any plant structure, system, or component.[59] NextEra does not propose to take any irreversible actions in the LAR. C-10 does not address how the operation of the plant is less safe with the proposed monitoring and management than without them, and we do not see how such actions could make the plant less safe.

Nor does C-10 offer any analysis of the regulatory criteria for making an NSHCD or any response to the Staff's and NextEra's supporting bases for the

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[56] Petition at 4-6.

[57] *See, e.g., Union Electric Co. d/b/a Ameren Missouri* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141 (2011). After the accident at Fukushima Daiichi Nuclear Power Station following the 2011 earthquake and tsunami, we received a series of petitions to suspend adjudicatory, licensing, and rulemaking activities. *Id.* at 145-46. We noted then that "[t]he petitions do not fall neatly within our regulations — the sole provision explicitly authorizing stay applications is available only to parties to adjudicatory proceedings seeking stays of decisions or actions of a presiding officer pending the filing and resolution of a petition for review." *Id.* at 158. Nevertheless, we exercised our inherent supervisory authority over agency proceedings to consider the requests, as we have previously in a number of proceedings, including following the September 11 terrorist attacks. *Id.*

[58] *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-09-6, 69 NRC 128, 138 (2009) (quoting *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-00-11, 51 NRC 297, 299 (2000)).

[59] *See* Applications and Amendments to Facility Operating Licenses and Combined Licenses Involving Proposed No Significant Hazards Considerations and Containing Sensitive Unclassified Non-Safeguards Information and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information, 82 Fed. Reg. 9601, 9604 (Feb. 7, 2017).

determination.[60] We also note that C-10 did not submit comments on the proposed finding when it was published in the *Federal Register.*[61] The Staff and the Advisory Committee on Reactor Safeguards (ACRS) have completed their reviews of the applications for the license amendment and license renewal, and both have found NextEra's programs addressing ASR to be acceptable.[62] C-10 presents no convincing reason why an evidentiary hearing after the issuance of the license amendment will not provide effective redress. If, after the hearing, the Board determines that the license amendment should not have been granted, the amendment can be revoked or conditioned.[63] NextEra is correct that, if C-10 prevails on its contention, "the challenged monitoring activities, acceptance criteria, and inspection intervals can be adjusted at any point."[64] And, as the Staff noted in the SER for the license renewal, any changes resulting from the review of the LAR will be reflected in the license renewal aging management programs.[65]

C-10 cites *Yankee Rowe* to persuade us to take review because the instant case presents "unique" circumstances akin to the potential failure of the Yankee Rowe reactor vessel from a pressurized thermal shock.[66] While we do not dispute that ASR is a significant issue, the Staff is actively engaged in gaining an enhanced understanding of the phenomenon and developing agency strategies for addressing ASR-related degradation. If it appears that we need to step in and provide direction in the future, we will not hesitate to act. Additionally,

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[60] *See id.*; LAR Evaluation § 4.2.

[61] Petition at 12; Letter from Justin C. Poole, NRC, to Mano Nazar, NextEra (Mar. 11, 2019) (ML18204A291), Encl. 2, Non-Proprietary Safety Evaluation Related to Amendment No. 159 to Facility Operating License No. NPF-86, NextEra Energy Seabrook, LLC, Seabrook Station, Unit No. 1, Docket No. 50-443 (Mar. 11, 2019), § 5.0 (SER for LAR) (stating that no public comments were received on the proposed NSHCD). C-10 did file comments directed at the LAR itself in response to the *Federal Register* notice, but it did not challenge the Staff's NSHCD. *See* C-10 Comments on LAR.

[62] SER for LAR § 7.0; Safety Evaluation Report Related to the License Renewal of Seabrook Station, Docket No. 50-443, NextEra Energy Seabrook, LLC (Jan. 2, 2019), § 1.5 at 1-9 (ML18362-A370) (SER for License Renewal); Letter from Michael Corradini, Chairman, ACRS, to Kristine L. Svinicki, Chairman, NRC, "Seabrook Station Unit 1 License Renewal Application: Review of Licensee Program Addressing Alkali-Silica Reaction" (Dec. 14, 2018), at 1-2 (ML18348A951) (ACRS Letter).

[63] *See, e.g., Vermont Yankee,* CLI-06-8, 63 NRC at 238. The Board's decision will also be subject to our appellate review.

[64] NextEra Answer at 18.

[65] SER for License Renewal § 3.0.3.3.6 at 3-228.

[66] Petition at 4-5 (citing *Yankee Atomic Electric Co.* (Yankee Rowe Nuclear Power Station), CLI-91-11, 34 NRC 3 (1991)); *see Yankee Rowe,* CLI-91-11, 34 NRC at 5-6, 12 (electing to take a direct role in the emergency enforcement action related to pressure vessel requirements instead of delegating to the Staff).

some aspects of NextEra's plan to address ASR-related concrete degradation are already pending before a Licensing Board, and C-10 is a party to that proceeding. We have explained in the past that we are more likely to take review when there will otherwise not be any further Commission review.[67] Here, on the other hand, the Licensing Board will review the contention related to ASR, and we maintain our appellate role in that proceeding.

B. Open Inquiry into Best Practices for Assessing ASR and Providing ASR Guidance

C-10 next asks us to "[g]ive due recognition to the significance, complexity, and lack of adequately rigorous study of ASR by opening an in-depth inquiry into best practices for assessing ASR, including consideration of all relevant research and use of peer review by an internationally recognized independent panel."[68] We deny C-10's request to open an inquiry into the best practices related to ASR because such a generic request is beyond the scope of this licensing proceeding, and it is not appropriate in the adjudicatory context.[69] Moreover, to the extent C-10 asks us to provide guidance to the Staff on ASR because it does not think that the existing rules are adequate, C-10 presents a challenge to our existing regulations, which is impermissible in an adjudicatory proceeding.[70] If C-10 believes that new regulations need to be developed, then it may submit a petition for rulemaking pursuant to 10 C.F.R. § 2.802.[71] And C-10's request for NRC study and development of guidance is beyond the scope of this licensing proceeding.

We also observe that the relief that C-10 requests has largely been granted in the form of the Staff's active engagement in soliciting and reviewing research related to ASR-induced concrete degradation and its effects at nuclear power

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[67] *Consolidated Edison Co. of New York, Inc.* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 175 (1975).

[68] Petition at 16.

[69] Where a petitioner is dissatisfied with the Commission's generic approach to a technical issue, the rulemaking process is more appropriate than the adjudicatory process. *See Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999) (noting that petitioners in a nuclear power plant license renewal proceeding who are dissatisfied with the agency's generic approach to high-level waste storage determinations should use the rulemaking process).

[70] *See* Petition at 16 (requesting that the Commission provide guidance to the Staff to establish "significantly more rigorous and sophisticated state-of-the-art methods and criteria for evaluating safety risks posed by ASR at Seabrook and other reactors"); 10 C.F.R. § 2.335(a) (prohibiting challenges to a regulation in an adjudicatory proceeding absent a waiver of the regulation).

[71] *See* Petition at 5 ("ASR was not contemplated in the NRC's original regulatory scheme, and no regulations or guidance have been developed to address it.").

plants for several years.[72] The Staff is likewise already engaged in developing agency strategies for addressing this phenomenon.[73] Further, the NRC regularly seeks independent, expert advice on a variety of matters — including NextEra's LAR — via the ACRS.[74] And as the Staff notes, it has used an expert panel to identify knowledge gap areas regarding the aging mechanisms of concrete structures for subsequent license renewal to eighty years.[75] The report produced by the panel identified ASR as one of the five degradation modes to potentially affect the concrete containment, identified potential gaps in knowledge about ASR, and prioritized research areas related to ASR.[76] Based on the varied ASR-related research activities that the Staff has conducted and sponsored and in

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[72] *See generally* Staff Answer at 13-16 (citing "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" (Final Report), NUREG-2192 (July 2017), §§ 3.5.3.2.1.8, 3.5.3.2.2.1, 3.5.3.2.2.3 (ML17188A158); Interagency Agreement between the NRC and the National Institute of Standards and Technology (NIST), "Structural Performance of Nuclear Power Plant (NPP) Concrete Structures Affected by Alkali-Silica Reaction (ASR)," NRC-HQ-60-14-I-0004 (Mar. 31, 2014) (ML14147A221) (NIST Interagency Agreement); Grant No. NRC-HQ-60-14-G-0010, "Experimental and Numerical Investigation of Alkali Silica Reaction in Nuclear Reactors" (Sept. 30, 2014) (ML14274A265); Grant No. NRC-HQ-60-14-G-0003, "Service Lifetime Extension of Nuclear Power Plants: Prediction of Concrete Aging and Deterioration Through Accelerated Tests, Nondestructive Evaluation, and Stochastic Multiscale Computations" (Sept. 30, 2014) (ML14275A015); IN 2011-20).

In addition, the NRC is participating in research with the Nuclear Energy Agency and the Institut de Radioprotection et de Sûreté Nucléaire (IRSN) in France. *See* NRC Regulatory Information Conference 2018, Technical Session, "Concrete Degradation Part I: Perspectives on Alkali-Silica Reaction Effects on the Structural Capacity of Nuclear Concrete Structures" (Mar. 15, 2018) (https://www.nrc.gov/public-involve/conference-symposia/ric/past/2018/docs/abstracts/sessionabstract-31.html). The Staff organized this session to explore international research and perspectives on ASR at nuclear facilities. Speakers presented research being conducted at or sponsored by NIST, IRSN, the U.S. Department of Energy and the Electric Power Research Institute, Northwestern University, and the Canadian Nuclear Safety Commission. *Id.* The NRC plans to use the results of the domestic research and the international studies to further its understanding of ASR. Staff Answer at 15-16; *see* "Research Activities FY 2018-2020," NUREG-1925, rev. 4 (Mar. 2018), at 144 (ML18071A139).

[73] The NRC has entered into an interagency agreement with NIST, with one goal being to improve the Staff's understanding of the effects of ASR on concrete structures in nuclear power plants. *See* NIST Interagency Agreement, Attach. 1, Statement of Work, at 2-3.

[74] *See* ACRS Letter. The ACRS operates independently of the NRC Staff and reports directly to the Commission. AEA § 29, 42 U.S.C. § 2039. The operational practices of the ACRS are governed by the provisions of the Federal Advisory Committee Act. *See* Advisory Committee on Reactor Safeguards; Charter Renewal, 83 Fed. Reg. 63,544, 63,544-45 (Dec. 10, 2018). Advisory committees are structured to provide a forum where experts representing many technical perspectives can provide independent advice that is factored into an agency's decisionmaking process.

[75] Staff Answer at 16 (citing "Expanded Materials Degradation Assessment (EDMA), Vol. 4: Aging of Concrete and Civil Structures," NUREG/CR-7153 (Oct. 2014) (ML14279A430) (NUREG/CR-7153)).

[76] NUREG/CR-7153 at iii-iv. We note that the panel included Dr. Saouma, C-10's expert.

which it has otherwise participated, we find that the NRC is already engaged in activities and research similar to what C-10 seeks.

C. Review of Staff's Determination That Seabrook Can Be Operated Safely

Finally, C-10 claims that the operation of Seabrook poses a risk to the public based on "the absence of an adequate analysis of the containment's ability to withstand a design basis earthquake."[77] Arguably, the Petition could be construed as a request to suspend operations at Seabrook.[78] If C-10 seeks to challenge the ongoing operation of Seabrook, it may file a petition seeking enforcement action under 10 C.F.R. § 2.206. We note that the agency established the Seabrook ASR Issue Technical Team in 2012 to ensure that all aspects of the ASR issue were coordinated among the Staff,[79] and that the Staff has conducted focused ASR inspections with specialist inspectors approximately every six months as part of the Reactor Oversight Process baseline inspection program since 2013.[80] Insofar as C-10 disputes the adequacy of NextEra's ASR license amendment, the Board will resolve that contention, and we maintain our appellate role. C-10 has not demonstrated why these existing processes are insufficient to address its concerns. Therefore, based on the available enforcement processes, the upcoming hearing before the Board, and the Staff's ongoing monitoring of operations at Seabrook, we decline to address C-10's claims in the context of an emergency adjudicatory proceeding.

III. CONCLUSION

For the foregoing reasons, we *deny* C-10's requests for relief in its Petition.

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[77] Petition at 6.

[78] *See id.* at 2, 3, 6; *see also* C-10 Reply at 8 (citing Reply Declaration of Victor E. Saouma, Ph.D. (Mar. 1, 2019) ¶ 9).

[79] Memorandum from Eric J. Leeds, Director, Office of Nuclear Reactor Regulation, NRC, and William M. Dean, Regional Administrator, Region I, NRC, "Seabrook Alkali-Silica Reaction Issue Technical Team Charter" (July 9, 2012) (ML121250588).

[80] *See* Memorandum from William M. Dean, Regional Administrator, Region I, NRC, to R.W. Borchardt, Executive Director for Operations, NRC, "Request for Deviation from the Reactor Oversight Process Action Matrix to Provide Increased Oversight of the Alkali-Silica Reaction Issue at Seabrook" (Sept. 5, 2012) (ML12242A370); NRC, Special NRC Oversight at Seabrook Nuclear Power Plant: Concrete Degradation, https://www.nrc.gov/reactors/operating/ops-experience/concrete-degradation.html#cal (last visited June 20, 2019).

IT IS SO ORDERED.

For the Commission

Russell E. Chazell
Acting Secretary of the Commission

Dated at Rockville, Maryland,
this 25th day of July 2019.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

E. Roy Hawkens, Chairman
Dr. Michael F. Kennedy
Dr. Sue H. Abreu

In the Matter of **Docket Nos. 50-250-SLR**
50-251-SLR
(ASLBP No. 18-957-01-SLR-BD01)

FLORIDA POWER & LIGHT COMPANY
(Turkey Point Nuclear Generating Units 3 and 4)

July 8, 2019

This proceeding concerns the subsequent license renewal application submitted by Florida Power & Light Company (FPL) for Turkey Point Nuclear Generating Units 3 and 4. As relevant here, in LBP-19-3, 89 NRC 245 (2019), this Licensing Board granted a hearing request from Friends of the Earth, Inc., Natural Resources Defense Council, Inc., and Miami Waterkeeper, Inc. (collectively, Joint Intervenors). In that decision, we admitted two environmental contentions proffered by Joint Intervenors challenging FPL's Environmental Report. After the NRC Staff issued a Draft Supplemental Environmental Impact Statement (DSEIS), FPL moved to dismiss Joint Intervenors' contentions as moot. We conclude that the NRC Staff's DSEIS cures the omissions identified in Joint Intervenors' two contentions, and we therefore grant FPL's motions to dismiss.

RULES OF PRACTICE: CONTENTIONS OF OMISSION AND ADEQUACY

"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." *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 200 n.53 (2011). "Contentions that claim a failure to include an entire subject matter or study might be considered contentions of omission. Contentions that argue for alternative analyses or refinements to [an] analysis might be characterized as contentions of 'adequacy.'" *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-16-11, 83 NRC 524, 534 (2016)) (internal footnote omitted) (*citing, e.g., Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382-83 (2002)).

RULES OF PRACTICE: MIGRATION TENET

"[A] contention 'migrates' when a licensing board construes a contention challenging [an environmental report] as a challenge to a subsequently issued Staff [National Environmental Policy Act] document without the petitioner amending the contention." *Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015).

RULES OF PRACTICE: CURING A CONTENTION OF OMISSION

A contention of omission claiming that an environmental report (ER) fails to include required information can be cured by the applicant supplying the missing information in a revised ER or by the NRC Staff supplying the missing information in an environmental impact statement (EIS). *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 384 (2002). When the missing information "is later supplied by the applicant or considered by the Staff in a draft EIS, the contention is moot" and should be dismissed. *Id.* at 383; *accord USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 444 (2006).

RULES OF PRACTICE: CHALLENGING ADEQUACY OF NEW INFORMATION THAT HAS CURED A CONTENTION OF OMISSION

That a contention of omission has been cured and dismissed as moot does not perforce insulate the new curative information from challenge. However,

to challenge the adequacy of the new information, an intervenor must timely file a new contention that addresses the factors in 10 C.F.R. § 2.309(f)(1). *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002).

MEMORANDUM AND ORDER
(Granting FPL's Motions to Dismiss Joint Intervenors' Contentions 1-E and 5-E as Moot)

In LBP-19-3, this Licensing Board granted a hearing request from Friends of the Earth, Inc., Natural Resources Defense Council, Inc., and Miami Waterkeeper, Inc. (collectively, Joint Intervenors) and admitted two environmental contentions of omission they proffered challenging Florida Power & Light Company's (FPL's) subsequent license renewal application for Turkey Point Nuclear Generating Units 3 and 4. Thereafter, following the NRC Staff's issuance of the Draft Supplemental Environmental Impact Statement (DSEIS), FPL moved to dismiss the two contentions as moot based on new information in the DSEIS. For the reasons discussed below, we conclude that the new information in the DSEIS has cured the omissions identified in the two contentions, and we grant FPL's motions to dismiss.

I. BACKGROUND

This proceeding concerns the subsequent license renewal application submitted by FPL for two nuclear power reactors, Turkey Point Units 3 and 4, near Homestead, Florida.[1] As relevant here, on March 7, 2019, this Licensing Board granted hearing requests from Joint Intervenors and Southern Alliance for Clean Energy (SACE). *See* LBP-19-3, 89 NRC 245, 301-02 (2019). We admitted two contentions of omission proffered by Joint Intervenors — Contentions 1-E and 5-E — alleging that FPL improperly failed to include required information in its Environmental Report (ER). *See id.* at 302 n.82.[2] We also admitted two environmental contentions proffered by SACE. *See id.* at 301-02 n.81.

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[1] *See* [FPL], Turkey Point Nuclear Plant Units 3 & 4 Subsequent License Renewal Application (rev. 1 Apr. 2018) (ADAMS Accession No. ML18113A146).

[2] "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." *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 200 n.53 (2011); *accord Pacific*

(Continued)

On April 9, 2019, SACE withdrew from this proceeding as part of a global settlement with FPL. *See* [SACE's] Notice of Withdrawal (Apr. 9, 2019). In light of SACE's withdrawal, the only remaining contentions in this proceeding are Joint Intervenors' Contentions 1-E and 5-E. Contention 1-E claims that "[i]n light of the adverse impact of continued [cooling canal system (CCS)] operations on the threatened American crocodile and its critical seagrass habitat, the ER is deficient for failing to consider mechanical draft cooling towers as a reasonable alternative to the CCS in connection with the license renewal of Turkey Point Units 3 and 4." LBP-19-3, 89 NRC at 302 n.82. Contention 5-E asserts that "[t]he ER is deficient in its failure to recognize Turkey Point as a source of ammonia in freshwater wetlands surrounding the site, and in its failure to analyze the potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat." *Id.*

In March 2019, the NRC Staff issued a DSEIS for Turkey Point Units 3 and 4.[3] Pursuant to the migration tenet,[4] Contentions 1-E and 5-E, which originally challenged FPL's ER, became challenges to the NRC Staff's DSEIS.

On May 20, 2019, FPL moved this Board to dismiss Contentions 1-E and 5-E as moot, arguing that information in the NRC Staff's DSEIS cured the omissions identified in those contentions.[5]

On June 10, 2019, the NRC Staff filed an answer supporting FPL's motions to dismiss both contentions as moot.[6] Joint Intervenors filed answers opposing FPL's motions.[7]

Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-16-11, 83 NRC 524, 534 (2016) ("Contentions that claim a failure to include an entire subject matter or study might be considered contentions of omission. Contentions that argue for alternative analyses or refinements to [an] analysis might be characterized as contentions of 'adequacy.'") (internal footnote omitted) (*citing, e.g., Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382-83 (2002)).

[3] *See* Office of Nuclear Reactor Regulation (NRR), NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supp. 5, Second Renewal, Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 & 4, Draft Report for Comment (Mar. 2019) (ADAMS Accession No. ML19078A330) [hereinafter DSEIS].

[4] "[A] contention 'migrates' when a licensing board construes a contention challenging [an ER] as a challenge to a subsequently issued Staff [National Environmental Policy Act] document without the petitioner amending the contention." *Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015).

[5] *See* FPL's Motion to Dismiss Joint Petitioners' Contention 1-E as Moot (May 20, 2019) [hereinafter Motion to Dismiss Contention 1-E]; FPL's Motion to Dismiss Joint Petitioners' Contention 5-E as Moot (May 20, 2019) [hereinafter Motion to Dismiss Contention 5-E].

[6] *See* NRC Staff's Answer to FPL's Motions to Dismiss (June 10, 2019) [hereinafter NRC Staff Answer].

[7] *See* Joint Petitioners' Answer Opposing FPL's Motion to Dismiss Joint Petitioners' Contention 1-

(Continued)

For the reasons discussed below, we grant FPL's motions to dismiss Contentions 1-E and 5-E as moot.

II. LEGAL STANDARD

It is undisputed that Contentions 1-E and 5-E are contentions of omission. A contention of omission claiming that an ER fails to include required information can be cured by the applicant supplying the missing information in a revised ER or by the NRC Staff supplying the missing information in an environmental impact statement (EIS). *See McGuire/Catawba,* CLI-02-28, 56 NRC at 384. When the missing information "is later supplied by the applicant or considered by the Staff in a draft EIS, the contention is moot" and should be dismissed. *Id.* at 383; *accord USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 444 (2006).

III. ANALYSIS

A. Contention 1-E Has Been Rendered Moot by the NRC Staff's DSEIS

Pursuant to the migration tenet, *see supra* note 4, Contention 1-E alleges that the NRC Staff's DSEIS improperly "fail[s] to consider mechanical draft cooling towers as a reasonable alternative to the CCS" in light of "the adverse impact of continued CCS operations on the threatened American crocodile and its critical seagrass habitat." LBP-19-3, 89 NRC at 302 n.82. FPL and the NRC Staff argue that the DSEIS's extensive discussion of mechanical draft cooling towers as an alternative to the CCS renders Contention 1-E moot. *See* Motion to Dismiss Contention 1-E at 4; NRC Staff Answer at 5-7. We agree.

Section 2.2.3 of the DSEIS considers the use of mechanical draft cooling towers "that might be used to mitigate the potential impacts associated with continued use of the existing [CCS]." DSEIS at 2-12. Under the cooling towers alternative evaluated by the NRC Staff, Turkey Point Units 3 and 4 would each use three closed-cycle, wet-cooling towers to dissipate heat from the reactor cooling water systems. *See id.* at 2-13. These mechanical draft cooling towers would be octagonal in shape and extend about 70 feet in height and 250 feet in diameter. *See id.* The primary source of cooling water is assumed to be reclaimed wastewater. *See id.* Cooling water makeup would be about 38 million

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E as Moot (June 10, 2019) [hereinafter Answer Opposing Motion to Dismiss Contention 1-E]; Joint Petitioners' Answer Opposing FPL's Motion to Dismiss Joint Petitioners' Contention 5-E as Moot (June 10, 2019) [hereinafter Answer Opposing Motion to Dismiss Contention 5-E].

gallons per day, and consumptive water use would be about 29 million gallons per day. *See id.*

Under the mechanical draft cooling towers alternative, Turkey Point Units 3 and 4 would no longer use the CCS, which, the NRC Staff reasons, would result in (1) less heat being discharged to the CCS, which could cause the water in the CCS to become less saline and, thus, more hospitable for threatened species; and (2) less flow within the CCS, which could cause the water in the CCS to become stagnant and less hospitable for threatened species. *See* DSEIS at 4-68.[8] FPL would still be required to take the CCS restorative actions mandated by a 2016 Consent Order with the State of Florida[9] and a 2015 Consent Agreement with Miami-Dade County,[10] *see id.,* which compel FPL to, *inter alia,* decrease the salinity in the CCS, develop a nutrient management plan for the CCS, and restore seagrass within portions of the CCS.[11] The NRC Staff concludes that, under these circumstances, "the CCS would likely continue to provide habitat for [Endangered Species Act]-listed species." *Id.*

The DSEIS evaluated the environmental consequences of the mechanical draft cooling towers alternative with respect to each resource area that would be affected. *See* DSEIS § 4.2.7 (impacts on land use and visual resources); *id.* § 4.3.7 (air quality and noise impacts); *id.* § 4.4.7 (geologic impact); *id.* § 4.5.7 (impact on surface water and groundwater resources); *id.* § 4.6.7 (impact on terrestrial resources); *id.* § 4.7.7 (impact on aquatic resources); *id.* § 4.8.3.4 (impact on special status species and habitats); *id.* § 4.9.4 (historic and cultural resources impacts); *id.* § 4.10.7 (socioeconomics and transportation impacts); *id.* § 4.11.7 (human health impact); *id.* § 4.12.4 (environmental justice impact); *id.* § 4.13.7 (waste management impact).

Table 2-2 of the DSEIS, in turn, summarizes the impact of the mechanical

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[8] As the DSEIS explains, even if Units 3 and 4 no longer use the CCS, all liquid discharges from the Turkey Point facility, including storm water, would continue to flow into the CCS. *See* DSEIS at 4-35. Additionally, Unit 5 — an operating fossil-fueled unit that uses cooling towers, *see id.* at 3-8 — would continue to discharge cooling tower blowdowns to the CCS. *See id.* at 4-35. CCS water would continue to be circulated through retired fossil-fueled Units 1 and 2; however, this circulation would not add heat to the CCS. *See id.* at 3-8, 4-35.

[9] *See Fla. Dep't of Envtl. Prot. v. FPL,* OGC File No. 16-02441, Consent Order (June 20, 2016) (ADAMS Accession No. ML16216A216) [hereinafter Florida Consent Order].

[10] *See Miami-Dade County, Dep't of Regulatory and Econ. Res., Division of Envtl. Res. Mgmt. v. FPL,* Consent Agreement (Oct. 7, 2015) (ADAMS Accession No. ML15286A366) [hereinafter Miami-Dade Consent Agreement].

[11] *See* NRR, Biological Assessment for the Turkey Point Nuclear Generating Unit Nos. 3 and 4 Proposed Subsequent License Renewal at 36 (Dec. 2018) (ADAMS Accession No. ML18353A835) [hereinafter Biological Assessment] (incorporated by reference in the DSEIS at 4-60). The Biological Assessment explains how temperature, salinity, and water quality in the CCS affect American crocodile health, prey species, and habitat. *See id.* at 32-44.

draft cooling towers alternative on different areas including terrestrial resources, aquatic resources, and special status species and habitats. *See* DSEIS at 2-22 to 2-23.

Notwithstanding the NRC Staff's encompassing consideration of mechanical draft cooling towers as an alternative to the CCS, the Staff ultimately determined that it "cannot forecast a particular level of impact" by the towers on the American crocodile and its habitat, DSEIS at 2-23, because, according to the NRC Staff, "the magnitude and significance of adverse impacts . . . would depend on the location and layout of the cooling towers, the design of the cooling towers, operational parameters, and the [crocodiles and habitat] present in the area when the alternative is implemented." *Id.* at 4-70.

Joint Intervenors assert that the above determination in the DSEIS "is not an analysis. It is a failure to analyze. It is an omission. Thus Contention 1-E is not moot and should not be dismissed." Answer Opposing Motion to Dismiss Contention 1-E at 6. We disagree.

We conclude that Contention 1-E's omission is cured because the DSEIS expressly considers mechanical draft cooling towers as an alternative to the CCS, as well as the capacity of cooling towers to reduce adverse impacts on the American crocodile and its habitat. Contrary to Joint Intervenors' assertion, the NRC Staff's professed inability to forecast a *particular* level of impact on the American crocodile and its habitat cannot fairly be characterized as a wrongful omission given the Staff's explanation that a more precise forecast is not possible because it would depend on factual information that is not currently available. *See* DSEIS at 4-70.[12] Rather, in our judgment, the alleged deficiency now advanced by Joint Intervenors is in the nature of a claim of adequacy that must be advanced, if at all, as a new contention. *See supra* note 2; *infra* note 18 and accompanying text.

Because the DSEIS now considers mechanical draft cooling towers as a reasonable alternative to the CCS in light of the CCS's adverse impact on the American crocodile and its habitat, Contention 1-E is moot.

B. Contention 5-E Has Been Rendered Moot by the NRC Staff's DSEIS

Pursuant to the migration tenet, *see supra* note 4, Contention 5-E alleges that the NRC Staff's DSEIS improperly fails to (1) "recognize Turkey Point as a source of ammonia in freshwater wetlands surrounding the site"; and (2) "analyze the potential impacts of ammonia releases during the renewal period on

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[12] The NRC Staff was similarly unable to make a forecast in this resource area for the no-action alternative and the replacement power alternatives. *See* DSEIS at 2-22, 2-23.

threatened and endangered species and their critical habitat." LBP-19-3, 89 NRC at 302 n.82. FPL and the NRC Staff argue that the DSEIS cures both omissions, thereby rendering Contention 5-E moot. *See* Motion to Dismiss Contention 5-E at 3-6; NRC Staff Answer at 8-12. We agree.

Regarding the first omission, Joint Intervenors do not dispute that it has been cured. The DSEIS explicitly recognizes the existence of ammonia in the CCS caused by the decay of organic material, *see* DEIS at 3-42,[13] and it acknowledges that ammonia is transported from the CCS by the outflow of water into groundwater that then travels to adjacent surface water bodies. *See id.* at 3-41, 3-44. This discussion renders the first omission moot.

Joint Intervenors argue, however, that the second omission in Contention 5-E is not moot because the DSEIS allegedly fails to address the potential impacts of ammonia releases on the following threatened and endangered species and their habitat: the Florida panther, American crocodile, indigo snake, snail kite, red knot, and wood stork. *See* Answer Opposing Motion to Dismiss Contention 5-E at 3. We disagree.

The DSEIS states that, although ammonia concentrations in the CCS are below the Miami-Dade County ammonia water quality standard, *see supra* note 13, sampling data in 2015 and 2016 revealed concentrations of ammonia exceeding that standard in stagnant water at the bottom of two deep excavations outside of and adjacent to the CCS. *See* DSEIS at 4-22; *see also* Biological Assessment at 61 (stating that several other sampling locations in remnant, stagnant canals revealed ammonia concentrations in 2018 above the Miami-Dade County water quality standard).[14] Under the regulatory direction of the State of Florida and Miami-Dade County, FPL is taking steps to eliminate the excess ammonia problem in these stagnant, excavated areas. *See* DSEIS at 4-23; *see also id.* at 3-50 to 3-52; Biological Assessment at 60. In light of FPL's restorative actions,

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[13] According to the DSEIS, between June 2010 and May 2016, ammonia concentrations in the CCS ranged from below detectable levels to 0.3 milligrams per liter (mg/L), with an average concentration of 0.04 mg/L, which is more than an order of magnitude below the Miami-Dade County water quality standard for ammonia of 0.5 mg/L. *See* DSEIS at 3-42, 4-22; Biological Assessment at 15.

[14] The DSEIS states that ammonia concentrations "at the bottom of these excavations may be influenced by groundwater that has been in contact with CCS waters." DSEIS at 3-50. However, according to the DSEIS, the fact that ammonia concentrations in the bottom samples were consistently higher than ammonia levels in the CCS implies that "some of the ammonia in the [excavations] was coming from other sources," including runoff from "agriculture, urban, and wetland land use." *Id.*; *see also* FPL, Site Assessment Report, Ammonia in Surface Waters, Turkey Point Facility at 21 (Mar. 17, 2017) ("[T]he observed presence of ammonia [at the bottom of excavations] is consistent with nitrogen cycling of organic matter under [ ] anoxic [i.e., low oxygen] conditions such as are present at the bottom of a dead-end canal.") (referred to in DSEIS as FPL 2017c and cited, *e.g.,* at 3-51).

the NRC Staff states that "elevated ammonia levels are not expected to be a long-term issue." Biological Assessment at 61.

Moreover, pursuant to the Florida Consent Order and Miami-Dade Consent Agreement, "FPL maintains an extensive water quality monitoring program [in which it] monitors the CCS, Biscayne Bay, Card Sound, and other nearby water bodies for ammonia . . . among other nutrients and parameters." Biological Assessment at 60. The NRC Staff states that, "[t]o date, FPL has identified no evidence of an ecological impact on the areas surrounding the CCS and no discernible influence from the CCS on Biscayne Bay." *Id.* Given the totality of these circumstances, the DSEIS concludes that "the impacts [of ammonia] on adjacent surface water bodies via the groundwater pathway from the CCS during the subsequent license renewal period would be SMALL." DSEIS at 4-23.[15]

Finally, the DSEIS "analyzes the potential impacts of the proposed Turkey Point subsequent license renewal [on the six threatened and endangered species specified by Joint Intervenors]," DSEIS at 4-60, and it summarizes the impacts in Table 4-4. *See id.* at 4-60 to 4-61. We conclude that NRC Staff analyzed ammonia releases within and around the Turkey Point site and considered the impacts on the listed species and their habitats such that the second omission in Contention 5-E is cured, thereby rendering the contention moot.

Joint Intervenors nevertheless argue that the NRC Staff's analysis remains deficient because it fails to analyze ammonia impacts on the six listed species or their habitats as specifically as it analyzed ammonia impacts on the West Indian manatee. *See* Answer Opposing Motion to Dismiss Contention 5-E at 7.[16] Contrary to Joint Intervenors' understanding, this type of argument does not preserve Contention 5-E as a contention of omission; rather, it constitutes a challenge to the adequacy of the Staff's analysis and must be advanced, if at all, as a new contention. *See supra* note 2; *infra* note 18 and accompanying text.

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[15] Aside from the samples collected from the bottom of the excavated areas and remnant canals showing elevated ammonia levels that FPL is remediating, the NRC Staff found that no other ammonia sample concentration from the CCS or within Biscayne Bay near the CCS exceeded the Miami-Dade surface water standard for ammonia. *See* DSEIS at 3-51; *accord* Biological Assessment at 62.

[16] While assessing the environmental impacts of ammonia on the West Indian manatee (also a threatened species), the NRC Staff stated that it "assumes that the relevant State water quality criteria are reasonably protective of manatees because under Section 303(c) of the Clean Water Act, the Environmental Protection Agency or the State is required to adopt water quality standards to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Biological Assessment at 60-61. "Therefore, if waters inhabited by manatees meet water quality criteria for ammonia, the NRC staff assumes that there would be no lethal effects or impairment to growth, survival or reproduction to manatee individuals." *Id.* at 61.

IV. CONCLUSION

For the foregoing reasons, we *grant* FPL's motions and *dismiss as moot* Contentions 1-E and 5-E.[17]

Although our dismissal of Joint Intervenors' contentions disposes of all the admitted contentions in this case, we do not terminate this proceeding at the Licensing Board level for the following reason: in compliance with the governing Scheduling Order, *see* Revised Scheduling Order at 3, Joint Intervenors have timely proffered new contentions based on the DSEIS, including new contentions alleging that the curative information in the DSEIS has given rise to contentions of adequacy.[18] *See* [Joint Intervenors'] Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] at 8-17, 21-25 (June 24, 2019). We thus retain jurisdiction of this case, and we shall address Joint Intervenors' motion in a subsequent memorandum and order.

It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

E. Roy Hawkens, Chairman
ADMINISTRATIVE JUDGE

Dr. Michael F. Kennedy
ADMINISTRATIVE JUDGE

Dr. Sue H. Abreu
ADMINISTRATIVE JUDGE

Rockville, Maryland
July 8, 2019

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[17] Any mandatory disclosure obligations associated with those contentions are terminated. *See* 10 C.F.R. § 2.336(d); *see also* Licensing Board Order (Granting in Part Intervenors' Joint Motion for Partial Reconsideration of Initial Scheduling Order) (Apr. 2, 2019) at 3 n.3 (unpublished) [hereinafter Revised Scheduling Order].

[18] That a contention of omission has been cured and dismissed as moot does not perforce insulate the new curative information from challenge. However, to challenge the adequacy of the new information, an intervenor must timely file a new contention that addresses the factors in 10 C.F.R. § 2.309(f)(1). *See McGuire/Catawba,* CLI-02-28, 56 NRC at 383.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kristine L. Svinicki, Chairman
Jeff Baran
Annie Caputo
David A. Wright

In the Matter of **Docket Nos. 50-293-LT**
72-1044-LT

ENTERGY NUCLEAR OPERATIONS, INC., ENTERGY NUCLEAR GENERATION COMPANY, HOLTEC INTERNATIONAL, AND HOLTEC DECOMMISSIONING INTERNATIONAL, LLC
(Pilgrim Nuclear Power Station) **August 14, 2019**

MEMORANDUM AND ORDER

In this license transfer proceeding, the Commonwealth of Massachusetts and Pilgrim Watch have each separately petitioned to intervene.[1] The Commonwealth now requests that we stay "all activities" in this proceeding for 90 days to permit it to complete settlement negotiations with the license transfer applicants. Specifically, the Commonwealth requests that the Commission "take no action on any of the pending requests for 90 days, or until a settlement is reached and the Commonwealth withdraws its Petition or the parties notify the NRC that an agreement cannot be reached, whichever occurs sooner."[2] In support of its mo-

[1] Commonwealth of Massachusetts' Petition for Leave to Intervene and Hearing Request (Feb. 20, 2019); Pilgrim Watch Petition for Leave to Intervene and Hearing Request (Feb. 20, 2019).

[2] *See* Motion of the Commonwealth of Massachusetts to Stay Proceeding to Complete Settlement Negotiations (Aug. 1, 2019), at 3.

tion, the Commonwealth states that allowing the participants to reach an accord through a settlement agreement may resolve the Commonwealth's concerns in a timelier and more efficient fashion than a potential hearing, thereby avoiding the need to expend the NRC's or the participants' resources.

We deny the Commonwealth's motion to hold this adjudicatory proceeding in abeyance. While we encourage settlement negotiations and have held adjudicatory proceedings in abeyance at the request of participants in negotiations,[3] here only the Commonwealth requests that we hold this adjudication in abeyance pending negotiations. The applicants oppose the Commonwealth's motion on several grounds, despite the ongoing settlement negotiations.[4] And while petitioner Pilgrim Watch did not oppose the Commonwealth's motion, it has not requested that we also hold its intervention request in abeyance.

Further, the Commonwealth requests that we stay "all activities" connected with this proceeding. To the extent that the Commonwealth's motion requests that we — as an exercise of our inherent supervisory authority over proceedings — suspend the Staff's action on the license transfer application, we deny the request. The Commonwealth's interest in potentially resolving its concerns more efficiently outside of the adjudicatory process does not present a compelling basis for us to suspend the Staff's activities or its decision on the application.[5] Moreover, the Commonwealth did not address the factors that we weigh when considering whether to grant a request to stay the effectiveness of a Staff order on a license transfer application.[6] The Commonwealth will have the opportunity to do so if the Staff issues such an order.

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[3] *See, e.g., Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-18-3, 87 NRC 87 (2018).

[4] *See* Applicants' Answer Opposing the Motion of the Commonwealth of Massachusetts to Stay Proceedings to Complete Settlement Negotiations (Aug. 5, 2019), at 2-3, 5, 7. The applicants are Entergy Nuclear Operations, Inc., Entergy Nuclear Generation Co., Holtec International, and Holtec Decommissioning International, LLC.

[5] *See, e.g., Union Electric Co. d/b/a Ameren Missouri* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 158 (2011) (suspension of licensing proceedings is a "drastic" action, generally unwarranted absent an immediate threat to public health and safety or other compelling ground); *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-7, 80 NRC 1, 7-8 (2014) (denying request to suspend issuance of decisions on reactor license applications).

[6] *See* 10 C.F.R. § 2.1327(b)(2), (d); *see also* 10 C.F.R. § 2.342(e) (outlining same four stay factors for consideration in requests to stay the decision or action of a Presiding Officer). We note that our regulations contemplate that the Staff may issue an order on a license transfer application before the Commission has concluded the adjudication. *See* 10 C.F.R. § 2.1316(a). In such instances, however, "the application will lack the agency's final approval until and unless the Commission" concludes the adjudication and approves the transfer. *See Entergy Nuclear Operations, Inc., and Entergy Nuclear Palisades, LLC* (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 257 n.8 (2008) (quoting *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-

(Continued)

For the reasons outlined, the Commonwealth's motion presents insufficient grounds for us to hold this adjudicatory proceeding in abeyance or to stay or suspend all activities relating to the license transfer application. We therefore deny the motion.

IT IS SO ORDERED.

For the Commission

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 14th day of August 2019.

17, 52 NRC 79, 83 (2000)). Until the adjudicatory proceeding is concluded, the Commission retains the authority to modify the license by imposing license conditions or, if warranted, to rescind an order approving a license transfer. *See id.*

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Paul S. Ryerson, Chairman
Nicholas G. Trikouros
Dr. Gary S. Arnold

In the Matter of **Docket No. 72-1050-ISFSI**
(ASLBP No. 19-959-01-ISFSI-BD01)

INTERIM STORAGE PARTNERS LLC
(WCS Consolidated Interim Storage Facility)

August 23, 2019

This proceeding concerns Interim Storage Partners LLC's application to construct and operate a consolidated interim storage facility for spent nuclear fuel and greater-than-Class C waste in Andrews County, Texas. The Board considered petitions to intervene and requests for a hearing from four petitioners: (1) Beyond Nuclear, Inc. (Beyond Nuclear); (2) Sierra Club; (3) Don't Waste Michigan, Citizens' Environmental Coalition, Citizens for Alternatives to Chemical Contamination, Nuclear Energy Information Service, Public Citizen, Inc., San Luis Obispo Mothers for Peace, Sustainable Energy and Economic Development Coalition (SEED), and Leona Morgan, individually; and (4) Fasken Land and Minerals, Ltd., and Permian Basin Land and Royalty Organization (together, Fasken). The Board determined that, although Beyond Nuclear, Sierra Club, SEED, and Fasken demonstrated standing, only Sierra Club proffered an admissible contention.

RULES OF PRACTICE: INTERVENTION

To intervene as a party in an adjudicatory proceeding, a petitioner must (1) establish it has standing; and (2) proffer at least one admissible contention.

RULES OF PRACTICE: STANDING

The Commission directs licensing boards to construe the petition in favor of the petitioner when determining whether a petitioner has demonstrated standing.

RULES OF PRACTICE: STANDING (BURDEN)

It is each petitioner's burden to demonstrate that standing requirements are met.

RULES OF PRACTICE: INTERVENTION (STANDING)

A petitioner may show traditional standing. This requires a showing that a person or organization has suffered or might suffer a concrete and particularized injury that is: (1) fairly traceable to the challenged action; (2) likely redressable by a favorable decision; and (3) arguably within the zone of interests protected by the governing statutes.

RULES OF PRACTICE: STANDING (PROXIMITY PLUS PRESUMPTION)

A proximity plus standard is applied on a case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source. The smaller the risk of offsite consequences, the closer a petitioner must be to be realistically threatened. Although the Commission has not established a clear standard, the relevant distance from a consolidated interim storage facility is likely less than 50 miles because such a storage facility is essentially a passive structure rather than an operating facility, and therefore has less chance of widespread radioactive release.

RULES OF PRACTICE: STANDING (REPRESENTATIONAL)

An organization may try to establish representational standing based on the standing of one or more individual members. To establish representational standing, an organization must: (1) show that the interests it seeks to protect are germane to its own purpose; (2) identify at least one member who qualifies for standing in his or her own right; (3) show that it is authorized by that member

to request a hearing on his or her behalf; and (4) show that neither the claim asserted nor the relief requested requires an individual member's participation in the organization's legal action.

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

An admissible contention must: (1) state the specific legal or factual issue to be raised or controverted; (2) provide a brief explanation for the basis of the contention; (3) demonstrate that the issue raised in the contention is within the scope of the proceeding; (4) demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) concisely state the alleged facts or expert opinions that support the petitioner's position and on which the petitioner intends to rely at an evidentiary hearing, including references to the specific sources and documents on which the petitioner intends to rely; and (6) show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes or, if the application is alleged to be deficient, by identifying such deficiencies and the supporting reasons for this allegation.

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

The contention admissibility rules are strict by design. The hearing process is reserved for genuine, material controversies between knowledgeable litigants. Failure to satisfy even one of the requirements requires a board to reject the contention.

RULES OF PRACTICE: CONTENTIONS (PLEADING)

The NRC requires a petitioner to read the pertinent portions of the license application, including the Safety Analysis Report and the Environmental Report, state the applicant's position and the petitioner's opposing view, and explain why it disagrees with the applicant.

RULES OF PRACTICE: CONTENTIONS (PLEADING)

A contention cannot be admitted on bare assertions and speculation alone.

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

All contentions must be based on documents or other information available

at the time the petition is to be filed. Petitioners have an obligation to raise issues in licensing proceedings as soon as the information becomes available to them. For environmental contentions, petitioners must file contentions based on the applicant's Environmental Report.

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

To be admissible, a contention proposing alternative inputs or methodologies must present some factual or expert basis for why the proposed changes in the analysis are warranted (e.g., why the inputs or methodology used is unreasonable, and the proposed changes or methodology would be more appropriate).

RULES OF PRACTICE: CONTENTIONS (ADOPTING)

To adopt another petitioner's contentions, a participant must (1) demonstrate standing; and (2) have proffered its own admissible contention.

RULES OF PRACTICE: MOTION TO STRIKE

The Commission will not permit, in a reply, the filing of new arguments or new legal theories that opposing parties have not had an opportunity to address. Rather, NRC regulations demand a level of discipline and preparedness on the part of petitioners, who are required by our contention admissibility requirements to set forth their claims in detail at the outset of a proceeding.

RULES OF PRACTICE: CONTENTIONS (CHALLENGE TO COMMISSION REGULATIONS)

No NRC rule or regulation may be challenged in a contention unless the petitioner seeks and obtains a waiver from the Commission in accordance with 10 C.F.R. § 2.335.

RULES OF PRACTICE: CONTENTIONS (CHALLENGE TO COMMISSION REGULATIONS)

Sections 2.335 and 72.46(e) of 10 C.F.R. bar any contention challenging an NRC-approved storage cask design that has been incorporated by reference in a spent fuel storage facility application.

RULES OF PRACTICE: FILING OF DOCUMENTS

Documents on which petitioners rely should be filed in their entirety on the Electronic Information Exchange — not by means of hyperlinks in pleadings. For adjudicatory documents (pleadings and exhibits), parties are discouraged from using hyperlinks because of concerns about the integrity of the hearing record. Hyperlinks and internet sources can change over time, and can be edited (or even deleted); accordingly, licensing boards strongly discourage this practice.

NEPA: ENVIRONMENTAL IMPACT STATEMENT

The National Environmental Policy Act mandates that federal agencies prepare an environmental impact statement before undertaking any major federal actions significantly affecting the quality of the human environment. The preparation of an environmental impact statement is meant to ensure that federal agencies will not act on incomplete information, only to regret their decision after it is too late to correct.

NEPA: HARD LOOK

The National Environmental Policy Act requires agencies to take a hard look at environmental consequences of the proposed action, and imposes a duty upon the agency to both consider every significant aspect of the environmental impact of a proposed action and inform the public of its analysis and conclusion.

NEPA: SCOPE OF REVIEW

The National Environmental Policy Act does not necessitate certainty or precision nor does it mandate particular results from the agency. Rather, the National Environmental Policy Act requires an estimate of anticipated (not unduly speculative) impacts from the agency. The statutory obligations seek to guarantee process, not specific outcomes.

NEPA: RULE OF REASON

The National Environmental Policy Act's hard look mandate notwithstanding, the agency is not obligated to analyze every conceivable aspect of the project before it. Instead, this hard look is subject to a rule of reason, meaning that the agency need not perform analyses concerning events that would be considered worst-case scenarios involving the project, or those considered remote and highly speculative.

NEPA: CUMULATIVE IMPACTS ANALYSIS

Under the National Environmental Policy Act, an environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of past, present, and reasonably foreseeable future actions. However, an environmental impact statement must include other related actions only when those actions have been formally proposed and are pending before an agency. Consistent with the rule of reason, the Commission has held that projects that are merely contemplated and not concrete or reasonably certain do not warrant consideration in a cumulative impact analysis.

NEPA: SITE SELECTION CRITERIA

There are no specific requirements under 10 C.F.R. Part 51 for an applicant's site selection criteria; the criteria are examined for reasonableness. Moreover, the site selection process is driven by the purpose and need specified in the application, and the NRC may accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project so long as the application is not artificially narrow as to circumvent the requirement that reasonable alternatives must be considered.

NEPA: CEQ REGULATIONS

Although as an independent agency the NRC is not necessarily bound by the regulations of the Council on Environmental Quality (CEQ), the Commission instructs boards to look to CEQ regulations for guidance.

NEPA: CEQ REGULATIONS

Council on Environmental Quality regulations recognize that accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing the National Environmental Policy Act. In furtherance of this directive, federal agencies must, in their environmental analyses, identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions.

ENVIRONMENTAL JUSTICE

Environmental justice became a federally mandated NEPA consideration in 1994. Executive Order 12898 directed federal agencies to identify and address disproportionately high and adverse human health or environmental effects of

its programs, policies, and activities on minority populations and low-income populations.

ENVIRONMENTAL JUSTICE

Responding to Commission precedent and Executive Order 12898, the NRC promulgated its Environmental Justice Policy Statement and revised guidance documents to incorporate the guiding principles from those decisions. The policy statement directs the NRC Staff to conduct a more thorough site selection analysis if the percentage in the impacted area significantly exceeds that of the State or County percentage for either the minority or low-income population. NRC guidance specifies that an applicant's environmental report should include a discussion of the methods used to identify and quantify impacts on low-income and minority populations, the location and significance of any environmental impacts during construction on populations that are particularly sensitive, and any additional information pertaining to mitigation.

ADJUDICATORY PROCEEDINGS: SCOPE OF REVIEW

Whether an applicant will find that alternative commercially viable is not an issue before a licensing board, because the business decision of whether to use a license has no bearing on a licensee's ability to safely conduct the activities the license authorizes.

CONTINUED STORAGE RULE

The Continued Storage Rule provides that applicants for reactor or spent fuel storage facility licenses are not required to discuss the environmental impacts of spent nuclear fuel storage for the period following the term of their license.

CONTINUED STORAGE RULE

The Continued Storage Rule incorporates the analyses and impact determinations from the continued storage generic environmental impact statement.

NUCLEAR WASTE POLICY ACT

The Nuclear Waste Policy Act bars the United States Department of Energy from constructing a monitored retrieval storage facility before the NRC licenses construction of a repository, but does not prohibit a private company from seeking a license to construct a consolidated interim storage facility at any time.

FOREIGN OWNERSHIP

The Atomic Energy Act sections 103 and 104 apply, by their terms, only to production and utilization facilities. An independent spent fuel storage facility under Part 72 is neither a production nor a utilization facility.

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MEMORANDUM AND ORDER

(Ruling on Petitions for Intervention and Requests for Hearing)

Before the Board are four petitions to intervene and requests for a hearing concerning a license application by Interim Storage Partners LLC (ISP) to construct and operate a consolidated interim storage facility for spent nuclear fuel and greater-than-Class C (GTCC) waste in Andrews County, Texas. The petitioners are: (1) Beyond Nuclear, Inc. (Beyond Nuclear); (2) Sierra Club; (3) a coalition of Don't Waste Michigan, Citizens' Environmental Coalition, Citizens for Alternatives to Chemical Contamination, Nuclear Energy Information

Service, Public Citizen, Inc., San Luis Obispo Mothers for Peace, Sustainable Energy and Economic Development Coalition, and Leona Morgan, individually (collectively, Joint Petitioners); and (4) Fasken Land and Minerals, and Permian Basin Land and Royalty Organization (together, Fasken).

As ISP has revised its license application in response to petitioners' contentions and to the NRC Staff's requests for additional information, both the Board's and the NRC Staff's views as to the admissibility of various contentions have changed. The NRC Staff now contends that only one of the four petitions for a hearing should be granted because, in the Staff's view, only Beyond Nuclear has both demonstrated standing and proffered an admissible contention.[1] ISP opposes the standing of all petitioners and asserts that none of their proffered contentions is admissible.

The Board concludes that Sierra Club has demonstrated standing and has proffered one admissible contention. In accordance with 10 C.F.R. § 2.309(a), we grant Sierra Club's petition and admit it as a party to this proceeding. The admitted contention will be adjudicated under the procedures in 10 C.F.R. Part 2, Subpart L.

The other three petitions are denied. Although Beyond Nuclear has demonstrated standing, it has not proffered an admissible contention. Among the eight Joint Petitioners, only Sustainable Energy and Economic Development Coalition (SEED) has demonstrated standing. SEED's petition, however, must be denied for lack of an admissible contention. Although Fasken has established standing, it has not proffered an admissible contention.

I. BACKGROUND

A. General

Typically, after nuclear fuel is used at a nuclear plant, it is cooled and stored in a spent fuel pool. After a certain amount of time, the spent fuel is loaded into canisters, welded shut, and then stored in casks at an onsite independent spent fuel storage installation.[2] When a plant owner chooses to permanently shut down its nuclear plant, it may initiate the decommissioning process immediately, or it

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[1] *See* NRC Staff's Consolidated Response to Petitions to Intervene and Requests for Hearing Filed by: Sierra Club; [Joint Petitioners] (Dec. 10, 2018) [hereinafter NRC Staff Consol. Answer] (asserting that Sierra Club Contentions 4 and 9 and Joint Petitioners Contention 3 are partly admissible); NRC Staff's Response to Petitions to Intervene and Requests for Hearing Filed by [Fasken] (Nov. 23, 2018) [hereinafter NRC Staff Answer to Fasken] (asserting that Fasken Contention 2 is partly admissible). *But see* Tr. at 201-05 (NRC Staff counsel stating at oral argument that only Beyond Nuclear proffers an admissible contention in part).

[2] *See* NRC, Safety of Spent Fuel Storage, NUREG/BR-0528, at 1-2 (Apr. 2017).

may wait years to start the process. Regardless of how the company proceeds, the spent nuclear fuel accumulated by the plant over its lifetime will remain at the plant site. The storage of spent nuclear fuel costs money for security and maintenance.

Congress likely did not envision this situation when it passed the Nuclear Waste Policy Act of 1982 (NWPA).[3] Congress contemplated that the U.S. Department of Energy (DOE) would build a national nuclear waste repository, and that the nuclear power companies would help pay for it. Under section 302 of the NWPA, power reactor licensees were required to pay into a nuclear waste fund for construction of the repository.[4] In exchange, section 302(a)(5)(B) committed DOE to begin disposing of the nuclear power plants' spent fuel no later than January 31, 1998. When a permanent repository failed to materialize, the power plant licensees sued and began to recover from the federal government substantial damages to cover the cost of continuing to store spent fuel at their sites.[5] Contract damage lawsuits under the NWPA are now commonplace, and the federal government pays out damages on a regular basis.[6]

Shortly after DOE's application for authorization to construct a geologic repository at Yucca Mountain, Nevada was eventually submitted to the NRC in June 2008,[7] Congress stopped funding the Yucca Mountain project, and a pending adjudication before a licensing board was suspended in September 2011.[8] To date, almost eight years later, Congress has provided no new funding for a permanent nuclear waste repository at Yucca Mountain. As lack of congressional funding for a permanent repository persists, spent fuel is likely to be stored at decommissioned sites across the country, and will continue to accumulate at the sites of the nation's operating reactors.

This proceeding concerns a possible temporary solution: interim, consolidated storage of spent nuclear fuel by private industry. Both DOE and nuclear power plant owners potentially have an interest in contracting to use such a facility. DOE might want to take responsibility for the nuclear plants' spent fuel, pay a private company to store it, and stop paying out damages. The nuclear plant owners, on the other hand, might be willing to apply their ongoing damage

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[3] Nuclear Waste Policy Act of 1982, 42 U.S.C. §§ 10101-10270 (1983) [hereinafter NWPA].

[4] 42 U.S.C. § 10222.

[5] *See, e.g., Nat'l Ass'n of Regulatory Util. Comm'rs v. U.S. Dep't of Energy,* 736 F.3d 517, 520 (D.C. Cir. 2013); *Me. Yankee Atomic Power Co. v. United States,* 225 F.3d 1336, 1341-42 (Fed. Cir. 2000); *Ind. Mich. Power Co. v. U.S. Dep't of Energy,* 88 F.3d 1272, 1276-77 (D.C. Cir. 1996).

[6] *See, e.g., Nat'l Ass'n of Regulatory Util. Comm'rs,* 736 F.3d at 520.

[7] *See* Letter from Edward F. Sproat III, Director, DOE Office of Civilian Radioactive Waste Management, to Michael F. Weber, Director, NRC Office of Nuclear Material Safety and Safeguards (NMSS) (June 3, 2008) (ADAMS Accession No. ML081560407).

[8] *U.S. Department of Energy* (High-Level Waste Repository), LBP-11-24, 74 NRC 368 (2011).

payments toward paying a private company to store their spent fuel offsite, so that it would no longer be their responsibility to keep onsite and secure. Because the NWPA was drafted on the premise that DOE would not accept the spent fuel until a permanent repository becomes operational,[9] however, as discussed *infra* only the second option would be consistent with the terms of the statute.

Two companies — Holtec International and Interim Storage Partners LLC — apparently see a business opportunity in the congressional stalemate that has resulted in DOE's inability to take ownership of spent fuel. Both companies submitted applications to the NRC proposing to construct consolidated interim storage facilities (CISFs) to initially store spent fuel for a forty-year term.

As the licensing board in the *Holtec* proceeding observed (and as relevant here to ISP), there are substantial differences between the licensing and regulatory requirements for a CISF and for the Yucca Mountain permanent repository.[10] For example, NRC's regulations require DOE to demonstrate a reasonable expectation that its repository would meet specified performance standards throughout the "period of geologic stability," defined to "end 1 million years after disposal,"[11] while the requirements for a CISF under Part 72 apply to renewable terms of no more than "40 years from the date of issuance."[12] Moreover, while Yucca Mountain was authorized by statute to store 70,000 metric tons of high-level radioactive waste,[13] ISP is initially requesting to store no more than 5,000 metric tons of spent fuel and GTCC waste.[14] While DOE's permanent repository would be constructed at least 700 feet below the surface,[15] ISP's spent fuel would be stored above ground on a concrete pad.[16] And, all parts of ISP's storage system use canisters and casks that have been separately approved and

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[9] *See* 42 U.S.C. § 10222(a)(5)(A).

[10] *Holtec International* (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 359 (2019).

[11] 10 C.F.R. § 63.302.

[12] *Id.* § 72.42(a).

[13] 42 U.S.C. § 10134(d).

[14] WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report, Docket No. 72-1050 (rev. 2 July 2018) at 1-1 [hereinafter ER] (ADAMS Accession No. ML18221A405 (package)). ISP's Environmental Report, however, analyzes the potential full 8-phase capacity of up to 40,000 metric tons of uranium (MTU).

[15] DOE, Office of Civilian Radioactive Waste Management, Final Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, Summary at S-7 (June 2008).

[16] Interim Storage Partners LLC License Application, Docket 72-1050, Andrews County, Texas, (rev. 2 July 2018) at 3-1 [hereinafter ISP License Application] ("The dry cask storage systems will be located on top of the concrete pads constructed at the CISF.") (ADAMS Accession No. ML18206A483).

issued certificates of compliance by the NRC, and therefore are not part of ISP's license application for the Texas storage facility.[17]

Holtec filed its application for a New Mexico-sited CISF in March 2017, and the public was afforded an opportunity to request a hearing and petition to intervene.[18] In *Holtec,*[19] six groups of petitioners across seven states lodged petitions. Although more than forty contentions were proffered, the *Holtec* board held that none met the Commission's standards for a hearing.[20] Notwithstanding termination of the *Holtec* adjudicatory proceeding at the board level, the NRC Staff continues to review the company's application for a HI-STORE CISF in New Mexico. Multiple appeals of the *Holtec* board's decision are currently pending before the Commission.

Most petitioners in this case also petitioned in *Holtec.* Many of the contentions that were proffered in *Holtec* are similar if not identical to those proffered in this proceeding, and for good reason: Both proposed interim storage facilities must meet the safety requirements in 10 C.F.R. Part 72 and the environmental requirements in 10 C.F.R. Part 51. Moreover, the proposed sites are similar geographically — they would be built approximately 40 miles from each other. Despite these similarities, however, the Board recognizes that the sites and the applications in these two proceedings are not the same.

B. Procedural History

In April 2016, Waste Control Specialists LLC (WCS) submitted its initial license application to the NRC to construct and operate a CISF for a term of forty years.[21] A year later, WCS requested that the NRC suspend its safety and environmental reviews and public participation concerning its application.[22] Accordingly, the NRC halted all activities.[23] During this period, WCS and Orano CIS LLC joined together to form ISP, with its sole corporate purpose "to license,

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[17] *See* ISP License Application at 2-1 (tbl. 2-1) (listing only six NRC-approved cask systems to be stored at the ISP CISF).

[18] Holtec International's HI-STORE Consolidated Interim Storage Facility for Interim Storage of Spent Nuclear Fuel, 83 Fed. Reg. 32,919, 32,919-24 (July 16, 2018).

[19] *Holtec,* LBP-19-4, 89 NRC at 358.

[20] *Id.* at 461; *see* 10 C.F.R. § 2.309(f)(1).

[21] Waste Control Specialists LLC, Application for a License for a Consolidated Interim Spent Fuel Storage Facility (Apr. 28, 2016) (ADAMS Accession No. ML16133A100).

[22] Joint Request to Withdraw the *Federal Register* Notice Providing an Opportunity to Submit Hearing Requests (Apr. 19, 2017), Attach. 1, Letter from Rod Baltzer, WCS President and CEO, to NRC Document Control Desk (Apr. 18, 2017) (ADAMS Accession No. ML17109A480).

[23] *See Waste Control Specialists LLC* (Consolidated Interim Storage Facility), CLI-17-10, 85 NRC 221, 222 (2017) (granting WCS's and NRC Staff's request to suspend all activity and withdraw the hearing opportunity on the WCS CISF application).

design, construct and operate the CISF at the Waste Control Specialists site in Andrews, Texas."[24]

On August 29, 2018, after receiving a revised license application from ISP,[25] the NRC issued a *Federal Register* notice that allowed the public to request a hearing and petition to intervene by October 29, 2018.[26] The Secretary of the Commission (SECY) later extended this deadline to November 13, 2018.[27] ISP's application states that it intends to construct and operate its CISF on approximately 100 acres in Andrews County, Texas.[28] In the first phase of its storage project, ISP seeks to store 5,000 metric tons of uranium (MTUs) (including some mixed oxide fuel and GTCC waste) in six canister systems for a 40-year term.[29] If its initial license is granted, ISP plans to request license amendments for "authorization to possess and store an additional 5,000 MTUs of [spent nuclear fuel] for each of seven subsequent expansion phases to be completed over the course of 20 years."[30] ISP thus anticipates that, after completion of its eight planned phases, its CISF would store 40,000 MTUs of spent fuel and GTCC waste, which is the amount analyzed in ISP's Environmental Report.[31]

On September 14, 2018, the Commission received simultaneous motions from Beyond Nuclear and Fasken to dismiss both this proceeding and the *Holtec* proceeding as violating the NWPA.[32] ISP[33] and the NRC Staff opposed.[34] Although

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[24] ISP License Application at 1-4.

[25] Letter from Jeffery D. Isakson, ISP, to NRC Document Control Desk (June 8, 2018) (ADAMS Accession No. ML18166A003).

[26] Interim Storage Partners Waste Control Specialists Consolidated Interim Storage Facility, 83 Fed. Reg. 44,070, 44,070-75 (Aug. 29, 2018), corrected, 83 Fed. Reg. 44,680 (Aug. 31, 2018) (correcting the deadline date for petitioners to request a hearing to October 29, 2018).

[27] Order of the Secretary (Oct. 25, 2018) at 2.

[28] ER at 1-1.

[29] *Id.*

[30] *Id.*

[31] *Id.*

[32] Beyond Nuclear, Inc.'s Motion to Dismiss Licensing Proceedings for HI-STORE [CISF] and WCS [CISF] for Violation of the [NWPA] (Sept. 14, 2018). Because Fasken's initial motion to dismiss both CISF proceedings was only filed and served in the *Holtec* docket, Fasken filed its identical motion to dismiss in this docket on September 28, 2018. Motion of [Fasken] to Dismiss Licensing Proceedings for HI-STORE [CISF] and WCS [CISF] (Sept. 28, 2018).

[33] [ISP's] Response Opposing Beyond Nuclear, Inc.'s Unauthorized September 14, 2018 Filing (Sept. 24, 2018); [ISP's] Response Opposing [Fasken's] Unauthorized September 28, 2018 Filing (Oct. 5, 2018).

[34] Because the NRC Staff was a party in *Holtec,* the NRC Staff filed its single response to both Beyond Nuclear and Fasken in *Holtec* and in this proceeding. NRC Staff's Response to Motions to Dismiss Licensing Proceedings (Sept. 24, 2018).

SECY denied both motions on procedural grounds,[35] SECY observed that Beyond Nuclear had also filed a hearing petition[36] specific to this proceeding that incorporated by reference arguments contained in its motion to dismiss.[37] SECY then referred Beyond Nuclear's petition to intervene and Fasken's motion to the Atomic Safety and Licensing Board Panel to be considered under the Commission's contention admissibility standards in 10 C.F.R. § 2.309.[38]

On October 29, 2018, ISP[39] and the NRC Staff[40] filed answers to Beyond Nuclear's petition, and Beyond Nuclear replied.[41]

Fasken filed its petition for hearing on October 29, 2018.[42] On November 20, 2018, ISP filed answers opposing both Fasken's motion to dismiss this proceeding as referred to the Board by SECY (i.e., its referred contention) and Fasken's hearing petition.[43] The NRC Staff filed its answer to both Fasken's hearing petition and Fasken's referred contention on November 23, 2018.[44] Fasken filed separate replies to ISP and to the NRC Staff on November 28 and 30, 2018,

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[35] Order of the Secretary, In the Matters of Holtec International (HI-STORE [CISF]) Docket 72-1051; Interim Storage Partners LLC (WCS [CISF]) Docket 72-1050 (Oct. 29, 2018) [hereinafter Order Denying Motions to Dismiss].

[36] Beyond Nuclear, Inc.'s Hearing Request and Petition to Intervene (Oct. 3, 2018) [hereinafter Beyond Nuclear Pet.].

[37] Order Denying Motions to Dismiss at 2.

[38] *Id.* at 2-3. On December 27, 2018, Beyond Nuclear petitioned the United States Court of Appeals for the District of Columbia Circuit to review SECY's order denying Beyond Nuclear's motion to dismiss and referring it as a petition to this Board. That appeal remains pending, although Beyond Nuclear has requested it be held in abeyance pending the outcome of this proceeding. *See* Notice of Beyond Nuclear's Petition for Review of NRC Order in D.C. Circuit U.S. Court of Appeals, Docket Nos. 72-1050 & 72-1051 (Jan. 16, 2019).

[39] [ISP's] Answer Opposing Beyond Nuclear, Inc.'s Hearing Request and Petition to Intervene (Oct. 29, 2018) [hereinafter ISP Answer to Beyond Nuclear].

[40] NRC Staff's Response to Beyond Nuclear, Inc.'s Hearing Request and Petition to Intervene (Oct. 29, 2018) [hereinafter NRC Staff Answer to Beyond Nuclear].

[41] Beyond Nuclear's Reply to Oppositions to Hearing Request and Petition to Intervene (Nov. 5, 2018).

[42] Petition of [Fasken] for Intervention and Request for Hearing (Oct. 29, 2018) [hereinafter Fasken Pet.]. On November 9, 2018, the ASLBP's Chief Administrative Judge granted a jointly-filed motion to establish a briefing schedule to Fasken's referred contention. The order set a separate deadline for ISP and the NRC Staff to file respective answers to the referred contention on November 23, 2018, and established Fasken's reply deadline for no later than November 30, 2018. Chief Administrative Judge Order (Granting Joint Motion to Establish Briefing Schedule) (Nov. 9, 2018) (unpublished).

[43] [ISP's] Answer Opposing [Fasken's] Motion to Dismiss as Referred to the ASLBP for Consideration Under 10 C.F.R. § 2.309 (Nov. 20, 2018); [ISP's] Answer Opposing Hearing Request and Petition to Intervene Filed by [Fasken] (Nov. 20, 2018) [hereinafter ISP Answer to Fasken].

[44] NRC Staff's Response to Petitions to Intervene and Requests for Hearing Filed by [Fasken] (Nov. 23, 2018) [hereinafter NRC Staff Answer to Fasken].

respectively.[45] Also on November 30, Fasken filed a single reply to both ISP and to the NRC Staff concerning its referred contention.[46]

On December 10, 2018, ISP moved to strike portions of Fasken's reply concerning its standing on its referred contention, and portions of Fasken's replies to ISP and to the NRC Staff concerning all of Fasken's proffered contentions.[47] Fasken opposed.[48]

On November 13, 2018, Sierra Club and Joint Petitioners filed their petitions to intervene and hearing requests.[49] On December 10, 2018, the NRC Staff submitted a consolidated answer[50] and ISP filed separate answers to Sierra Club[51] and Joint Petitioners.[52] Sierra Club and Joint Petitioners replied.[53]

On December 27, 2018, ISP filed separate motions to strike portions of Sierra Club's and Joint Petitioners' replies.[54] Sierra Club and Joint Petitioners opposed.[55]

On June 3, 2019, ISP's counsel submitted a letter to the Board.[56] The letter

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[45] [Fasken's] Reply to ISP's Opposition to Hearing Request and Petition to Intervene (Nov. 28, 2018); [Fasken's] Reply to NRC Staff's Opposition to Hearing Request and Petition to Intervene (Nov. 30, 2018).

[46] Reply of [Fasken] to [ISP's] and Staff's Oppositions to Motion to Dismiss (Nov. 30, 2018).

[47] [ISP's] Motion to Strike Portions of the Replies Filed by [Fasken] (Dec. 10, 2018).

[48] [Fasken's] Opposition to [ISP's] Motion to Strike (Dec. 17, 2018).

[49] Petition to Intervene and Request for Adjudicatory Hearing by Sierra Club (Nov. 13, 2018) [hereinafter Sierra Club Pet.]; Petition of [Joint Petitioners] to Intervene, and Request for an Adjudicatory Hearing (Nov. 13, 2018) [hereinafter Joint Pet'rs Pet.]. Thereafter, Sierra Club and Joint Petitioners moved to disqualify this Board because the administrative judges in this proceeding are the same as those on the *Holtec* board. Motion of Sierra Club, [Joint Petitioners] for Disqualification of Atomic Safety and Licensing Board [(ASLB)] (Nov. 26, 2018). The Board denied the motion to disqualify and referred its decision to the Commission. Licensing Board Memorandum and Order (Denying and Referring Motion to Disqualify Board), LBP-18-6, 88 NRC 177, 180 (2018). The Commission affirmed. CLI-19-3, 89 NRC 236 (2019).

[50] NRC Staff's Consolidated Response to Petitions to Intervene and Requests for Hearing Filed By: Sierra Club; [Joint Petitioners] (Dec. 10, 2018) [hereinafter NRC Staff Consol. Answer].

[51] [ISP's] Answer Opposing Hearing Request and Petition to Intervene Filed by Sierra Club (Dec. 10, 2018) [hereinafter ISP Answer to Sierra Club].

[52] [ISP's] Answer Opposing Hearing Request and Petition to Intervene Filed by [Joint Petitioners] (Dec. 10, 2018) [hereinafter ISP Answer to Joint Pet'rs].

[53] Sierra Club's Reply to Answers filed by [ISP] and NRC Staff (Dec. 17, 2018) [hereinafter Sierra Club Reply to ISP and NRC Staff]; Combined Reply of [Joint Petitioners] to [ISP] and NRC Answers [hereinafter Joint Pet'rs Reply].

[54] [ISP's] Motion to Strike Portions of the Reply Filed by Sierra Club (Dec. 27, 2018); [ISP's] Motion to Strike Portions of the Reply Filed by [Joint Petitioners] (Dec. 27, 2018).

[55] Sierra Club's Answer to [ISP's] Motion to Strike Portions of Sierra Club's Reply (Jan. 2, 2019); Opposition of [Joint Petitioners] to [ISP] Motion to Strike (Dec. 30, 2018).

[56] Letter from Timothy P. Matthews, Counsel for [ISP], to Licensing Board (June 3, 2019) [hereinafter ISP June 3, 2019 Letter].

informed the Board and participants that ISP had submitted a partial response to the NRC Staff's Request for Additional Information (RAI) Part 1 and made two unrelated modifications to its license application that, it stated, could affect some of the proffered contentions in this proceeding.[57] First, ISP removed its request for an exemption under 10 C.F.R. § 72.30 concerning financial assurance.[58] Second, ISP revised its Environmental Report to "reflect the correct status of the lesser prairie chicken."[59] Finally, the letter stated that ISP's response to the Staff's RAI 2.2-2 includes a discussion of gas and oilfield operations in the vicinity of the proposed facility.[60]

On June 28, 2019, ISP submitted a second letter to the Board.[61] As in the earlier letter, ISP informed the Board and participants of new responses to the NRC Staff's RAIs, which in turn might affect participants' proffered contentions. ISP stated that it had submitted a partial response to the NRC Staff's RAI Part 3 and the NRC Staff's Transportation RAIs TR-1 through TR-10.[62] Additionally, ISP advised that it had revised sections 4.2.6, 4.2.7, 4.2.8, 4.2.9 and Attachment 4-1 of its Environmental Report to correspond with its RAI answers.[63]

Also on June 28, ISP submitted a written response to this Board's June 7 question as to whether, absent new legislation, DOE could lawfully assume ownership of the spent nuclear fuel in ISP's proposed facility.[64] ISP stated it agreed that "absent new legislation, the DOE could not lawfully assume ownership of the spent nuclear fuel" in its proposed CISF,[65] and, citing *Holtec,* contended that no admissible contention as to this issue remains in this proceeding.[66]

The Board heard oral arguments concerning standing and contention admissibility on July 10 and 11, 2019 in Midland, Texas. The Board encouraged,

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[57] *Id.* at 1.

[58] *Id.* ("The Board and the parties may view this change as relevant to Beyond Nuclear's Proposed Contention, [Fasken's] Referred Motion to Dismiss, Sierra Club's Proposed Contentions 1 and 9, and [Joint Petitioners'] "Objection" and Proposed Contention 3.").

[59] *Id.* at 2 ("The Board and the parties may view this change as relevant to Sierra Club's Proposed Contention 13, and [Fasken's] Proposed Contention 5.").

[60] *Id.* ("The Board and the parties may view this information as relevant to [Fasken's] Proposed Contention 2 and Joint Petitioners' Proposed Contention 6.").

[61] Letter from Timothy P. Matthews, Counsel for [ISP], to Licensing Board (June 28, 2019) [hereinafter ISP June 28, 2019 Letter].

[62] *Id.* at 1.

[63] *Id.*; *id.* at 2 ("The Board and hearing participants may view portions of the revised ER sections and Attachment 4-1 as relevant to [Joint Petitioners'] Proposed Contention 1, Sierra Club's Proposed Contentions 4 and 16, and/or ISP's answers to those proposed contentions.").

[64] [ISP's] Response to the [ASLB's] Questions Regarding the U.S. [DOE's] Authority Under the [NWPA] (June 28, 2019) [hereinafter ISP June 28, 2019 Response to Board].

[65] *Id.* at 1.

[66] *Id.* (citing *Holtec,* LBP-19-4, 89 NRC at 376-82); *id.* at 3.

but did not require, each petitioner to address what it contends are relevant differences between this proceeding and the *Holtec* proceeding.[67]

II. STANDING ANALYSIS

In a licensing proceeding such as this, the NRC must grant a hearing "upon the request of any person whose interest may be affected by the proceeding."[68] However, to determine whether a petitioner has a sufficient interest, the Commission applies contemporaneous judicial concepts of standing.[69] Although the Commission instructs us to construe the petition in favor of the petitioner when we determine standing,[70] it is nonetheless each petitioner's burden to demonstrate that standing requirements are met.[71] As relevant here, a petitioner may satisfy this burden in one of three ways.

First, a petitioner may show traditional standing. This requires a showing that a person or organization has suffered or might suffer a concrete and particularized injury that is: (1) fairly traceable to the challenged action; (2) likely redressable by a favorable decision; and (3) arguably within the zone of interests protected by the governing statutes[72] — here primarily the Atomic Energy Act (AEA) and the National Environmental Policy Act (NEPA).[73]

Second, a petitioner may take advantage of proximity presumptions the Commission has created to simplify standing requirements for individuals who reside within, or have frequent contacts with, a geographic zone of potential harm. In proceedings that involve construction or operation of a nuclear power plant, the zone is deemed to be the area within a 50-mile radius of the site.[74] In other proceedings, such as this one, a "proximity plus" standard is applied on a "case-by-case basis, taking into account the nature of the proposed action and the

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[67] Licensing Board Order (Establishing Format for Oral Argument) (June 7, 2019) at 2 (unpublished).

[68] 42 U.S.C. § 2239(a)(1)(A).

[69] *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-15-25, 82 NRC 389, 394 (2015).

[70] *Id.*

[71] *See Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), CLI-00-5, 51 NRC 90, 98 (2000). Section 2.309(d) of 10 C.F.R. specifies information that a petitioner should include in its petition to establish standing but does not set a standard a licensing board must apply when deciding whether that information is sufficient.

[72] *Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009).

[73] 42 U.S.C. §§ 2011-2297; *id.* §§ 4321-4347.

[74] *PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 138-39 (2010).

significance of the radioactive source."[75] The smaller the risk of offsite consequences, the closer a petitioner must be to be realistically threatened. Although the Commission has not established a clear standard, the relevant distance from a CISF is likely less than 50 miles because such a storage facility "is essentially a passive structure rather than an operating facility, and . . . therefore [has] less chance of widespread radioactive release."[76]

Third, like most petitioners here, an organization may try to establish representational standing based on the standing of one or more individual members. To establish representational standing, an organization must: (1) show that the interests it seeks to protect are germane to its own purpose; (2) identify at least one member who qualifies for standing in his or her own right; (3) show that it is authorized by that member to request a hearing on his or her behalf; and (4) show that neither the claim asserted nor the relief requested requires an individual member's participation in the organization's legal action.[77]

A. Beyond Nuclear

Beyond Nuclear states that it is "a nonprofit, nonpartisan membership organization that aims to educate and activate the public about the connections between nuclear power and nuclear weapons and the need to abolish both to protect public health and safety, prevent environmental harms, and safeguard our future."[78] Of especial relevance, "Beyond Nuclear advocates for an end to the production of nuclear waste and for securing the existing reactor waste in hardened on-site storage until it can be permanently disposed of in a safe, sound, and suitable underground repository."[79]

Beyond Nuclear claims standing on several theories,[80] but we need consider only one. Beyond Nuclear submits the declaration of its member Rose M. Gardner, who lives within seven miles of the proposed facility and authorizes Beyond Nuclear to represent her.[81]

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[75] *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 116-17 (1995); *see Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n.22 (1994) ("[A] presumption based on geographic proximity is not confined solely to Part 50 reactor licenses, but is also applicable to materials cases where the potential for offsite consequences is obvious.").

[76] *Consumers Energy Co.* (Big Rock Point Independent Spent Fuel Storage Installation), CLI-07-19, 65 NRC 423, 426 (2007).

[77] *Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 409 (2007).

[78] Beyond Nuclear Pet. at 2.

[79] *Id.* at 2-3.

[80] *See id.* at 3-8.

[81] *See id.,* Ex. 2, Decl. of Rose M. Gardner (Sept. 13, 2018).

The NRC Staff does not oppose Beyond Nuclear's claim of standing,[82] and the Board agrees. Ms. Gardner's residence is well within the distance that has been found sufficient in other proceedings that involved spent fuel facilities.[83]

ISP opposes Beyond Nuclear's standing.[84] ISP argues that standing should not be presumed unless a petitioner resides within a facility's required offsite emergency planning zone.[85] Because the Commission does not impose any offsite emergency planning requirements on away-from-reactor facilities for dry storage of aged fuel, ISP claims that the Commission has determined generically that such facilities pose no significant offsite risks to health and safety.[86] Accordingly, ISP argues, no one who lives any distance beyond the fence line of its proposed site is entitled to a presumption of standing.

The Board disagrees. We decline to rule that the level of risk appropriate to triggering emergency planning requirements is necessarily the same as that sufficient to permit a concerned neighbor to file a petition. Among other things, a petitioner may be concerned about potential long-term effects that have nothing to do with a sudden emergency.

ISP would apparently have us deny standing to Ms. Gardner to challenge the storage of potentially up to 40,000 metric tons of spent fuel even if her home were located directly across the street. This seems neither realistic nor consistent with the Commission's direction to construe standing in favor of the petitioner.[87] Ms. Gardner is a person "whose interest may be affected" under section 189a of the AEA.

Beyond Nuclear has demonstrated standing. However, because Beyond Nuclear has not proffered an admissible contention, as discussed *infra,* its request for an evidentiary hearing must nonetheless be denied.

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[82] NRC Staff Consol. Answer at 7.

[83] *See, e.g., Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 429 (2002) (ruling 17 miles sufficient and citing other NRC approvals of standing for petitioners within 10 miles of proposed spent fuel facility expansions); *Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Unit 3), LBP-00-2, 51 NRC 25, 28 (2000) (finding standing of individual with part-time residence located 10 miles from spent fuel facility); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-99-25, 50 NRC 25, 29-31 (1999) (finding standing of petitioner 17 miles from spent fuel facility); *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 1), LBP-88-10A, 27 NRC 452, 454-55, *aff'd,* ALAB-893, 27 NRC 627 (1988) (granting standing of individual living within 10 miles of spent fuel facility).

[84] ISP Answer to Beyond Nuclear at 5-21.

[85] *Id.* at 10-11.

[86] *Id.*

[87] *Turkey Point,* CLI-15-25, 82 NRC at 394.

B. Sierra Club

Sierra Club is a well-known environmental organization. Like Beyond Nuclear, Sierra Club submits supporting declarations from several members who live in the vicinity of the proposed facility.[88] One member — Shirley Henson — states that she lives about six miles away.[89]

As discussed *supra,* this distance is well within the limits that have been found to confer standing to challenge much smaller storage facilities, and the NRC Staff agrees that Sierra Club has established standing.[90] And again, we are not persuaded by ISP's argument[91] that, even to commence a challenge, an individual who lives that close to a potentially massive facility for storing much of the nation's spent nuclear fuel must first demonstrate more.

Sierra Club has demonstrated standing.

C. Joint Petitioners

Joint Petitioners are comprised of seven different organizations and one individual. Except for SEED, they each present a similar standing issue. They do not base their standing claims on their members' proximity to the proposed facility, but rather on their proximity to potential transportation routes by which spent nuclear fuel might travel to the proposed facility.[92]

This is too remote and speculative an interest on which to establish standing. As the Commission has stated: "[M]ere geographical proximity to potential transportation routes is insufficient to confer standing."[93]

SEED, on the other hand, has submitted the supporting declaration of one member — Brigitte Gardner-Aguilar — who lives in Eunice, New Mexico about

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[88] *See* Sierra Club Pet., Decl. of Rose Gardner (Oct. 18, 2018); *id.,* Decl. of Shirley Henson (Oct. 23, 2018); *id.,* Decl. of Deanna Maria Dyer (Sept. 13, 2018); *id.,* Decl. of Gordon Wayne Dyer (Sept. 13, 2018); *id.,* Decl. of Danielle Marie Dyer (Sept. 13, 2018).

[89] *See id.,* Decl. of Shirley Henson (Oct. 23, 2018) ¶ 1. Rose Gardner also states that she lives six miles away; however, because Ms. Gardner submitted similar declarations on behalf of both Sierra Club and Beyond Nuclear, we consider her declaration only in connection with the standing of Beyond Nuclear. *See Big Rock Point ISFSI,* CLI-07-19, 65 NRC at 426 (explaining that "multiple representation might lead to confusion").

[90] NRC Staff Consol. Answer at 11.

[91] ISP Answer to Sierra Club at 7-14.

[92] Joint Pet'rs Pet. at 11-20.

[93] *U.S. Department of Energy* (Plutonium Export License), CLI-04-17, 59 NRC 357, 364 n.11 (2004) (quoting *Diablo Canyon ISFSI,* LBP-02-23, 56 NRC at 434); *see also EnergySolutions, LLC* (Radioactive Waste Import/Export Licenses), CLI-11-3, 73 NRC 613, 623 (2011) (denying petitioners' standing claim for failing to show there would be any impact from the transport of radioactive materials to be imported); *Holtec,* LBP-19-4, 89 NRC at 368 (discussing cases).

five miles from the proposed facility.[94] As discussed *supra,* this distance is well within the limits that have been found to confer standing to challenge much smaller storage facilities. At oral argument, the NRC Staff agreed that, through Ms. Gardner-Aguilar's declaration, SEED has submitted sufficient facts to establish standing.[95]

Although the other Joint Petitioners have not, SEED has demonstrated standing. However, because Joint Petitioners have not proffered an admissible contention, as discussed *infra,* SEED's request for an evidentiary hearing nonetheless must also be denied.

D. Fasken

As set forth in the supporting Declaration of Tommy E. Taylor, Mr. Taylor is Vice President of Fasken Management, LLC, which is the general partner of Fasken Land and Minerals, Ltd.[96] Fasken is a member of Permian Basin Land and Royalty Organization (PBLRO), which is an association of oil and gas producers and royalty owners formed specifically in response to ISP's proposed facility.[97]

As stated in Mr. Taylor's Declaration, Fasken owns property that is within eighteen miles of the proposed facility. Mr. Taylor's employment duties require him to travel to and spend time in the area of the proposed CISF site.[98] Additionally, he is personally aware of other Fasken employees who "often" travel to the area for employment reasons.[99] As an officer of Fasken, he is concerned about the potential human health effects on Fasken employees, including the costs associated with medical care and treatment of radiation-related conditions.[100]

As stated in the supporting Declaration of D.K. Boyd, Mr. Boyd is an individual member of PBLRO.[101] He owns and ranches the Frying Pan Ranch, the closest part of which is only four miles from the proposed facility.[102]

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[94] Joint Pet'rs Pet. at 33, *id.,* Decl. of Brigitte Gardner-Aguilar (Oct. 22, 2018).

[95] Tr. at 204. Initially, the NRC Staff opposed the standing of all Joint Petitioners, including SEED. NRC Staff Consol. Answer at 7-11. Because Joint Petitioners focused their standing claims primarily on proximity to potential transportation routes, rather than proximity to the proposed facility, it perhaps was not apparent that Ms. Gardner-Aguilar lives just as close or closer to the proposed facility as do Sierra Club members whose standing the Staff did not oppose. *See* NRC Staff Consol. Answer at 11.

[96] Fasken Pet., Ex. 1, Decl. of Tommy E. Taylor ¶ 1 (Oct. 29, 2018).

[97] *Id.* ¶¶ 1, 4.

[98] *Id.* ¶ 3.

[99] *Id.*

[100] *Id.* ¶ 11.

[101] *Id.,* Ex. 2, Decl. of D.K. Boyd (Oct. 29, 2018) ¶ 2.

[102] *Id.* ¶ 4.

Initially, the NRC Staff concluded that both Fasken and PBLRO had established standing.[103] At oral argument, however, the Staff revised its position to say that it found Mr. Boyd's declaration sufficient to establish standing for PBLRO but did not find Mr. Taylor's declaration sufficient to establish standing for Fasken. Thus, the Staff would now have the Board grant standing to PBLRO, but not to Fasken.[104]

Although the standing of Fasken and of Mr. Boyd is not as clear as the standing of the individual representatives of Beyond Nuclear, Sierra Club, and SEED, the Board concludes their proximity to the proposed facility is sufficient to confer standing on Fasken and representative standing on PBLRO. In light of the Commission's direction to construe standing claims in favor of the petitioner,[105] we agree with the NRC Staff's original view[106] that they both have shown enough.[107]

Fasken and PBLRO have demonstrated standing.[108] However, as discussed *infra,* because Fasken and PBLRO have not proffered an admissible contention, their request for an evidentiary hearing nonetheless must be denied.

III. LEGAL STANDARDS

A. Legal Standards Governing Contention Admissibility

For its hearing request to be granted, in addition to demonstrating standing, a petitioner must proffer at least one admissible contention.[109]

An admissible contention must: (1) state the specific legal or factual issue to be raised or controverted; (2) provide a brief explanation for the basis of the contention; (3) demonstrate that the issue raised in the contention is within the scope of the proceeding; (4) demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) concisely state the alleged facts or expert opinions that

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[103] NRC Staff Answer to Fasken at 6-7.

[104] Tr. at 316-17.

[105] *Turkey Point,* CLI-15-25, 82 NRC at 394.

[106] NRC Staff Answer to Fasken at 6-7.

[107] It would seem desirable, however, for the Commission to provide more specific guidance concerning how licensing boards should balance the relevant considerations when standing to challenge a fuel storage facility is not based simply upon nearby residence. *See Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-12-3, 75 NRC 164, 189 n.27, *aff'd,* CLI-12-12, 75 NRC 603 (2012).

[108] Because Fasken has demonstrated standing based on its original petition and supporting declarations, we deny as moot ISP's motion to strike as it pertains to the standing portion of Fasken's replies.

[109] 10 C.F.R. § 2.309(a).

support the petitioner's position and on which the petitioner intends to rely at an evidentiary hearing, including references to the specific sources and documents on which the petitioner intends to rely; and (6) show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes or, if the application is alleged to be deficient, by identifying such deficiencies and the supporting reasons for this allegation.[110]

A further requirement applies to several contentions addressed *infra.* No NRC rule or regulation may be challenged in a contention unless the petitioner seeks and obtains a waiver from the Commission in accordance with 10 C.F.R. § 2.335. No petitioner in this proceeding has sought such a waiver.

The contention admissibility rules are "strict by design."[111] The Commission has observed that they "properly 'reserve [the] hearing process for genuine, material controversies between knowledgeable litigants.'"[112] Failure to satisfy even one of the requirements requires the Board to reject the contention.[113]

This six-factor standard resulted from the Commission's effort to "raise the threshold bar for an admissible contention."[114] Previously, licensing boards would sometimes admit contentions "that appeared to be based on little more than speculation," and petitioners would try to "unearth" admissible contentions "through cross-examination."[115] Rather than expend agency time and resources on vague and unsupported claims,[116] the Commission strengthened the contention admissibility standards to what they are today — standards that afford evidentiary hearings only to those who "proffer at least some minimal factual and legal foundation in support of their contentions."[117]

Therefore, although a petitioner need not prove its contention at this stage, mere notice pleading of proffered contentions is insufficient.[118] Rather, the NRC requires a petitioner to read the pertinent portions of the license application, including the Safety Analysis Report (SAR) and the Environmental Report, state

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[110] *Id.* § 2.309(f)(1)(i)-(vi).

[111] *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001).

[112] *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 396 (2012) (quoting *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 219 (2003)).

[113] *See Entergy Nuclear Operations, Inc.* (Indian Point, Unit 2), CLI-16-5, 83 NRC 131, 136 (2016).

[114] *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999).

[115] *Id.*

[116] *See* Changes to the Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

[117] *Oconee,* CLI-99-11, 49 NRC at 334.

[118] *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003).

the applicant's position and the petitioner's opposing view, and explain why it disagrees with the applicant.[119]

B. NEPA Legal Standards

NEPA mandates that federal agencies prepare an environmental impact statement (EIS) before undertaking any "major Federal actions significantly affecting the quality of the human environment."[120] The preparation of an EIS is meant to ensure that federal agencies "will not act on incomplete information, only to regret [their] decision after it is too late to correct."[121] NEPA requires agencies to take a "'hard look' at environmental consequences" of the proposed action,[122] and imposes a duty upon the agency to both "consider every significant aspect of the environmental impact of a proposed action"[123] and "inform the public" of its analysis and conclusion.[124]

NEPA's "hard look" mandate notwithstanding, the agency is not obligated to analyze every conceivable aspect of the project before it.[125] Instead, this "hard look" is subject to a "rule of reason,"[126] meaning that the agency need not perform analyses concerning events that would be considered "worst-case" scenarios involving the project,[127] or those considered "remote and highly speculative."[128] NEPA does not necessitate "certainty or precision" nor does it mandate particular results from the agency.[129] Rather, NEPA requires "an *estimate* of

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[119] Rules of Practice for Domestic Licensing Proceedings — Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170-71 (Aug. 11, 1989).

[120] 42 U.S.C. § 4332(2)(C); *see also Nat. Res. Def. Council v. NRC,* 823 F.3d 641, 643 (D.C. Cir. 2016).

[121] *Marsh v. Or. Nat. Res. Council,* 490 U.S. 360, 371 (1989).

[122] *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 350 (1989) (quoting *Kleppe v. Sierra Club,* 427 U.S. 390, 410 n.21 (1976)).

[123] *Balt. Gas & Elec. v. Nat. Res. Def. Council, Inc.,* 462 U.S. 87, 97 (1983) (quoting *Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc.,* 435 U.S. 519, 553 (1978)).

[124] *Id.* (citing *Weinberger v. Catholic Action of Haw./Peace Educ. Project,* 454 U.S. 139, 143 (1981).

[125] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002).

[126] *Nat. Res. Def. Council, Inc. v. Morton,* 458 F.2d 827, 834 (D.C. Cir. 1972).

[127] *Private Fuel Storage,* CLI-02-25, 56 NRC at 352.

[128] *Limerick Ecology Action, Inc. v. NRC,* 869 F.2d 719, 754-55 (3d Cir. 1989).

[129] *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005).

anticipated (not unduly speculative) impacts" from the agency.[130] The statutory obligations seek to "guarantee process, not specific outcomes."[131]

At this stage of the proceeding, the NRC Staff has not issued an EIS for the proposed ISP facility. NRC regulations nonetheless require petitioners to file environmental contentions "based on documents or other information at the time the petition is to be filed," i.e., the applicant's environmental report.[132] Although it is the NRC Staff's responsibility to comply with NEPA in its later-issued EIS,[133] we analyze contentions challenging the Environmental Report now as if those contentions will migrate as challenges to the Staff's later-issued EIS.[134]

C. The Continued Storage Rule

In *New York v. NRC,*[135] four states, an Indian community, and a number of environmental groups challenged a 2010 revision to the NRC's Waste Confidence Decision.[136] The United States Court of Appeals for the District of Columbia Circuit held that the NRC had inadequately performed its NEPA evaluation by not considering the "environmental effects of failing to secure permanent storage" and ruled that the agency "must conduct a true [environmental assessment] regarding the extension of temporary storage."[137] In response, the NRC developed

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[130] *Id.* (emphasis in original).

[131] *Massachusetts v. NRC,* 708 F.3d 63, 67 (1st Cir. 2013) (citing *Town of Winthrop v. FAA,* 535 F.3d 1, 4 (1st Cir. 2008).

[132] 10 C.F.R. § 2.309(f)(2); *see also Powertech (USA), Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), CLI-16-20, 84 NRC 219, 231 (2016).

[133] 42 U.S.C. §§ 4321 *et seq.*

[134] *See Powertech,* CLI-16-20, 84 NRC at 231; *see also Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015) ("[A] contention 'migrates' when a licensing board construes a contention challenging [an environmental report] . . . as a challenge to a subsequently issued Staff NEPA document without the petitioner amending the contention.").

[135] 681 F.3d 471 (D.C. Cir. 2012).

[136] In 2010, the Commission promulgated a rule that made five findings: (1) safe disposal of high-level waste and spent nuclear fuel in a mined geologic repository is technically feasible; (2) at least one mined geologic repository will be available when necessary; (3) high-level waste and spent nuclear fuel will be safely managed until a repository is available; (4) spent fuel can be stored safely and without significant environmental impacts for at least 60 years beyond the licensed life for operation of that reactor in a combination of storage in its spent fuel storage basin and either onsite or offsite spent fuel storage facilities; and (5) onsite or offsite storage for spent nuclear fuel will be made available if needed. *See* 10 C.F.R. § 51.23 (2010) (75 Fed. Reg. 81,037, 81,037-76 (Dec. 23, 2010)).

[137] *New York,* 681 F.3d at 473, 483.

the Generic Environmental Impact Statement (GEIS) for Continued Storage of Spent Nuclear Fuel[138] and promulgated the Continued Storage Rule.[139]

The Continued Storage GEIS considers, among other things, environmental impacts of short-term storage (60 years beyond the cessation of reactor operations), long-term storage (100 years after that period), and indefinite storage of spent nuclear fuel for both at-reactor and away-from-reactor sites.[140] The Continued Storage Rule incorporates the analyses and impact determinations from the Continued Storage GEIS.[141] Of especial importance is that neither the Continued Storage Rule nor the Continued Storage GEIS states a preference for any particular storage method (i.e., spent fuel pool storage versus dry cask storage).

The Continued Storage Rule provides that applicants for reactor or spent fuel storage facility licenses "are not required to discuss the environmental impacts of spent nuclear fuel storage" for the period following the term of their license.[142] Instead, the NRC's EIS is deemed to incorporate the impact determinations of the Continued Storage GEIS.[143]

As with all challenges to the Commission's regulations, a petitioner is barred from challenging the Continued Storage Rule unless the petitioner obtains a waiver from the Commission.[144]

IV. CONTENTION ANALYSIS

A. Beyond Nuclear

Beyond Nuclear's sole contention states:

> The NRC must dismiss ISP's license application and terminate this proceeding because the application violates the NWPA. The proceeding must be dismissed because the central premise of ISP's application — that the U.S. Department of Energy ("DOE") will be responsible for the spent fuel that is transported to and stored at the proposed interim facility — violates the NWPA. Under the NWPA, the DOE is precluded from taking title to spent fuel unless and until a permanent repository has opened. 42 U.S.C. §§ 10222(a)(5)(A), 10143.[145]

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[138] 1 NMSS, [GEIS] for Continued Storage of Spent Nuclear Fuel, NUREG-2157 (Sept. 2014) (ADAMS Accession No. ML14196A105) [hereinafter Continued Storage GEIS].

[139] Final Rule, Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,238, 56,238-63 (Sept. 19, 2014); 10 C.F.R. § 51.23 [hereinafter Continued Storage Rule].

[140] Continued Storage GEIS at 1-13 to -15, 4-1 to 5-65.

[141] 10 C.F.R. § 51.23(a).

[142] *Id.* § 51.23(b).

[143] *Id.*

[144] *See* 10 C.F.R. § 2.335(a)-(b).

[145] Beyond Nuclear Pet. at 8-9.

Similar to the Holtec application, ISP's license application states that either DOE or other holders of the title to spent nuclear fuel will hold title to the spent fuel destined for storage at the proposed facility.[146] Unlike in *Holtec,* initially ISP also sought an exemption from the NRC's financial assurance regulations in the event that DOE were to hold title.[147]

Beyond Nuclear's contention encompasses three separate claims: First, as the law now stands, DOE cannot, consistent with the NWPA, presently take title to private power companies' spent nuclear fuel.[148] Second, ISP therefore cannot properly seek an exemption from NRC regulations based on the possibility of DOE's taking title.[149] Third, references in ISP's application to the option of private ownership are allegedly "meaningless and unsupported," serving as "nothing more than fig leaves" over the essential premise of ISP's proposal — that its storage facility "will be built *only* if DOE owns the waste."[150]

Beyond Nuclear's first two claims are now moot. ISP responded to the Board's written questions by stating: "Applicant agrees that, absent new legislation, the DOE could not lawfully assume ownership of the spent nuclear fuel in the proposed interim storage facility."[151] ISP also withdrew its request for an exemption from the financial assurance requirements set forth in 10 C.F.R. § 72.30.[152] There is no dispute on these points. (The NWPA's prohibition on DOE's taking title to private power companies' spent nuclear fuel before a permanent national repository becomes operational is discussed at length in *Holtec,* and will not be repeated here.[153])

Beyond Nuclear's third claim also does not raise a genuine dispute with ISP's application,[154] which includes the option of contracting directly with nuclear plant owners that currently hold title to their spent fuel. As in *Holtec,*[155] whether ISP will find that alternative commercially viable is not an issue before the Board, because the business decision of whether to use a license has no bearing on a licensee's ability to safely conduct the activities the license authorizes. As the Commission instructs us, "the NRC is not in the business of regulating the

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[146] ISP License Application at 1-1 to -2.

[147] *Id.* at 1-7.

[148] Beyond Nuclear Pet. Ex. 1 at 19-22.

[149] *Id.* at 18-19.

[150] *Id.* at 19 (emphasis in original).

[151] ISP June 28, 2019 Response to Board at 1. ISP confirmed this position at oral argument. Tr. at 44.

[152] ISP June 3, 2019 Letter at 1 (citing Attach. 4 to ISP Letter E-54257 (Additional Changes Not Associated with the RAIs).

[153] *See Holtec,* LBP-19-4, 89 NRC at 376-77.

[154] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[155] *Holtec,* LBP-19-4, 89 NRC at 381.

market strategies of licensees or determining whether market strategies warrant commencing operations."[156]

At oral argument, Beyond Nuclear claimed, for the first time in this proceeding, that mere mention of the possibility of contracting with DOE renders ISP's license application unlawful.[157] The Board disagrees. ISP may hope that Congress changes the law to allow it the option of contracting directly with DOE. Meanwhile, we are confident that ISP — having acknowledged on the record that it would be unlawful to contract with DOE under the NWPA as currently in effect — will not try to do just that. Nor may we assume that DOE would be complicit in a violation of the NWPA.[158] On the contrary, DOE has also taken the position publicly that it may not take title to the vast majority of private plant companies' spent nuclear fuel without violating the NWPA as currently in effect.[159]

Moreover, regardless of who holds title, ISP's proposed license is limited to storage of spent nuclear fuel elements, associated components and radioactive materials "from commercial nuclear utilities."[160] That is the only material that may be stored at the proposed facility.

For its part, the NRC Staff's position on Beyond Nuclear's contention has also changed. Initially, the Staff would have had us admit it "to the extent this contention raises an issue of law regarding ISP's reliance on DOE for seeking an exemption from NRC's decommissioning financial assurance requirements."[161] However, the Staff initially deemed no other portion of Beyond Nuclear's contention admissible, concluding that "to the extent the Petitioner asserts that the application relies exclusively on potential DOE involvement, it fails to demonstrate a genuine dispute with the application."[162]

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[156] *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-28, 62 NRC 721, 726 (2005) (quoting *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 48-49 (2001) (internal quotation marks omitted)).

[157] Tr. at 17.

[158] A presumption of regularity applies to federal agencies, which should be assumed to act properly in the absence of evidence to the contrary. *See, e.g., United States v. Armstrong,* 517 U.S. 456, 464 (1996); *United States v. Chem. Found., Inc.,* 272 U.S. 1, 14-15 (1926).

[159] *See, e.g.,* [DOE] Final Interpretation of Nuclear Waste Acceptance Issues, 60 Fed. Reg. 21,793, 21,793-94, 21,797 (May 3, 1995); *N. States Power Co. v. U.S. Dep't of Energy,* 128 F.3d 754, 756 (D.C. Cir. 1997) ("The Department also took the position that 'it lacks statutory authority under the [Nuclear Waste Policy] Act to provide interim storage.'") (quoting 60 Fed. Reg. at 21,794); *Ind. Mich. Power Co. v. U.S. Dep't of Energy,* 88 F.3d 1272, 1274 (D.C. Cir. 1996) ("The [DOE] also determined that it had no authority under the NWPA to provide interim storage in the absence of a facility that has been authorized, constructed and licensed in accordance with the NWPA.").

[160] ISP License Application, Attach. A, Proposed License Conditions at unnumbered A-2 to -4 (ISP Proposed License No. SNM-1050) at §§ 6.A, 21.

[161] NRC Staff Answer to Beyond Nuclear at 13.

[162] *Id.* at 12.

At oral argument, however, after ISP had withdrawn its exemption request and mooted the only part of Beyond Nuclear's contention that the NRC Staff initially deemed admissible, the Staff nonetheless continued to urge that Beyond Nuclear's contention should be admitted. According to its counsel, the NRC Staff now views Beyond Nuclear's contention admissible as to "whether it is legally permissible to include DOE as a potential customer."[163]

The Board disagrees. Beyond Nuclear, ISP, and the Board are all in agreement that, under current law, ISP may not contract for DOE to take title to private power companies' spent nuclear fuel. There is no credible possibility that such contracts will be made in violation of the law. There is no dispute that warrants devoting agency resources to further legal briefing or to an evidentiary hearing.

Additionally, unlike in *Holtec,*[164] here Beyond Nuclear has not sought to amend its original contention in response to the applicant's concession that, at present, it may not lawfully contract for DOE to take title. Contrary to the NRC's procedures,[165] the Staff apparently would have the Board admit a new version of Beyond Nuclear's contention that Beyond Nuclear advanced during oral argument, but never sought permission to submit in a written pleading. The Board declines to do so.

Beyond Nuclear's contention is not admitted.

B. Sierra Club

1. Sierra Club Contention 1

Sierra Club's Contention 1 states:

> The NRC has no authority to license the ISP [CISF] under the NWPA nor the AEA. ISP has said DOE must take title to the waste, but the NWPA does not authorize DOE to take title to spent fuel in an interim storage facility. The AEA has no provision for licensing a CIS facility.[166]

Sierra Club Contention 1 is similar in part to Beyond Nuclear's contention. It likewise encompasses three claims: First, as the law now stands, DOE cannot, consistent with the NWPA, presently take title to private power companies' spent nuclear fuel.[167] Second, Sierra Club alleges, ISP's application "assumes"

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[163] Tr. at 53.

[164] *See Holtec,* LBP-19-4, 89 NRC at 377.

[165] 10 C.F.R. § 2.309(c).

[166] Sierra Club Pet. at 14.

[167] *Id.* at 16.

that DOE will take title to the spent fuel destined for the proposed facility.[168] According to Sierra Club, it "strains credulity to believe that a nuclear plant owner would want to retain title to the waste."[169] Third, Sierra Club claims, the AEA does not authorize the NRC to license interim storage away from the site of a reactor.[170]

We agree with both the NRC Staff[171] and ISP[172] that Sierra Club Contention 1 is not admissible. As explained in the Board's ruling on Beyond Nuclear's contention, *supra,* Sierra Club's first claim is now moot, as ISP has acknowledged on the record that, as the law now stands, it cannot lawfully contract with DOE to take title to spent fuel destined for its proposed facility.[173]

As also explained *supra,* in the Board's ruling on Beyond Nuclear's contention, Sierra Club's second claim does not raise a genuine dispute with ISP's application.[174] The application includes the option of ISP's contracting directly with nuclear plant owners that currently hold title to their spent fuel. As in *Holtec,*[175] whether ISP will find that alternative commercially viable is not an issue before the Board, because the business decision of whether to use a license has no bearing on a licensee's ability to safely conduct the activities the license authorizes.

Finally, insofar as Sierra Club Contention 1 asserts that any away-from-reactor interim storage facility is necessarily unlawful under the AEA and/or the NWPA, we conclude (as the board did in *Holtec*[176]) that the contention constitutes an impermissible challenge to NRC regulations that is precluded by 10 C.F.R. § 2.335. NRC regulations expressly allow licensing of such facilities.[177] Moreover, the United States Court of Appeals for the District of Columbia Circuit has confirmed that the NRC has such authority under the AEA, and that the NWPA did not repeal or supersede that authority.[178]

Sierra Club Contention 1 is not admitted.[179]

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[168] *Id.* at 14.

[169] *Id.* at 15.

[170] *Id.* at 20.

[171] NRC Staff Consol. Answer at 79.

[172] ISP Answer to Sierra Club at 24.

[173] ISP June 28, 2019 Response to Board at 1; Tr. at 44.

[174] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[175] *Holtec,* LBP-19-4, 89 NRC at 381.

[176] *Id.* at 383.

[177] *See generally* 10 C.F.R. Part 72; *see also id.* §§ 72.32(a), 72.46(d) (concerning requirements pertaining to independent spent fuel storage facilities not co-located with an operating power reactor).

[178] *Bullcreek v. NRC,* 359 F.3d 536, 543 (D.C. Cir. 2004).

[179] Because we would reach the same decision even if we considered Sierra Club's reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply that concern Sierra Club Contention 1.

2. Sierra Club Contention 2

Sierra Club Contention 2 states:

> The ISP Environmental Report, in attempting to describe the purpose and need for this project, claims that [consolidated interim storage] is safer and more secure than storing the waste at the reactor site. However, the Environmental Report cites no evidence or data to support this assertion. An agency cannot rely on self-serving statements, especially ones with no supporting data, from the prime beneficiary of the project.[180]

Sierra Club Contention 2 claims that the Environmental Report contains unsupported self-serving statements about the safety and security of consolidated interim storage.[181] Sierra Club also claims that, to properly evaluate safety, ISP's Environmental Report and the NRC Staff's subsequent EIS must examine the safety of hardened onsite storage (HOSS) at reactor sites.[182]

As support, Sierra Club relies on a 2003 report by Dr. Gordon Thompson, a declared expert on technical and policy analyses in the fields of energy and environment.[183] According to Sierra Club, Dr. Thompson's report outlines the benefits of HOSS and claims that ISP's Environmental Report must evaluate the relative safety of HOSS.[184]

Although Sierra Club disputes one need for the facility, the purpose and need statement in ISP's Environmental Report lists multiple reasons to support licensing the proposed facility.[185] Examples include converting lands for more beneficial uses, returning areas to greenfield status, and lessening substantial costs for surveillance, maintenance, emergency preparedness, and physical security at spent fuel storage facilities.[186] Sierra Club only disputes ISP's safety and security reason, and does not explain how ISP's assertion of safety and security materially compromises the application. Sierra Club implies that ISP must show that the need for its project is "compelling" or grounded in "urgency." [187] However, Sierra Club does not identify any basis for this standard.

Sierra Club Contention 2 is not admitted.

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[180] Sierra Club Pet. at 23.

[181] *Id.* at 23-24.

[182] *Id.* at 27.

[183] *See id.* at 26-28 (citing Gordon Thompson, *Robust Storage of Spent Nuclear Fuel: A Neglected Issue of Homeland Security* (Jan. 2003) [hereinafter 2003 Thompson Report]); *see also id.* Decl. of Dr. Gordon Thompson (Nov. 12, 2018) [hereinafter Sierra Club Thompson Decl.].

[184] Sierra Club Pet. at 26-28 (citing Sierra Club Thompson Decl. at 15-16, 64).

[185] ER at 1-5.

[186] *Id.* at 1-5 to -6.

[187] *See* Sierra Club Pet. at 27.

3. Sierra Club Contention 3

Sierra Club Contention 3 states:

> The statement in the [Environmental Report] that [consolidated interim storage] is safer and more secure than storage at a reactor site contradicts the NRC's Continued Storage Rule, which concludes that spent radioactive fuel can be safely stored at a reactor site indefinitely. Therefore, there is no basis for accepting the statement in the [Environmental Report], and there is no purpose and need for the ISP project.[188]

Like Sierra Club Contention 2, Contention 3 challenges ISP's "safer and more secure" language in the purpose and need section of its Environmental Report. Sierra Club disputes that there is a purpose and need for the proposed storage project because, it claims, the Continued Storage Rule and Continued Storage GEIS have already determined that at-reactor storage "for an indefinite period would generally result in only small environmental impacts."[189] Sierra Club also claims that the proposed CISF would cause increased risks "due to the risks of transporting the waste to the [consolidated interim storage] site and the increased risk of so much waste being stored in one place."[190] Sierra Club relies on Continued Storage GEIS section 4.20 and incorporates the statement and facts from its Contention 2 to support its assertion.[191]

Sierra Club Contention 3 fails to raise a genuine dispute with ISP's application because it does not show any contradiction between ISP's Environmental Report and the Continued Storage Rule or GEIS.[192] ISP's Environmental Report does not say that the Continued Storage GEIS analyses are incorrect or inadequate, or that indefinite storage at at-reactor locations is unsafe. Rather, ISP's Environmental Report *agrees* with those analyses because the Environmental Report incorporates and relies upon the GEIS.[193] ISP's position is that its proposed interim storage facility would be even more secure in "consolidating and enhancing monitoring and security functions"[194] rather than storage at reactor sites across the nation.

As to Sierra Club's assertion that there is no purpose and need for the WCS facility "if spent fuel can be safely stored at the reactor site indefinitely,"[195]

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[188] Sierra Club Pet. at 29.

[189] *Id.* at 30; *see* Continued Storage Rule; *see also* Continued Storage GEIS.

[190] Sierra Club Pet. at 30.

[191] *Id.* at 30-31.

[192] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[193] *See, e.g.*, ER at 8-3 to -6.

[194] ISP Answer to Sierra Club at 42.

[195] Sierra Club Pet. at 30.

Sierra Club does not dispute (much less acknowledge) ISP's "purpose and need" section in the WCS Environmental Report. In that section, as discussed *supra,* ISP states various purposes and needs for the project, including that the facility could potentially allow for an unrestricted free release of those decommissioned sites (i.e., the sites could achieve greenfield status) and that spent fuel owners could reap economic savings by not having to pay the up-front costs for spent fuel storage system physical security, maintenance, and emergency preparedness.[196] Sierra Club only disputes the safety and security purpose, but does not explain how ISP's assertion that its proposed WCS CISF would be "more safe and secure" than the status quo is material to the findings the NRC must make.[197]

Sierra Club Contention 3 is not admitted.

4. Sierra Club Contention 4

Sierra Club Contention 4 states:

> Operation of the [consolidated interim storage] site as proposed by ISP would necessitate the transportation of the radioactive waste from reactor sites to the [CISF]. Transportation from the reactors to the [consolidated interim storage] site carries substantial risks. These risks must be evaluated in the [Environmental Report].[198]

On its face, Sierra Club Contention 4 appears to be a contention of omission claiming that ISP's Environmental Report does not evaluate transportation risks. In its stated basis for the contention, however, Sierra Club clarifies that its actual claim is that the Environmental Report "does not adequately address the risks and consequences of a transportation accident and sabotage event."[199] Specifically, Contention 4 asserts that the Environmental Report underestimates both (1) the consequences of severe rail accidents involving shipments of radioactive waste;[200] and (2) the likelihood of such accidents.[201] It also asserts that "the environmental report does not discuss the potential consequences of a sabotage event."[202]

Sierra Club Contention 4 relies on an August 2001 report prepared by Matthew Lamb and Marvin Resnikoff of Radioactive Waste Management Associates

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[196] ER at 1-5 to -6.

[197] *See* 10 C.F.R. § 2.309(f)(1)(iv).

[198] Sierra Club Pet. at 31.

[199] *Id.* at 32.

[200] *Id.* at 33-38.

[201] *Id.* at 38-41.

[202] *Id.* at 41.

(the RWMA Report).[203] The RWMA Report — entitled "Worst Case Credible Nuclear Transportation Accidents: Analysis for Urban and Rural Nevada" — was prepared for litigants opposing the Yucca Mountain repository.[204] Indeed, in this adjudication Contention 4 is supported by the accompanying declaration of the same Dr. Resnikoff, which adds no additional facts or opinions, but represents that Dr. Resnikoff assisted in preparation of Sierra Club Contention 4 and agrees with it.[205]

Rather than controverting pertinent portions of ISP's Environmental Report, Contention 4 merely presents an 18-year-old alternative analysis — the RWMA Report — that admittedly addresses a category of "worst case" assumptions. Sierra Club's challenge to ISP's estimates of potential radiation doses from an accident consists of pointing out that ISP's estimated doses are smaller than those in the RWMA Report.[206] Sierra Club does not discuss the analysis of estimated doses contained in section 4.2.8 of ISP's Environmental Report, and it does not attempt to explain why they are inadequate or unreasonable. Instead, Sierra Club *assumes* that ISP's analysis is inadequate solely because it produced estimated doses that are smaller than the "worst case" results in the RMWA Report prepared for litigants opposing the Yucca Mountain repository.

As the Commission instructs us, this is not enough to launch an evidentiary hearing: "[T]he proper question is not whether there are plausible alternative choices for use in the analysis, but whether the analysis that was done is reasonable under NEPA."[207] As the Commission has cautioned, "it may always be possible to conceive of alternative and more conservative inputs, whose use in the analysis could result in greater estimated accident consequences."[208]

To be admissible, therefore, a "contention proposing alternative inputs or methodologies must present some factual or expert basis for why the proposed changes in the analysis are warranted (e.g., why the inputs or methodology used is unreasonable, and the proposed changes or methodology would be more appropriate)."[209] Because Sierra Club has not done this, its challenge in Contention 4 to ISP's analysis of the consequences of severe rail accidents fails to meet its burden under 10 C.F.R. § 2.309(f)(1)(vi) to identify both specific portions

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[203] *Id.* at 33 (citing Matthew Lamb, Marvin Resnikoff, & Richard Moore, *Worst Case Credible Nuclear Transportation Accidents: Analysis for Urban and Rural Nevada* (Aug. 2001) [hereinafter RWMA Report]).

[204] RWMA Report at i.

[205] Decl. of Dr. Marvin Resnikoff [hereinafter Resnikoff Decl.].

[206] Sierra Club Pet. at 38-39.

[207] *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 323 (2012).

[208] *Id.*

[209] *Id.* at 323-24.

of ISP's Environmental Report that Sierra Club disputes and "the supporting reasons for each dispute."

In all other respects — that is, with respect to the monetary consequences of a severe transportation accident, the likelihood of rail accidents, and the claim that ISP should have addressed the potential consequences of sabotage — Sierra Club Contention 4 is not admissible.

With respect to the monetary consequences of a severe transportation accident, Contention 4 wants ISP to analyze the costs of cleaning up a hypothetical accident associated with offsite transportation. Sierra Club fails to explain how such an analysis could plausibly affect the ultimate decision whether to license the proposed storage facility, and therefore fails to justify why this additional analysis must be performed, consistent with NEPA's rule of reason.

With respect to the likelihood of transportation accidents, Sierra Club does not acknowledge that section 4.2.8 of ISP's Environmental Report contains such an analysis. Because Sierra Club fails to dispute the accident probability used by ISP, it fails to directly contradict the application and raise a genuine dispute as required by 10 C.F.R. § 2.309(f)(1)(vi).

With respect to Sierra Club's claim that ISP's Environmental Report fails to discuss potential sabotage events, the Commission has taken the position that the NRC is not required to consider terrorism in its NEPA analysis of licensing actions outside of those states encompassed by the United States Court of Appeals for the Ninth Circuit.[210] Therefore, this issue is outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

Finally, we are not persuaded by Sierra Club's argument[211] that we should admit Contention 4 because one of the Yucca Mountain licensing boards admitted a contention entitled "Transportation Risk Assumptions" (NEV-NEPA-012).[212] NEV-NEPA-012 is not comparable to Sierra Club Contention 4.

On the contrary, NEV-NEPA-012 targeted an *internal* inconsistency in DOE's EIS. According to Nevada, "[t]o evaluate transportation accidents and sabotage events,[213] DOE used Pasquill Stability Class D and release fractions from 26 fuel assemblies in a rail cask."[214] On the other hand, Nevada pointed out, "to evaluate the maximum reasonably foreseeable transportation accident, DOE used

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[210] *AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124, 128-29 (2007).

[211] Sierra Club Reply at 19.

[212] *U.S. Department of Energy* (High-Level Waste Repository), LBP-09-6, 69 NRC 367, 492 (2009).

[213] Because Nevada falls within the Ninth Circuit (unlike Texas), DOE did evaluate the potential consequences of sabotage.

[214] State of Nevada's Petition to Intervene as a Full Party, U.S. Dep't of Energy (High Level Waste Repository), Docket No. 63-001 at 1093 (Dec. 19, 2008) (ADAMS Accession No. ML083540096).

Pasquill Stability Class F and release fractions from a rail cask containing 21 fuel assemblies."[215]

In NEV-NEPA-12, Nevada therefore argued that "[t]he use of different weather and release fractions between these evaluations is an inconsistent application of assumptions."[216] NEV-NEPA-12 said nothing about the RWMA Report. The decision to admit NEV-NEPA-12 has no bearing on whether we should admit Sierra Club Contention 4.[217]

Sierra Club Contention 4 is not admitted.[218]

5. Sierra Club Contention 5

Sierra Club Contention 5 states:

> The [Environmental Report] states that waste would be stored at the [CISF] for 60-100 years until a permanent repository is found. The [Environmental Report] and the subsequent EIS must address the purpose and need and the environmental impacts if a permanent repository is not found, and the ISP facility becomes a de facto permanent repository.[219]

In support, Sierra Club cites *New York v. NRC,*[220] in which the United States Court of Appeals for the District of Columbia Circuit ruled that the NRC "must look at both the probabilities of potentially harmful events and the consequences if those events come to pass."[221] Sierra Club therefore asserts that ISP's Environmental Report must "discuss and analyze the impacts of indefinite storage at the ISP CIS facility."[222] Sierra Club relies on the declaration of Dr. Gordon

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[215] *Id.*

[216] *Id.*

[217] Initially the NRC Staff would have had us admit Sierra Club Contention 4 in part: that is, solely insofar as it addresses the potential radiological consequences of severe transportation accidents. NRC Staff Consol. Answer at 85. At oral argument, however, the Staff announced that it no longer considers any portion of Sierra Club Contention 4 admissible in light of ISP's June 28, 2019 response to the NRC Staff's request for additional information, ISP June 28, 2019 Letter at 1-2 (citing ISP Letter E-54423 (June 28, 2019), which responded to the April 23, 2019 NRC Staff's First RAI, Part 3). Tr. at 111-12.

[218] Because we would reach the same decision even if we consider Sierra Club's reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply that concern Sierra Club Contention 4.

[219] Sierra Club Pet. at 44.

[220] 681 F.3d at 478.

[221] *Id.*

[222] Sierra Club Pet. at 45-46.

Thompson, who likewise asserts that ISP should evaluate the possibility of indefinite storage.[223]

As discussed *supra,* the Continued Storage GEIS, which the NRC prepared in response to *New York,* generically analyzes the environmental impacts of storing spent nuclear fuel for certain lengths of time, including the indefinite time scenario where no repository is ever constructed.[224] In its Environmental Report, ISP incorporates the Continued Storage GEIS and its analyses in Chapter 8.[225] Although Sierra Club attempts to characterize its arguments as site-specific challenges to the application, as opposed to challenges to the Continued Storage Rule,[226] Sierra Club's argument is without merit. Sierra Club's claims impermissibly challenge the Continued Storage Rule and are therefore outside the scope of this proceeding.[227]

The Rule, in section 51.23(b), expressly provides that license applicants' environmental reports "are not required to discuss the environmental impacts of spent nuclear fuel storage in . . . an ISFSI for the period following the term of the . . . ISFSI license."[228] Because ISP is applying for a 40-year license to store spent nuclear fuel and GTCC waste, ISP need only discuss the environmental impacts of storage for 40 years. And again, the Continued Storage GEIS does consider what Sierra Club wants ISP to do — that is, analyze the environmental impacts of spent fuel storage for an indefinite amount of time.[229]

Sierra Club Contention 5 is not admitted.

6. Sierra Club Contention 6

Sierra Club Contention 6 states:

> The [Environmental Report] and the subsequent EIS must evaluate the potential for earthquakes at the ISP site and the environmental impact of earthquakes. Likewise, the Safety Analysis Report (SAR) must adequately evaluate the earthquake potential of the proposed site. Both the [Environmental Report] and SAR are inadequate in this respect.[230]

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[223] *Id.* at 48.

[224] *New York,* 681 F.3d at 483; Final Rule, Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,238, 56,241 (Sept. 19, 2014).

[225] ER at 8-3 to -6.

[226] Sierra Club Pet. at 46 ("The Continued Storage Rule does not preclude the site-specific review specified by this contention. . . . [t]hat is exactly the focus of this contention.").

[227] *See* 10 C.F.R. § 2.309(f)(1)(iii).

[228] 10 C.F.R. § 51.23(b).

[229] Continued Storage GEIS at 5-8.

[230] Sierra Club Pet. at 49.

Sierra Club Contention 6 contains two challenges related to the seismicity of the area: a contention of omission regarding ISP's Environmental Report, and a challenge to the adequacy of ISP's SAR.[231]

Sierra Club claims that "[t]he [Environmental Report] essentially dismisses the likelihood of earthquakes in the area and does not mention any environmental impacts from earthquakes,"[232] in violation of 10 C.F.R. § 51.45.[233] Specifically, Sierra Club asserts that increased drilling in the area "makes the underground area unstable and induces earthquakes."[234] In support of these assertions, Sierra Club proffers an internet hyperlink to a study by Stanford University researchers that purportedly shows "the existence of numerous faults in the area in and around the proposed ISP site,"[235] and also provides an internet hyperlink to a study by researchers at the University of Texas and Southern Methodist University that purportedly shows an increased incidence of earthquakes induced by fossil fuel extraction in the area of the ISP facility.[236]

The environmental portion of Sierra Club Contention 6 is inadmissible regardless. As a contention of omission, it fails to raise a genuine dispute with the application, as required by 10 C.F.R. § 2.309(f)(1)(vi), because ISP's Environmental Report does evaluate and analyze seismic activity in the CISF region.[237] Section 3.3.2 of the Environmental Report discusses "Basic Geologic and Seismic Information," including faulting in the region at subsection 3.3.4. Sierra Club's claim that ISP "does not even discuss the impact of earthquakes" is therefore incorrect.[238] As to Sierra Club's claim that ISP's Environmental Report ignores seismic impacts from the oil and gas industry, section 3.3.3 does discuss the seismic effects of drilling in the area and concludes that the "low

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[231] WCS [CISF] System Safety Analysis Report, Docket No. 72-1050, Rev. 2 (ML18221A408 (package)) [hereinafter SAR].

[232] Sierra Club Pet. at 49.

[233] *Id.*

[234] *Id.* at 51; *see* Sierra Club Reply at 22.

[235] Sierra Club Pet. at 52.

[236] *Id.* at 51. Although we consider them in this instance, documents on which petitioners rely should be filed in their entirety on the Electronic Information Exchange — not by means of hyperlinks in pleadings. *See* Guidance for Electronic Submissions to the NRC (rev. 8 May 18, 2017) at 7 ("For adjudicatory documents (pleadings and exhibits), parties are *discouraged* from using hyperlinks because of concerns about the integrity of the hearing record.") (emphasis in original). Hyperlinks and internet sources can change over time, and can be edited (or even deleted); accordingly, licensing boards strongly discourage this practice. *See, e.g.,* Licensing Board Order, *Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), (Providing Case Management Information) at 1 n.3 (May 2, 2019) (unpublished); Licensing Board Memorandum and Order, *Crow Butte Res., Inc.* (Marsland Expansion Area), (Providing Administrative Directives Associated with Evidentiary Hearing and Limited Appearance Session) at 3 n.4 (July 27, 2018) (unpublished).

[237] *See* ER at 3-3 to -16; *id.* at 4-28 to -29, -64, -70.

[238] Sierra Club Pet. at 50.

to moderate rate of background seismicity, even that associated with petroleum recovery activities, results in relatively low seismic hazard at the CISF site."[239]

Second, insofar as Sierra Club tries in its reply to transform Contention 6 into a contention of inadequacy,[240] it fails to point to specific portions of the application where alleged deficiencies exist and to provide reasons why they are deficient. Moreover, the studies Sierra Club purports to use as support do no more than review the historic seismic activity in the Permian Basin and recognize that there is petroleum drilling in the area — facts already addressed by ISP in its Environmental Report Chapter 3.

Sierra Club also claims that ISP's SAR does not comply with the requirements of 10 C.F.R. § 72.103(f)(1), which requires "an adequate analysis of the earthquake potential of the area in and around the proposed ISP site."[241] However, SAR section 2.6.2 refers the reader to ISP's seismic hazard evaluation, at SAR Attachment D.[242] Because Attachment D contains proprietary information and is not publicly available, Sierra Club asserts that ISP's SAR is inadequate.[243]

Sierra Club, along with other members of the public, were afforded the opportunity to access proprietary information in ISP's application by following the procedure in the *Federal Register* notice for this proceeding.[244] They chose not to. Sierra Club's complaints[245] about the procedure for accessing sensitive unclassified nonsafeguards information are not within the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

Sierra Club Contention 6 is not admitted.

7. Sierra Club Contention 7

Sierra Club Contention 7 states:

> An [Environmental Report] is required to discuss alternatives to the proposed action. Pursuant to NEPA, this includes an examination of the no-action alternative. The discussion of the no-action alternative in the ISP [Environmental Report] is deficient because it does not discuss safer storage methods at the reactor sites, such as HOSS, nor does it acknowledge the NRC's Continued Storage Rule that concludes that waste can be safely stored at the reactor site indefinitely.[246]

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[239] ER at 3-12.
[240] Sierra Club Reply at 22.
[241] Sierra Club Pet. at 49.
[242] SAR at 2-28.
[243] Sierra Club Pet. at 52.
[244] 83 Fed. Reg. at 44,073-75.
[245] Tr. at 58-59.
[246] Sierra Club Pet. at 53.

Sierra Club asserts that ISP's discussion of the "no-action alternative" in its Environmental Report is lacking because ISP does not discuss HOSS or the Continued Storage Rule.[247] Framed as a contention of omission, Sierra Club challenges the no-action alternative analysis in section 2.1 of ISP's Environmental Report as deficient because allegedly it provides "absolutely no discussion about the safety aspects of keeping the waste at the reactor sites"[248] and does not perform the necessary cost-benefit analysis with respect to project alternatives.[249]

Sierra Club fails to show how a discussion of HOSS would be material to ISP's no-action alternative analysis. ISP's Environmental Report need only analyze the no-action alternative of maintaining the status quo. As ISP's Environmental Report explains, "[t]he no action alternative . . . would be to not construct and operate the CISF. Under the no action alternative, the NRC would not approve the license application that would allow ISP to construct and operate the proposed facility."[250] Therefore, Sierra Club's claim that ISP fails to discuss HOSS does not raise a genuine dispute with the application.

Sierra Club claims that discussion of the no-action alternative in ISP's Environmental Report does not acknowledge the NRC's Continued Storage Rule. This claim ignores section 8.4 of the Report, which summarizes the short-term and long-term impacts of at-reactor storage, as adopted from the Continued Storage GEIS.[251] Sierra Club not only overlooks this discussion, but appears to assert that ISP's Environmental Report must discuss "the safety aspects of keeping the waste at the reactor sites."[252] Safety considerations are analyzed within ISP's SAR, as they should be.

Sierra Club's claim that ISP does not perform a cost-benefit analysis with respect to project alternatives likewise reflects a failure to acknowledge, much less challenge, the contents of ISP's application. In sections 7.2 and 7.3, ISP's Environmental Report does discuss the relative benefits and costs of maintaining the status quo (leaving the spent fuel at the reactor site) compared to implementing the proposed action.[253] Moreover, Table 7.2-2 in ISP's Environmental Report examines the costs to a subset of plants that are no longer operating from the perspective of both the proposed action and the no-action alternative.[254] Sierra Club Contention 7 does not establish a genuine dispute with ISP's analysis.[255]

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[247] *Id.*

[248] *Id.* at 54.

[249] *Id.* at 55.

[250] ER at 2-1.

[251] *Id.* at 8-3 to -6.

[252] Sierra Club Pet. at 54.

[253] ER at 7-4 to -28; *see* Tr. at 103-04.

[254] *Id.* at 7-7 to -8.

[255] *See* 10 C.F.R. § 2.309(f)(1)(vi).

Sierra Club Contention 7 is not admitted.

8. Sierra Club Contention 8

Sierra Club Contention 8 states:

> ISP relies heavily on the assertion that the Blue Ribbon Commission on America's Nuclear Future (BRC) has recommended [consolidated interim storage] as the answer to the country's nuclear waste problem. On the contrary, the BRC report should not be viewed uncritically and does not necessarily deserve blind support in assessing the ISP application. ISP's [Environmental Report] therefore mischaracterizes both the BRC report's conclusions and the relative risks of [consolidated interim storage] versus onsite storage. The EIS must therefore independently and fully address the relative risks and benefits of both storage options.[256]

Sierra Club Contention 8 claims that ISP's proposed storage project "is dictated to a great extent by the BRC report."[257] Sierra Club also claims that ISP's Environmental Report "mischaracterizes both the BRC report's conclusions and the relative risks of [consolidated interim storage] versus onsite storage."[258] Sierra Club further claims that ISP's Environmental Report and the NRC's subsequent EIS must independently compare the risks and benefits of ISP's interim storage facility with the risks and benefits of storing spent fuel where it was generated, i.e., at-reactor storage.[259]

Sierra Club Contention 8 fails to raise a genuine dispute with ISP's application, as required by 10 C.F.R. § 2.309(f)(1)(vi). ISP's Environmental Report does contain the risk-benefit analysis that Sierra Club claims to be omitted,[260] and Sierra Club fails to challenge it.

Section 1 of ISP's Environmental Report discusses the history and background of the country's spent fuel quandary, including the NWPA, the status of the Yucca Mountain project, and the 2012 Blue Ribbon Commission (BRC) report.[261] And both sections 1 and 2 suggest that ISP's proposed facility would better advance the BRC report's preference for a consent-based approach to siting the proposed project. Whether or not that is correct, Sierra Club fails to show how ISP's discussion affects the adequacy of its analysis of options in the Environmental Report.

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[256] Sierra Club Pet. at 56.

[257] *Id.*

[258] *Id.* at 59.

[259] *Id.*

[260] ER Chapter 7; *id.* at 2-64 (tbl. 2.5-1).

[261] *Id.* at 1-1 to -5.

Sierra Club Contention 8 is not admitted.

9. Sierra Club Contention 9

Sierra Club Contention 9 states:

> 10 C.F.R. § 72.30 establishes requirements for decommissioning interim storage facilities. An application for licensing a CISF must contain a decommissioning plan explaining how the plan will satisfy the requirements in the regulation. The application for the ISP [CISF] does not comply with these requirements.[262]

Sierra Club Contention 9 is similar in part to Beyond Nuclear's Contention. It focuses primarily upon ISP's request for an exemption from the requirements in 10 C.F.R. § 72.30(e) regarding reasonable assurance that funds will be available to decommission the proposed storage facility.[263] As explained *supra,* in the Board's ruling on Beyond Nuclear's contention, ISP has withdrawn its exemption request.[264] This part of Sierra Club Contention 9 is therefore moot.

Insofar as Sierra Contention 9 also challenges ISP's estimate of decommissioning costs,[265] it does not explain why ISP's estimate is incorrect. Therefore, the contention fails to raise a genuine dispute with ISP's application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

Initially the NRC Staff would have had us admit Sierra Club Contention 9 "[t]o the extent the contention challenges the requested exemption."[266] At oral argument, however, the Staff clarified that, in light of ISP's withdrawal of its exemption request, the Staff no longer considers any part of Sierra Club Contention 9 to be admissible.[267]

Sierra Club Contention 9 is not admitted.[268]

10. Sierra Club Contention 10

Sierra Club Contention 10 states:

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[262] Sierra Club Pet. at 60.

[263] *Id.* at 61-62.

[264] ISP June 3, 2019 Letter at 1.

[265] Sierra Club Pet. at 60.

[266] NRC Staff Consol. Answer at 102.

[267] Tr. at 109.

[268] Because we would reach the same decision even if we considered Sierra Club's reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply concerning Sierra Club Contention 9.

> The ISP [consolidated interim storage] site sits atop the Ogallala Aquifer. The [Environmental Report] and SAR submitted by ISP appear to claim that the site does not sit atop the aquifer. Therefore, the [Environmental Report] and SAR do not accurately and adequately evaluate and consider the impacts to the aquifer from the [CISF].[269]

Sierra Club claims that, because the ISP CISF site sits atop the Ogallala Aquifer, ISP's Environmental Report and SAR "must address the impact on groundwater from release of radioactive material."[270] Sierra Club asserts that a dispute exists with ISP on whether or not the Aquifer underlies the CISF, and relies upon a declaration by Dr. Patricia Bobeck, a geologist, and a 2012 report from George Rice, a professional hydrologist.[271] Sierra Club further disputes ISP's application concerning the water saturation point beneath the CIS site, alleging "[i]t is important to know how susceptible the groundwater is to contamination from a leak of radioactive material."[272] A leak of radioactive material, Sierra Club claims, would come from a ruptured cask from the storage of high burnup fuel,[273] a seismic event produced by hydraulic fracturing (i.e., fracking) in the area,[274] or a terrorist attack.[275] In sum, Sierra Club Contention 10 claims that ISP's Environmental Report "does not provide the basic information necessary to adequately and thoroughly address the impact of cask rupture and discharge of radioactive material to ground and groundwater at the ISP site."[276]

Any disagreement concerning the location of the Ogallala Aquifer or the water saturation point at the CISF site is only material to the findings the NRC must make if it is possible for groundwater to be contaminated from a cracked or ruptured cask. Regardless of the aquifer's location or the water saturation point, to demonstrate an admissible contention Sierra Club must proffer fact or expert opinion concerning: (1) how a cask would become ruptured in the first place, and (2) how radioactive material from that cask would get into the groundwater. Contention 10 is inadmissible because Sierra Club offers no expert opinion or plausible facts on either of these points.[277]

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[269] Sierra Club Pet. at 63.

[270] *Id.*

[271] *Id.* at 63-64.

[272] *Id.* at 64.

[273] *Id.* at 66.

[274] *Id.* at 67 (citing *id.,* Attach., Patricia Bobeck, Ph.D., P.G., *Geologic Review of Interim Storage Partners LLC WCS Consolidated Interim Storage Facility Environmental Report* (Oct. 25, 2018) at 2 [hereinafter Bobeck Report]).

[275] Bobeck Report at 2-3.

[276] Sierra Club Pet. at 65.

[277] *See* 10 C.F.R. § 2.309(f)(1)(v).

In any event, Sierra Club's claim that storage of high burnup fuel[278] and seismic events from hydraulic fracturing in the area[279] would crack a canister is in essence a challenge to the NRC's cask certificate of compliance (CoC) program and is thus outside the scope of this proceeding. ISP's application states that it will only accept six types of cask systems that have already been individually certified and issued CoCs by the NRC to safely store spent fuel, including high burnup fuel. These canisters have also been analyzed to withstand credible seismic events. As these CoCs are designated by NRC rulemaking as approved storage systems, any challenge to them is an impermissible challenge to NRC regulations under 10 C.F.R. § 2.335.

Sierra Club's geologist also claims that a terrorist attack might rupture a cask, which ought to require further analysis by ISP under NEPA.[280] Whether or not this scenario is plausible, as explained *supra* the Commission takes the position that only facilities within the jurisdiction of the United States Court of Appeals for the Ninth Circuit must conduct a NEPA analysis for terrorist attacks.[281] As ISP's facility would be under the United States Court of Appeals for the Fifth Circuit's jurisdiction, ISP is not required to review the threat of a terrorist attack.

Sierra Club also does not demonstrate a genuine dispute with ISP's application concerning how radiation from a cracked spent fuel canister, containing fuel in solid, ceramic pellet form,[282] could reach groundwater. Likewise, the GTCC waste that would be stored at ISP's facility would be reactor-related and in solid form.[283] No liquid waste would be stored at the facility.[284] As the Commission explained in *Private Fuel Storage,* "[t]o show a genuine material dispute, [a petitioner's] contention would have to give the Board reason to believe that contamination from a defective canister could find its way outside of the cask."[285] Sierra Club has not done this.

Sierra Club Contention 10 is not admitted.

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[278] Sierra Club Pet. at 65-67.

[279] *Id.* at 67.

[280] Bobeck Report at 3.

[281] *See Oyster Creek,* CLI-07-8, 65 NRC at 129. *Compare San Luis Obispo Mothers for Peace v. NRC,* 449 F.3d 1016, 1032 (9th Cir. 2006), *with N.J. Dep't of Envtl. Prot. v. NRC,* 561 F.3d 132, 142-43 (3d Cir. 2009); Continued Storage GEIS at 4-91.

[282] Tr. at 96-97.

[283] SAR App. H at H.1-1.

[284] *Id.*

[285] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 138-39 (2004).

11. Sierra Club Contention 11

Sierra Club Contention 11 states:

> Section 2.3.3 of the [Environmental Report] discusses 15 criteria ISP used to evaluate the suitability of the Andrews County site. These criteria were created by ISP and bear little or no relationship to any criteria in the statutes or regulations. Even the criteria that are relevant have not been adequately addressed.[286]

Sierra Club takes issue with fifteen criteria ISP used to evaluate and select the proposed CISF site, allegedly in violation of the requirement in 10 C.F.R. § 51.45(c) to consider "the economic, technical, and other benefits and costs of the proposed action and its alternatives."[287] Sierra Club claims that only four of those fifteen criteria actually involve environmental impacts, and that those are not adequately addressed by ISP.[288] Within ISP's analysis of Criterion 11, which concerns Environmental Protection, Sierra Club disputes: (1) the discussion of contamination from the adjacent WCS low-level radioactive waste (LLRW) site; (2) whether the CISF would reside in a 100-year floodplain; (3) the discussion of the relevance of climate to environmental impacts; (4) the discussion of protected species in the area of the CISF; (5) discussion of socioeconomic data in the area of the proposed CISF; and (6) discussion of archaeological resources at the CISF site.[289]

ISP's Environmental Report states that, in identifying potential locations for its CISF site, "ISP began by identifying a Region-of-Interest (ROI) consisting of a set of states that have the basic characteristics appropriate for a CISF site."[290] After ISP narrowed down its options to four counties in two states, ISP subjected those locations to "a rigorous two-tier screening process evaluating 15 criteria from local political support and land availability to operational considerations and environmental impacts."[291]

As the NRC Staff correctly points out, "[t]here are no specific regulatory findings under 10 C.F.R. Part 51 for an applicant's site selection criteria; the criteria are examined for reasonableness."[292] Moreover, the site selection process is driven by the purpose and need specified in the application, and the NRC may accord "substantial weight to the preferences of the applicant and/or sponsor in

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[286] Sierra Club Pet. at 68.

[287] *Id.* at 68, 75.

[288] *Id.* at 71.

[289] *Id.* at 71-75.

[290] ER at 2-9 to -10.

[291] *Id.* at 2-10.

[292] NRC Staff Consol. Answer at 110 (citing *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), CLI-16-19, 84 NRC 180, 210 (2016).

the siting and design of the project"[293] so long as the application is not artificially narrow as to circumvent the requirement that reasonable alternatives must be considered.[294]

Sierra Club does not show how ISP's analysis of alternative CISF locations contravenes 10 C.F.R. § 51.45 or other "statutes or regulations," as Sierra Club claims. As the Staff states, ISP's criteria are driven by ISP's own purpose and need statement, which is to develop a CISF "to serve a national strategic need by providing for an orderly transfer of [spent nuclear fuel] from twelve shut down reactors."[295]

Concerning Sierra Club's general assertions that ISP's Criterion 11 analyses are inadequate and "do not comply with NRC regulations,"[296] we agree with the NRC Staff that Sierra Club's complaints amount to impermissible flyspecking of the Environmental Report,[297] and thus generate no genuine material dispute with ISP's application under 10 C.F.R. § 2.309(f)(1)(vi).[298] ISP established its own site selection criteria sufficient to permit a "hard look" at alternative sites, and Sierra Club does not cite any authority that requires ISP to use any different criteria. Nor does Sierra Club specify how ISP's selection process violates NEPA. "If the [environmental report] on its face 'comes to grips with all important considerations' nothing more need be done."[299]

Sierra Club Contention 11 is not admitted.[300]

12. Sierra Club Contention 12

Sierra Club Contention 12 states:

> The minimum cooling time for transportation of fuel from a boiling water reactor (BWR) in a NUHOMS MP-187 cask is greater than calculated by TN Americas,

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[293] *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 55 (2001).

[294] *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-90-8, 32 NRC 201, 206 (1990).

[295] ER at 1-6.

[296] Sierra Club Pet. at 75.

[297] NRC Staff Consol. Answer at 112 (citing *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005).

[298] Of these six claims, two are also proffered by Sierra Club as separate contentions: Sierra Club Contention 13 (protected species) and Sierra Club Contention 15 (environmental justice).

[299] *Grand Gulf ESP,* CLI-05-4, 61 NRC at 13 (quoting *Hydro Res., Inc.,* CLI-01-4, 53 NRC at 71 (2001)).

[300] Because we would reach the same decision even if we considered Sierra Club's reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply concerning Sierra Club Contention 11.

> the manufacturer of the cask. This implies that the cladding of BWR fuel will exceed allowable limits and will degrade. Cladding is an issue that must be adequately addressed.[301]

Sierra Club claims that "the storage and transportation of containers loaded with high heat output [will be] likely to leak radioactive material into the environment in a transportation accident."[302] Sierra Club Contention 12 relies on a 2013 DOE report that mentions the possibility of cladding embrittlement at burnup rates of 30 GWd/MTU (gigawatt days per metric ton of uranium).[303] Sierra Club also presents a table of calculations by Dr. Marvin Resnikoff, an asserted expert in radioactive waste,[304] to dispute the calculations from two exhibits "in the [NUHOMS] MP-187 SAR."[305] Dr. Resnikoff's calculations purport to prove that the adequate cooling time for a 7 × 7 boiling water reactor fuel assembly in a NUHOMS MP-187 cask is actually thirty-two years, not fifteen years.[306] Thus, Sierra Club challenges the design specifications of the cask.

Sierra Club Contention 12 is inadmissible because it fails to raise a genuine dispute with the application on a material issue of law or fact.[307] Sierra Club's exhibits do not correspond to the design of the NUHOMS MP-187 cask, but rather to the design of the NUHOMS MP-197 Transportation Cask, which is inapposite to ISP's application.[308] It is unclear what Sierra Club is trying to challenge, but regardless both designs have already been approved by the NRC and issued Certificates of Compliance.[309] Section 2.335 of 10 C.F.R. bars any contention challenging an NRC-approved storage cask design that has been incorporated by reference in a spent fuel storage facility application.[310]

The premise of Sierra Club Contention 12 is also fundamentally incorrect

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[301] Sierra Club Pet. at 75.

[302] *Id.* at 75-76.

[303] *Id.* at 76 (citing U.S. Dep't of Energy, Fuel Cycle Research & Dev., *A Project Concept for Nuclear Fuels Storage and Transportation* (rev. 1 June 2013) [hereinafter DOE Fuel Concept Report]).

[304] *Id.,* Resnikoff Decl. ¶ 1.

[305] *Id.* at 76-77.

[306] *Id.* at 77.

[307] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[308] *Compare* 1 TN Americas LLC, NUHOMS®-MP197 Transportation Packaging Safety Analysis Report at 1-10 (rev. 19 Apr. 2019) (ADAMS Accession No. ML19112A252) (proprietary), *with* Sierra Club Pet., Ex. 6.

[309] [CoC] for Radioactive Materials Packages, Certificate No. 9255, Rev. 14, Docket No. 71-9255, NUHOMS® MP187 Multi-Purpose Cask (Nov. 28, 2018) (ADAMS Accession No. ML18330A248) [hereinafter CoC No. 9255]; [CoC] for Radioactive Materials Packages, Certificate No. 9302, Rev. 9, Docket No. 71-9302, NUHOMS®-MP197 Transportation Package (Apr. 18, 2019) (ADAMS Accession No. ML19112A169).

[310] 10 C.F.R. § 72.46(e).

because the Certificate of Compliance for NUHOMS MP-187 only authorizes pressurized water reactor fuel to be loaded into the cask, not boiling water reactor fuel.[311] Nor is ISP seeking approval to transport any fuel to the proposed facility.[312]

Sierra Club Contention 12 is not admitted.

13. Sierra Club Contention 13

Sierra Club Contention 13 states:

> The [Environmental Report] states that two species of concern, the Texas horned lizard and the dunes sagebrush lizard, have been seen at the ISP site or may be present. But there is no discussion of any studies or surveys to determine if the species are present and the impact of the project on those species. Therefore, the [Environmental Report] is inadequate in describing the affected environment.[313]

Sierra Club Contention 13 challenges the adequacy of the discussion in ISP's Environmental Report regarding two species of concern: the Texas horned lizard and the dunes sagebrush lizard. The contention also claims that ISP's supporting references "are not described well enough to allow members of the public to access the sources."[314]

Although ISP correctly points out that Sierra Club's analysis of the Environmental Report is rather thin,[315] ISP does not dispute that all five sources cited in section 3.5.16 of its Environmental Report — the sources on which it relies in discussing the Texas horned lizard and the dunes sagebrush lizard — are not publicly available. As discussed at oral argument, no interested member of the public could access any of these studies, or learn how many people performed them, what their qualifications were, or how much time they spent.[316] The NRC Staff admitted that it could not find any of these five studies either.[317] Although the Staff criticized Sierra Club for challenging ISP's conclusions "[w]ithout ref-

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[311] CoC No. 9255 at 4 (Condition 5(b)(1)(c)(i)-(ii)) (stating that the only fuel authorized for shipment is pressurized water fuel assemblies).

[312] ISP License Application at 1-3 ("Transportation of the spent nuclear fuel shipping casks from the originating nuclear reactor to the CISF will be performed in accordance with 10 CFR 71 and the originating reactor licenses and is not part of this License Application.").

[313] Sierra Club Pet. at 78.

[314] *Id.* at 79.

[315] ISP Answer to Sierra Club at 104-09.

[316] Tr. at 278-79.

[317] Tr. at 277.

erencing to surveys cited in section 3.5 of the [Environmental Report],"[318] these are the same studies that the Staff itself could not locate.

ISP's response is to claim that "Petitioner's assertion that the environmental studies relied upon in an [environmental report] must be publicly available is not supported by NRC precedent or guidance."[319] But that is not so. Although as an independent agency the NRC is not necessarily bound by the regulations of the Council on Environmental Quality (CEQ), the Commission instructs us to "look to CEQ regulations for guidance."[320]

As Sierra Club points out in its reply,[321] the CEQ regulations recognize that "[a]ccurate scientific analysis, expert agency comments, and *public scrutiny* are essential to implementing NEPA."[322] In furtherance of this directive, federal agencies must, in their environmental analyses, "identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions."[323] We need not decide whether all cited references in an applicant's Environmental Report must be publicly available, but — to facilitate the public scrutiny deemed "essential" to implementing NEPA — surely some of them must be, or must be appended to the Report. Otherwise, public scrutiny is not possible.

ISP moves to strike Sierra Club's references to the CEQ regulations as outside the permissible scope of a reply.[324] We deny the motion insofar as ISP wants to strike reference to the CEQ regulations. Sierra Club Contention 13 claims that ISP's sources are not described well enough for the public to access them. In opposition, ISP argues that "Petitioner cites no requirement that the ecological surveys referenced and summarized in the [environmental report] all must be publicly available."[325] In its reply, Sierra Club cites to just such a requirement.[326] This constitutes a legitimate amplification of the argument in its original petition.[327]

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[318] NRC Staff Consol. Answer at 120.

[319] ISP Answer to Sierra Club at 109.

[320] *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 443-44 & n.95 (2011); *see also* 10 C.F.R. § 51.10 (describing the Commission's policy "to take account of" CEQ regulations "voluntarily, subject to certain conditions").

[321] Sierra Club Reply at 38-39.

[322] 40 C.F.R. § 1500.1(b) (emphasis added).

[323] *Id.* at § 1502.24.

[324] [ISP's] Motion to Strike Portions of the Reply Filed by Sierra Club (Dec. 27, 2018).

[325] ISP Answer to Sierra Club at 109.

[326] Sierra Club Reply at 38.

[327] *See Nuclear Management Co.* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006). We deny as moot ISP's motion to strike insofar as it pertains to all other portions of the reply concerning Sierra Club Contention 13, because we would reach the same decision even if we considered Sierra Club's reply.

Sierra Club Contention 13 is admitted solely as a contention of omission, insofar as none of the five references in section 3.5.16 of ISP's Environmental Report is either sufficiently described to judge its technical adequacy or made publicly available.

Sierra Club Contention 13 is admitted in part.

14. Sierra Club Contention 14

Sierra Club Contention 14 states:

> The containers in which the waste will be transported to and stored at the ISP site are licensed for a period of 20 years. ISP hopes to renew the license for an additional 40 years, and then apparently hoping for additional relicensing to the projected 100-year life of the [CISF]. However, many of the containers will already have been in service for years prior to being shipped to the ISP [CISF]. Furthermore, the Continued Storage Rule assumes that the spent fuel will be transferred to new containers after 100 years. ISP's proposal may present an unacceptable danger of radioactive release. Therefore, the [Environmental Report] must examine the environmental impact of the containers beyond their 20-year licensing period.[328]

In support of Contention 14, Sierra Club claims that "the most significant factor in the safety of the [CISF] is the safety of the containers that will be transported to and stored at the [CISF] site."[329] Sierra Club contends that ISP's SAR omits analyses of the safety of the canisters under 10 C.F.R. § 72.45(d),[330] and further claims that the Continued Storage GEIS does not "provide a basis for saying the containers are safe."[331] Sierra Club also claims that ISP's SAR lacks a plan for dealing with leaking and cracking containers,[332] and that the proposed interim storage facility lacks a dry transfer system for repackaging any leaking or cracked canister received at the site.[333] Finally, Sierra Club asserts that, because the canisters are only licensed for 20 years and because ISP's WCS facility has a projected life of 60 to 100 years, "the cask systems to be used at the ISP facility must be analyzed for the possibility of indefinite storage."[334]

Sierra Club Contention 14 is not admissible. First, the Commission's deci-

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[328] Sierra Club Pet. at 79.
[329] *Id.* at 80.
[330] *Id.* at 81.
[331] *Id.*
[332] *Id.* at 82.
[333] *Id.* at 81.
[334] *Id.* at 80.

sion in *Private Fuel Storage* established that cracked and leaking canisters in storage, transport, or otherwise is not a credible scenario.[335] Second, the canisters that are proposed to be stored at the WCS facility have already been issued certificates of compliance and approved for storage by the NRC under Part 72.[336] These certificates of compliance have been codified in a rulemaking.[337] Because the NRC has already approved the canisters ISP plans to store at its proposed interim facility, Sierra Club's challenges to the safety of the canisters themselves (including the environmental impact of the containers beyond their own certificates of compliance terms) are outside the scope of this proceeding and do not raise a genuine dispute with the application.

Third, Sierra Club's challenge to the safety of transportation of spent fuel storage canisters is an impermissible challenge to Part 71 and is outside the scope of this proceeding. When a spent fuel cask owner (such as a utility) is issued a license to store fuel under Part 72, the owner is also issued a license for transportation under Part 71.[338] ISP's license application does not seek permission to transport canisters to its proposed CISF.[339]

Finally, Sierra Club's claim that further environmental analysis is needed beyond the proposed facility's 40-year licensing period and its challenge to the lack of a dry transfer system at the facility improperly challenge the Continued Storage Rule and Continued Storage GEIS. These claims are outside the scope of this proceeding and are an impermissible attack on the Commission's regulations under 10 C.F.R. § 2.335.

Sierra Club Contention 14 is not admitted.[340]

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[335] *Private Fuel Storage,* CLI-04-22, 60 NRC at 136-37.

[336] *See* SAR at 1-22 (tbl. 1-1) (listing six various cask systems by three different vendors ISP proposes to store at the WCS facility, including NUHOMS® MP187 Cask System, Docket No. 72-11 (license SNM-2510); CoC 1004, Standardized NUHOMS® System, Docket No. 72-1004; CoC 1015, NAC-UMS, Docket No. 72-1015; CoC 1025, NAC-MPC, Docket No. 72-1025; CoC 1029, Advanced Standardized NUHOMS® System, Docket No. 72-1029; CoC 1031, MAGNASTOR, Docket No. 72-1031).

[337] 10 C.F.R. § 72.214 (listing among the certified casks NUHOMS® MP187 Cask System, Docket No. 72-11 (license SNM-2510); CoC 1004, Standardized NUHOMS® System, Docket No. 72-1004; CoC 1015, NAC-UMS, Docket No. 72-1015; CoC 1025, NAC-MPC, Docket No. 72-1025; CoC 1029, Advanced Standardized NUHOMS® System, Docket No. 72-1029; CoC 1031, MAGNASTOR, Docket No. 72-1031).

[338] "A general license is issued to any licensee of the Commission to transport, or to deliver to a carrier for transport, licensed material in a package for which a license, certificate of compliance (CoC), or other approval has been issued by the NRC." *Id.* § 71.17(a).

[339] ISP License Application at 1-1 to -3.

[340] Because we would reach the same decision even if we considered Sierra Club's reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply concerning Sierra Club Contention 14.

15. Sierra Club Contention 15

Sierra Club Contention 15 states:

> The [Environmental Report] for the ISP [CISF] does not adequately investigate or analyze the impact of the [CISF] on minority and low income communities. Executive Order 12898 requires that the NEPA process include a discussion and analysis of the environmental justice impacts of the proposed action.[341]

Sierra Club Contention 15 objects to ISP's site selection process. Sierra Club cites Executive Order 12898[342] and a licensing board decision, *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center),[343] alleging that *Claiborne* is binding precedent because it "addressed in detail what a licensing applicant must do to ensure that the site selection process for storage of nuclear material does not have a disparate impact on a minority population."[344]

Environmental justice became a federally mandated NEPA consideration in 1994.[345] Executive Order 12898 directed federal agencies to identify and address "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."[346] The Commission's *Claiborne* decision clarified that NEPA requires the NRC to consider "social and economic impacts ancillary" to environmental impacts; that is, environmental justice concerns.[347]

In response to *Claiborne* and Executive Order 12898, the NRC promulgated its Environmental Justice Policy Statement[348] and revised guidance documents[349] to incorporate the guiding principles from those decisions. The policy statement directs the Staff to conduct a more thorough site selection analysis "if the percentage in the impacted area significantly exceeds that of the State or County

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[341] Sierra Club Pet. at 83.

[342] *See* Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (Feb. 11, 1994) [hereinafter Exec. Order 12898].

[343] *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), LBP-97-8, 45 NRC 367 (1997), *aff'd in part, rev'd in part,* CLI-98-3, 47 NRC 77 (1998).

[344] Sierra Club Pet. at 84.

[345] *See* Exec. Order 12898.

[346] *Id.*

[347] *Claiborne,* CLI-98-3, 47 NRC at 101.

[348] *See* Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040, 52,040-41, 52,048 (Aug. 24, 2004) [hereinafter NRC Environmental Justice Policy Statement]. Because the NRC is an independent agency, Executive Order 12898 did not automatically apply to the NRC.

[349] *See, e.g.,* NUREG-1748, Office of Nuclear Material Safety and Safeguards, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Final Report (Aug. 2003) [hereinafter NUREG-1748].

percentage for either the minority or low-income population."[350] NRC guidance specifies that an applicant's environmental report should include "a discussion of the methods used to identify and quantify impacts on low-income and minority populations, the location and significance of any environmental impacts during construction on populations that are particularly sensitive, and any additional information pertaining to mitigation."[351]

Sierra Club Contention 15 makes three principal claims.

First, Sierra Club questions the adequacy of the Environmental Report's discussion of eleven site selection criteria, two of which pertain to environmental justice.[352] Specifically, Sierra Club asserts that Criterion 1 (evaluating community support) improperly considers only governmental support rather than the support of the entire community.[353] And, according to Sierra Club, Criterion 11 (evaluating environmental protection) "gives short shrift to environmental justice," only providing "summary consideration" to Lea County and Eddy County, New Mexico; no consideration to Loving County, Texas; and "arguably adequate" consideration to Andrews County, Texas.[354]

Second, Sierra Club raises concerns about the use of a four-mile radius in Environmental Report Appendix A to determine "the level of minority population."[355] Instead, Sierra Club advocates for a fifty-mile radius to include the cities of Hobbs, Eunice, and Jal in New Mexico.[356]

Third, Sierra Club claims that the Environmental Report allegedly contains "absolutely no discussion" about environmental justice impacts "from the transportation of the waste to the CIS facility."[357] Quoting from the *International Journal of Environmental Research and Public Health,* Sierra Club asserts that "legitimate concerns exist as to the environmental and human health consequences [of] a highway or rail accident [releasing] highly toxic radioactive material in a population center."[358]

As to its first claim, Sierra Club fails to provide facts or expert opinion to support its position, as required by 10 C.F.R. § 2.309(f)(1)(v). When citing *Claiborne,* Sierra Club comes close to advocating for a free-range inquiry into the site selection process under NEPA, the very position for which *Claiborne*

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[350] NRC Environmental Justice Policy Statement, 69 Fed. Reg. at 52,048.

[351] NUREG 1748 at 6-25; *see also id.* at 5-22.

[352] Sierra Club Pet. at 86-91.

[353] *Id.* at 87.

[354] *Id.* at 87-90.

[355] *Id.* at 89-90.

[356] *Id.* at 90.

[357] *Id.*

[358] *Id.* at 91 (quoting Dean Kyne & Bob Bolin, *Emerging Environmental Justice Issues in Nuclear Power and Radioactive Contamination,* Int'l J. Envtl. & Hum. Health Consequences (July 12, 2016).

was reversed by the Commission.[359] The board decision in *Claiborne* did not spell out a list of requirements to consider during a site selection process, nor is it binding precedent on this Board. Not only does Sierra Club fail to show what it contends ISP must consider beyond Criteria 1 and 11, but Sierra Club also fails to show legal support for why ISP is allegedly required to consider more than it already has.

As to its second claim in Contention 15, Sierra Club again fails to provide facts or expert opinion to support its position. The NRC's environmental justice guidance provides that an applicant's environmental report should include "a discussion of the methods used to identify and quantify impacts on low-income and minority populations, the location and significance of any environmental impacts during construction on populations that are particularly sensitive, and any additional information pertaining to mitigation."[360] If a facility is located outside the city limits or in a rural area, the environmental report should use a radius of approximately four miles.[361] This radius is used in ISP's Environmental Report.[362] Although Sierra Club contends that four miles is not the appropriate radius, it fails to show how ISP's compliance with NRC guidance violates NEPA or NRC regulations. Sierra Club prefers a larger radius like the one used for the Yucca Mountain EIS, but it does not provide support to explain why such a radius is required for environmental justice here.

As to its third claim, Sierra Club fails to show a genuine dispute with the application on a material issue of law or fact.[363] Although Sierra Club contends that "risks from transportation of the waste to the . . . facility" should be "another factor to be considered in the consideration of environmental justice impacts,"[364] Sierra Club does not provide any legal requirements or facts in support. On the contrary, the area for assessment of environmental justice impacts is based on the location of the facility itself and its proximity to certain populations, not on the facility's proximity to possible transportation routes. Sierra Club's quotation from the *International Journal of Environmental Research and Public Health* does not itself dispute ISP's application or the transportation analysis in Environmental Report section 4.2, and Sierra Club fails to explain how it does.

Sierra Club Contention 15 is not admitted.

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[359] *Compare* Sierra Club Pet. at 84 (asserting that ISP's Environmental Report's analysis of site selection criteria related to environmental justice is not adequate), *with Claiborne,* CLI-98-3, 47 NRC at 103 (reversing the board's ruling that NEPA requires a "free-ranging inquiry into the site selection process" to resolve allegations of racial discrimination).

[360] NUREG-1748 at 6-25.

[361] *Id.* at C-4.

[362] ER App. A at 1-39 to -44.

[363] 10 C.F.R. § 2.309(f)(1)(vi).

[364] Sierra Club Pet. at 90.

16. Sierra Club Contention 16

Sierra Club Contention 16 states:

> Since the 1990's almost all spent nuclear fuel being generated is high burnup fuel (HBF). HBF causes the cladding to become thinner, creating a higher risk of release of radioactive material. The cladding also becomes more brittle, with additional cracks. This situation causes risks for short-term and long-term dry storage. The SAR, 1.2.4, claims that the cask system to be used for the transportation and storage for the ISP [CISF] will not contain HBF. But the prevalence of HBF requires that the cask systems will need to contain HBF at some point. The SAR and [Environmental Report] must evaluate the risks of HBF.[365]

Sierra Club Contention 16 asserts that, because "[h]igh burnup fuel causes the cladding around the fuel to become thinner and more brittle, inducing cracking," high burnup fuel containers are "more likely to leak radioactive material."[366] Sierra Club insists that the "prevalence of [high burnup fuel] means that the ISP facility will have to immediately or in the near future transport and store [high burnup fuel]."[367] Sierra Club cites a DOE report to suggest that outstanding issues regarding cladding and high burnup fuel should be resolved before it can be safely loaded, transported, and stored.[368] Citing a study by the U.S. Nuclear Waste Technical Review Board,[369] Sierra Club claims that zirconium cladding experiences a twelve percent thinning due to the effects of high burnup, and "the likelihood of cladding defects increase" when storing high burnup fuel.[370] Finally, Sierra Club cites *New York v. NRC*[371] for the proposition that "an agency must look at both the probabilities of potentially harmful events and the consequences if those events come to pass."[372] In sum, Sierra Club argues the Environmental Report and SAR must "discuss and evaluate the risks of transporting and storing [high burnup fuel]."[373]

Insofar as Sierra Club seeks to challenge general safety concerns about transporting high burnup fuel, Contention 16 is outside the scope of this proceeding.

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[365] *Id.* at 91.

[366] *Id.* at 91-92.

[367] *Id.* at 92.

[368] *Id.* at 93 (citing DOE Fuel Concept Report).

[369] *Id.* at 94 (citing U.S. Nuclear Waste Transp. Rev. Bd., *Evaluation of the Technical Basis for Extended Dry Storage and Transportation of Used Nuclear Fuel* (Dec. 2010)); *id.* at 95.

[370] Sierra Club Pet. at 94-95.

[371] 681 F.3d at 478.

[372] Sierra Club Pet. at 95.

[373] *Id.*

U.S. Department of Transportation regulations and 10 C.F.R. Part 71 establish the standards for transporting spent nuclear fuel, not 10 C.F.R. Part 72.

Insofar as Sierra Club seeks to challenge the safety of storing high burnup fuel at the proposed ISP facility, Contention 16 is also outside the scope of this proceeding. First, Sierra Club misunderstands ISP's application. Contrary to Sierra Club's statement that "the SAR claims that [high burnup fuel] will not be transported or stored in the cask systems used," the SAR actually allows for storage of high burnup fuel with additional limitations — that is, the high burnup fuel must be canned within the canister.[374] Second, the application provides that only storage systems approved by the NRC will be received at the ISP facility, and incorporates those technical specifications by reference into the SAR.[375] NRC regulations bar any admitted contention that challenges an NRC-approved cask design incorporated by reference in an ISFSI application.[376]

To the extent Contention 16 raises environmental concerns about high burnup fuel, Sierra Club fails to raise a genuine dispute with the application.[377] Sierra Club proffers a contention of omission, stating that "the ER [does not] discuss at all the likelihood or the impacts of [high burnup fuel] being transported to and stored at the [proposed] facility."[378] However, ISP's Environmental Report does address the possibility of high burnup fuel being sent to the facility and analyzes the impacts of both transportation[379] and storage.[380] In its reply, Sierra Club disputes the Environmental Report's transportation impact analysis, arguing that the study is a "general modeling exercise that does not indicate . . . whether the model considered whether high-burnup fuel was modeled, and if so, if the model assumed that the fuel was canned."[381] However, the RADTRAN analysis performed by the applicant encompasses spent fuel of any burnup level, including high burnup fuel.[382] The information that Sierra Club claims to be lacking

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[374] ISP License Application, Attach. A, Proposed License Conditions at unnumbered A-3 (Proposed License No. SNM-1050) § 9.

[375] SAR at 1-6 to -10.

[376] 10 C.F.R. § 72.46(e).

[377] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[378] Sierra Club Pet. at 95.

[379] ER at 4-12 to -16. This section provides the results of a RADTRAN analysis that evaluated the incident-free radiological transportation impacts assuming the maximum dose rate allowed for exclusive use shipments under 10 C.F.R. § 71.47(b)(3).

[380] ER at 4-55 to -59. Storage of high burnup fuel is subject to the same standards as other forms of spent fuel, and therefore is encompassed by the discussion of impacts to public and occupational health from facility operation. If Sierra Club objected to this analysis, it was not articulated.

[381] Sierra Club Reply at 44.

[382] ER at 4-13 ("Incident-free doses were calculated using the maximum dose rate allowed for exclusive use shipments under NRC regulations.").

is contained within the Environmental Report, and therefore Sierra Club does not raise a genuine dispute with the application.

Sierra Club Contention 16 is not admitted.

17. Sierra Club Contention 17

Sierra Club Contention 17 states:

> Sierra Club adopts all contentions presented by [Joint Petitioners], in their Petition to Intervene in this proceeding.[383]

To adopt a contention, a participant must (1) demonstrate standing; and (2) have proffered its own admissible contention.[384] Although Sierra Club has done this, the contention a petitioner seeks to adopt must also be admissible under 10 C.F.R. § 2.309(f)(1). Because Joint Petitioners have not proffered an admissible contention, as explained *infra,* Sierra Club cannot adopt any of Joint Petitioners' contentions.

Sierra Club Contention 17 is not admitted.

C. Joint Petitioners[385]

1. Joint Petitioners Contention 1: NEPA Analysis of Transportation of [Spent Nuclear Fuel] and GTCC Wastes Was Excluded from the Application and Comprises Unlawful Segmentation of the Project

Joint Petitioners Contention 1 states:

> ISP states in the Application that "Transportation of the spent nuclear fuel shipping

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[383] Sierra Club Pet. at 96.

[384] *See Consolidated Edison Co. of New York* (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 132-33 (2001).

[385] In addition to proffering their individual contentions, Joint Petitioners "object and move for the dismissal and termination of this licensing proceeding." Joint Pet'rs Pet. at 40. They allege that there is no federal authorization for the ISP CISF to be licensed because "neither Part 72 nor the NWPA authorize an ISP CISF financed by means of having the DOE take title to the [fuel] and GTCC wastes and compensating the company for overseeing their management." *Id.* at 38. They also challenge the legality of the general licensing of a CISF under federal law and the NRC's subject matter jurisdiction over ISP's license application to the extent the DOE retains ownership of the spent fuel. *Id.* at 39-40.

The Board overrules Joint Petitioners' objection on procedural grounds. As explained in SECY's Order denying Beyond Nuclear and Fasken's threshold motions to dismiss, NRC regulations do not provide any avenue for Boards to rule on contested motions (or objections) to dismiss a proceeding at the proceeding's commencement. *See* Order Denying Motions to Dismiss.

> casks from the originating commercial nuclear reactor to the CISF . . . is not part of this License Application. The exclusion from the [Environmental Report] — and by implication, from the EIS — of details and environmental impacts of a planned 20-year shipping campaign involving at least 3,000 deliveries of [spent nuclear fuel] and GTCC waste to ISP violates NEPA requirements that the transportation and storage aspects of the ISP plan be evaluated as a single, integrated project.[386]

Joint Petitioners Contention 1 stems from statements in ISP's application that: (1) "[o]perations at the originating commercial nuclear reactors in preparation or support of spent nuclear fuel shipments to the CISF are performed under the individual reactor licenses . . . and are not part of this License Application;" and (2) "[t]ransportation of the spent nuclear fuel shipping casks from the originating commercial nuclear reactor to the CISF will be performed in accordance with 10 CFR 71 from the originating commercial nuclear reactor licensees and is not part of this License Application."[387]

Joint Petitioners contend that, in spite of what ISP says, transportation should be part of its Part 72 CISF application because "[t]he delivery of [spent nuclear fuel] and GTCC waste from nuclear reactors to ISP will be a major, complicated campaign, expected to last 20 years and to include at least 3,000 separate shipments transported, in the aggregate, hundreds of thousands of miles."[388] In sum, Joint Petitioners assert that transportation to the CISF is the *sine qua non* of the project itself,[389] and accordingly must be analyzed under 10 C.F.R. § 51.45(b).[390]

Joint Petitioners also argue that, if they are to "meaningfully participate in the NEPA process, and for state and local government officials and emergency response personnel to comprehend the scope of this vast [spent nuclear fuel] shipping campaign, there must be complete disclosure of all probable transportation routes, along with quantities of [spent nuclear fuel] and the likely radioisotopic contents."[391] Joint Petitioners assert a contention of omission concerning the lack of transportation plans in the Environmental Report,[392] and claim that the separation of the environmental impacts from spent fuel transportation and the storage itself "comprises unlawful segmentation of the project."[393]

Joint Petitioners do not address or dispute the transportation analyses that are

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[386] Joint Pet'rs Pet. at 41.

[387] ISP License Application at 1-2 to -3; *see id.* at 3-1.

[388] Joint Pet'rs Pet. at 42.

[389] Tr. at 294.

[390] Joint Pet'rs Pet. at 48.

[391] *Id.* at 43.

[392] *Id.*

[393] *Id.* at 44 (citing *Stewart Park & Reserve Coal., Inc. (SPARC) v. Slater,* 352 F.3d 545, 559 (2d Cir. 2003)).

contained in the application, and Joint Petitioners Contention 1 therefore does not show that a genuine dispute exists on a material issue of law or fact with ISP's application. The issue presented by Joint Petitioners is also outside the scope of this proceeding. Joint Petitioners do not explain why, under NEPA, ISP is required to divulge all transportation routes of casks coming from customers, unknown at this time, for the 20-year transportation and loading campaign. As ISP points out,[394] ISP cannot know these details at this time, and relevant caselaw does not require ISP to hypothesize about who will be sending what fuel at this time.[395] Responsibility for transportation of spent nuclear fuel from commercial reactors to the proposed CISF lies with the title holders of the spent fuel, not with ISP.

Instead of disputing the sections of ISP's Environmental Report that discuss transportation issues,[396] Joint Petitioners challenge the adequacy of NRC regulations establishing the requirements for applicants' Environmental Reports under Part 72.[397] Joint Petitioners' "unlawful segmenting" argument is outside the scope of this proceeding because it challenges the NRC's Part 72 and NEPA-implementing regulations under Part 51 in violation of 10 C.F.R. § 2.335.

Joint Petitioners Contention 1 is not admitted.

2. Joint Petitioners Contention 2: ISP's 'Start Clean/Stay Clean' Policy Cherry-Picks Waste for Storage and Contradicts the Project's Purpose and Need Statement

Joint Petitioners Contention 2 states:

> Interim Storage Partners states in its "Purpose and Need" statement that: "A CISF is needed to ensure that the [spent nuclear fuel] at these commercial reactor sites can be safely removed so that the remaining lands can be returned to greenfield status." ER § 1.1, p. 1–5. But the implementation of ISP's plan contradicts its purpose and need statement.[398]

Joint Petitioners claim that ISP's policy of not accepting leaking or contaminated casks conflicts with ISP's own statement of the purpose and need for its proposed facility: that is, to help ensure decommissioned reactor sites can be returned to greenfield status.[399] Joint Petitioners hypothesize that, if ISP rejects

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[394] ISP Answer to Joint Pet'rs at 31-32.

[395] *See Morton,* 458 F.2d at 837.

[396] ER at 3-5 to -7, 4-3 to -28.

[397] *See* 10 C.F.R. §§ 51.61, 72.34, 72.108.

[398] Joint Pet'rs Pet. at 49-50.

[399] *Id.* at 53.

damaged or leaky canisters, then after they are returned to their place of origin, they "may be subjected to less oversight, maintenance, and security" and "[t]heir deteriorated or damaged conditions may not be noted nor remedied," which will create "greater dangers than would have earlier been present."[400]

Joint Petitioners Contention 2 is inadmissible for lack of a sufficient factual basis.[401] Their claim that a rejected cask will lead to a cascade of stranded and neglected spent fuel across the country is speculative. It is not supported by any factual basis, especially in light of the NRC's transportation regulations under Part 71, the NRC's security regulations under Part 73, and its spent fuel storage rules in Part 72. Joint Petitioners Contention 2 also ignores the Commission's decision in *Private Fuel Storage,* in which the Commission determined that a leaky or damaged canister in transit to a CISF is not credible.[402] A contention cannot be admitted on bare assertions and speculation alone.[403]

Joint Petitioners Contention 2 is not admitted.

3. Joint Petitioners Contention 3: The Project Has Inadequate Assurances of Financing

Joint Petitioners Contention 3 states:

> ISP as a matter of fact and law has not provided reasonable assurance that it can or will obtain the necessary funds to cover the costs of construction, operation, maintenance and decommissioning of the CISF.[404]

As explained in its stated basis, Joint Petitioners Contention 3 encompasses four interrelated claims: First, Joint Petitioners claim that ISP's application is "dependent" on DOE's taking title to the spent fuel to be stored at the proposed facility.[405] Second, such an arrangement is not currently legal.[406] Third, if DOE were to hold title, that would jeopardize the liability protection afforded by the Price-Anderson Act.[407] Fourth, because DOE may not lawfully hold title to the spent fuel, the NRC must deny ISP's request for an exemption from providing financial assurance for decommissioning, as required by 10 C.F.R.

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[400] *Id.* at 53-54.

[401] *See* 10 C.F.R. § 2.309(f)(1)(v).

[402] *Private Fuel Storage,* CLI-04-22, 60 NRC at 136-37, 138.

[403] *Fansteel,* CLI-03-13, 58 NRC at 203.

[404] Joint Pet'rs Pet. at 55.

[405] *Id.* at 56.

[406] *Id.*

[407] *Id.* at 58.

§ 72.30, insofar as ISP's request is based on a contract with DOE guaranteeing decommissioning funds.[408]

As explained in the Board's ruling on Beyond Nuclear's contention, *supra,* Joint Petitioners' first claim does not raise a genuine dispute with ISP's application, which includes the option of contracting directly with nuclear plant owners that currently hold title to their spent fuel. As in *Holtec,*[409] whether ISP will find that alternative commercially viable is not an issue before the Board, because the business decision of whether to use a license has no bearing on a licensee's ability to safely conduct the activities the license authorizes.

As also explained *supra,* in the Board's ruling on Beyond Nuclear's contention, intervening developments have mooted the other claims that Joint Petitioners assert in Contention 3. ISP has withdrawn its request for a regulatory exemption,[410] and has acknowledged on the record that, as the law now stands, it cannot lawfully contract for DOE to take title to spent fuel destined for its proposed facility.[411] So that option is off the table. Additionally, Joint Petitioners' concerns about Price-Anderson coverage are in any event misplaced. Section 72.22(e) of 10 C.F.R. requires reasonable assurance of obtaining necessary funds to cover construction, operating, and estimated decommissioning costs, but says nothing about liability coverage.

Although initially the NRC Staff would have had us admit Joint Petitioners Contention 3 solely as to the lawfulness of ISP's exemption request,[412] at oral argument the Staff announced that its position has changed. Recognizing that ISP has withdrawn its exemption request, the NRC Staff now takes the position that no portion of Joint Petitioners Contention 3 is admissible.[413] We agree.

Joint Petitioners Contention 3 is not admitted.

4. Joint Petitioners Contention 4: Low-Level Radioactive Waste Volumes and Repackaging Requirements Are Considerably Underestimated

Joint Petitioners Contention 4 states:

> The ISP Environmental Report significantly underestimates the volume of low-level radioactive waste ("LLRW") that will be generated by the interim storage project. ISP fails to count irradiated concrete and other materials toward the gross

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[408] *Id.* at 61.

[409] *Holtec,* LBP-19-4, 89 NRC at 381.

[410] ISP June 3, 2019 Letter at 1.

[411] ISP June 28, 2019 Response to Board at 1; Tr. at 44 ("DOE may not, absent statutory change, make use of our facility.").

[412] NRC Staff Consol. Answer at 27.

[413] Tr. at 159.

> total volumes of LLRW. ISP further fails to acknowledge and properly quantify LLRW volumes resulting from mandatory repackaging of [spent nuclear fuel] and GTCC waste, at least some of which will occur at the WCS site to meet likely DOE requirements for transportation, aging and disposal ("TAD") canisters to be delivered to the final geological repository. ISP provides an incomplete perspective of the waste management obligations at the CISF as well as the financial burdens arising from creation, oversight and disposition of thousands of additional tons of LLRW. This truncated perspective in turn has caused a seriously inaccurate picture of the true costs of constructing, operating and decommissioning the WCS CISF.[414]

Joint Petitioners Contention 4 asserts three claims concerning LLRW at the proposed storage facility: (1) the repackaging of spent nuclear fuel poses "unconsidered management difficulties, increased waste generation, and unforeseen and undisclosed costs;"[415] (2) allegedly, ISP grossly underestimates the concrete LLRW at the CISF site;[416] and (3) ISP allegedly fails to conduct an acceptable life cycle estimate of LLRW volumes and associated expenses.[417] For its second and third claims, Joint Petitioners rely on a report by Robert Alvarez, an asserted expert on spent fuel storage.[418]

As to Joint Petitioners' claim that the repackaging of spent fuel poses management difficulties, increased waste generation, and unforeseen and undisclosed costs, ISP's application is for a 40-year license. Its Environmental Report relies on the Continued Storage Rule and Continued Storage GEIS. ISP's application does not set forth any intent to repackage spent fuel or any analysis of the costs of repackaging the fuel, and the Continued Storage Rule does not require a spent fuel storage facility applicant under Part 72 to include such an analysis beyond the license term.[419] Thus, this claim is outside the scope of this proceeding. And, to the extent Joint Petitioners assert that ISP must discuss waste generated by repackaging fuel canisters into DOE transportation, aging and disposal casks, this claim is necessarily outside the scope of this proceeding as well.

Joint Petitioners' claim that ISP grossly underestimates the concrete LLRW in its Environmental Report also challenges the Continued Storage Rule and Continued Storage GEIS and is inadmissible for challenging an NRC rule in violation of section 2.335. The Continued Storage GEIS, deemed incorporated by the Continued Storage Rule, concludes that

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[414] Joint Pet'rs Pet. at 64.

[415] *Id.* at 66-71.

[416] *Id.* at 72-74.

[417] *Id.* at 74-76.

[418] *Id.* at 69; *see id.,* Decl. of Robert Alvarez (Oct. 23, 2018).

[419] 10 C.F.R. § 51.23(b).

> [a]lthough the exact amount of [low level waste (LLW)] and nonradioactive waste depends on the level of contamination, the quantity of waste generated from the replacement of the canisters, storage casks, concrete storage pads, [dry transfer system], and canister transfer building is still expected to be [ ] comparable to the LLW generated during reactor decommissioning, which was previously determined to have a SMALL impact in the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (NRC 2013a).[420]

Finally, Joint Petitioners' claim that "ISP's tabulation in the [Environmental Report] of the quantities of canister LLRW and concrete LLRW do not adequately answer cost or quantitative questions"[421] is based solely on the Environmental Report's omission of repackaging spent fuel canisters[422] — an analysis ISP is not required to include in its initial 40-year application under the Continued Storage Rule. Therefore, this claim is also outside the scope of this proceeding and impermissibly challenges the Continued Storage Rule in violation of 10 C.F.R. § 2.335.

Joint Petitioners Contention 4 is not admitted.[423]

5. Joint Petitioners Contention 5: ISP Has Not Performed an Environmental Justice Investigation of Transportation Communities; the ISP CISF Will Cause Disparate Impacts from Routine and Non-Routine Transportation-Related Radiation Exposures upon Minority and Low-Income Populations Along Hundreds of Miles of Transportation Corridors

Joint Petitioners Contention 5 states:

> ISP states in its License Application (ML 18206A483) that "Transportation of the spent nuclear fuel shipping casks from the originating commercial nuclear reactor to the CISF will be performed in accordance with 10 CFR 71, and the originating reactor licenses *and is not part of this License Application.*" Id. § 1.1, p. 1-3 (Emphasis added). With that, WCS severed — and "segmented" — the transportation part of the CISF proposal from the storage component. Segmentation is impermissible for legal as well as practical reasons. One consequence of the segmentation is that Environmental Justice ("EJ") compliance in the form of identification and analysis of potentially affected populations along the anticipated

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[420] Continued Storage GEIS at 5-48.

[421] Joint Pet'rs Pet. at 75.

[422] *Id.* at 75-76.

[423] Because we would reach the same decision even if we considered Joint Petitioners' reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply concerning Joint Petitioners Contention 4.

rail, truck and barge routes will be improperly excluded from disclosure in the NEPA document.[424]

Framed as a contention of omission, Joint Petitioners claim that ISP's Environmental Report improperly excludes an environmental justice analysis of potentially affected people who live near probable spent fuel and GTCC waste transportation routes to the ISP CISF. For support, Joint Petitioners purport to rely on *Claiborne,*[425] Executive Order 12898, CEQ guidance, and U.S. Environmental Protection Agency guidance.

Joint Petitioners Contention 5 fails to raise a material dispute. ISP is applying to construct a CISF under 10 C.F.R. Part 72. In its license application, ISP emphasizes "[t]ransportation of the spent nuclear fuel shipping casks from the originating commercial nuclear reactor to the CISF will be performed in accordance with 10 CFR 71 and the originating reactor licenses and is not part of this License Application."[426]

Joint Petitioners are correct that transportation routes will eventually need to be established, and impacts from those routes will need to be analyzed, should ISP's proposed facility be licensed and become operational. Joint Petitioners are also correct that the U.S. Department of Transportation will need to be involved in that analysis.

However, Joint Petitioners' claim that an environmental justice investigation must extend to the "populations in the shipping corridors covering thousands of miles of rail, truck and barge routes" has no bearing on this proceeding.[427] The authorities cited by Joint Petitioners (including Executive Order 12898 and the NRC's Environmental Justice Policy Statement) were promulgated to implement NEPA. And, under NEPA, an environmental justice assessment need only assess the "disproportionately high and adverse human health or environmental" impacts of the proposed action and its reasonable alternatives.[428] The area for assessment of environmental justice impacts is based on the location of the proposed facility itself, not proximity to possible transportation routes. Accordingly, Joint Petitioners have not raised an issue that is material to the findings the NRC must make in this proceeding.[429]

Joint Petitioners Contention 5 is not admitted.

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[424] Joint Pet'rs Pet. at 76-77. Although characterized as the basis for Joint Petitioners Contention 5, this statement appears to be what Joint Petitioners intend to litigate as their contention.

[425] *Claiborne,* LBP-97-8, 45 NRC at 367, *aff'd in part, rev'd in part,* CLI-98-3, 47 NRC at 77.

[426] ISP License Application at 1-3.

[427] Joint Pet'rs Pet. at 81.

[428] Exec. Order 12898 § 1-101; *see* NRC Environmental Justice Policy Statement, 69 Fed. Reg. at 52,047; *Claiborne,* CLI-98-3, 47 NRC at 103-04.

[429] *See* 10 C.F.R. § 2.309(f)(1)(iv).

6. Joint Petitioners Contention 6: Inadequate Disclosure of Oil and Gas Drilling Activity Beneath the WCS CISF Site

Joint Petitioners Contention 6 states:

> Horizontal hydraulic fracturing ("fracking") activity is taking place in close proximity to the ISP/WCS site. It is technologically and legally possible that fracking will be undertaken directly beneath the waste storage areas of the site. Fracking has seismic, groundwater flow and water consumption implications, which become cumulative if extraction wells and/or waste injection disposal wells are developed near and/or underneath WCS. There is no indication in the Environmental Report or Safety Analysis Report of legal controls over present or potential oil and gas drilling directly beneath the site. The presence, overall, of mineral interests beneath or proximate to the waste storage portion of the ISP site is inadequately disclosed. Consequently, the realistic prospects for mineral development immediately surrounding and underneath the WCS site, and the implications for inducing or expediting geological problems including seismicity and groundwater movement, are unknown.[430]

Joint Petitioners Contention 6 claims that analyses have been omitted from ISP's application with regard to ISP's property and mineral rights and the CISF area's seismology and hydrology. Joint Petitioners claim that ISP's Environmental Report and SAR are deficient because, they allege, both are devoid of the "land ownership and legal control of the mineral rights interests of the site where the waste storage will occur"[431] and they "fail to connect the considerable history of oil and gas development" in the CISF area.[432] Joint Petitioners allege that the Environmental Report omits "investigation . . . into the chemical status of water from the Ogallala Aquifer," its connected smaller aquifers, the area soils and the soils' possible corrosive effects on the casks, the concrete bunkers and pads, and the artificial substrate materials.[433] Joint Petitioners further contend that ISP's Environmental Report violates 10 C.F.R. § 72.120(d), because allegedly ISP "has ignored and failed to integrate evidence of groundwater at the site" as related to induced faults from fracking, associated seismic activity, and waste water injection wells from area petroleum exploration.[434] Finally, Joint Petitioners claim that ISP's Environmental Report violates multiple Part 72 regulations because it allegedly omits analysis of seismic activity in the area

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[430] Joint Pet'rs Pet. at 97-98.

[431] *Id.* at 99.

[432] *Id.* at 99-100.

[433] *Id.* at 100.

[434] *Id.*

(including fracking-induced seismic activity analyses) and groundwater analysis that would affect the design and operation of the proposed CISF.[435]

Joint Petitioners fail to acknowledge (much less dispute) relevant portions of ISP's application that address their concerns, and thus do not raise a genuine dispute with the application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

For example, most of the seismic analyses Joint Petitioners seek are in SAR Chapter 2, Attachment D. Although this portion of the application contains proprietary information, as explained *supra* Joint Petitioners had the opportunity to gain access to this information but chose not to.[436] Moreover, the analyses that ISP employs to demonstrate compliance with Part 72 are appropriately located in the SAR (as they relate to safety),[437] not in ISP's Environmental Report.

In their reply, Joint Petitioners attempt to transform their contention of omission into one of inadequacy. They concede that "induced seismicity is discussed in the [Environmental Report]," but claim the discussion is inadequate because "there must be an accounting of prospective drilling trends and density in the immediate region of the CISF."[438] But Joint Petitioners do not explain what authority requires this analysis.

Petitioners have a duty to "read the pertinent portions of the license application, . . . state the applicant's position," and explain their disagreement with the applicant — i.e., identify what section is allegedly devoid of a required analysis.[439] Joint Petitioners clearly failed to do this. Joint Petitioners Contention 6 does not raise a genuine dispute with the application as required under 10 C.F.R. § 2.309(f)(1)(vi).

Joint Petitioners Contention 6 is not admitted.

7. Joint Petitioners Contention 7: Disqualifying Foreign Ownership of Interim Storage Partners

Joint Petitioners Contention 7 states:

> Interim Storage Partners is majority controlled by a foreign corporation and is barred by statute and regulation from seeking or receiving a license from the Nuclear Regulatory Commission.[440]

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[435] *Id.* at 100-02 (alleging that ISP's ER violates 10 C.F.R. §§ 72.103(f), 72.103(e), 72.103(f)(2)(iv), 72.90, and 72.94).

[436] 83 Fed. Reg. at 44,073-75.

[437] *See, e.g.,* SAR sections 11.5, 15.1.4 (information required under 10 C.F.R. § 72.120).

[438] Joint Pet'rs Reply at 38.

[439] *Millstone,* CLI-01-24, 54 NRC at 358.

[440] Joint Pet'rs Pet. at 102.

Joint Petitioners correctly point out that ISP's application states that ISP "is majority owned and controlled by Orano CIS,"[441] which in turn is wholly owned by Orano USA LLC.[442] Orano USA LLC is "ultimately majority owned and controlled by FAE AEC, an entity of the French Government."[443] Joint Petitioners claim that, because ISP is ultimately controlled by the French government, AEA sections 103 and 104 (and the NRC regulations implementing these provisions) forbid the NRC from issuing ISP a license to store spent nuclear fuel.[444]

Although this contention would be admissible if ISP sought to obtain a license for a production or utilization facility,[445] AEA sections 103 and 104 apply, by their terms, only to production and utilization facilities. An independent spent fuel storage facility under Part 72 is neither a production nor a utilization facility.[446] Thus, ISP's CISF is not subject to AEA sections 103 or 104.

Joint Petitioners Contention 7 is not admitted.

8. Joint Petitioners Contention 8: The Discussion of Alternatives to the Proposed Project Is Inadequate Under NEPA

Joint Petitioners Contention 8 states:

> The no-action alternative in the [ISP Environmental Report] is incomplete because it does not acknowledge safer storage methods at reactor sites, such as hardened on-site storage ("HOSS"), nor does it acknowledge the NRC's Continued Storage Rule that concludes that waste can be safely stored at reactor sites indefinitely.

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[441] ISP License Application at 1-4.

[442] *Id.*

[443] *Id.*

[444] Joint Pet'rs Pet. at 102-03.

[445] *See Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-12-19, 76 NRC 184 (2012) (finding a violation of AEA sections 103 and 104 where a power reactor license applicant's parent company was foreign owned).

[446] AEA section 11 defines a "production facility" as "(1) any equipment or device determined by rule of the Commission to be capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission." AEA section 11 defines a "utilization facility" as "(1) any equipment or device, except an atomic weapon, determined by rule of the Commission to be capable of making use of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public, or peculiarly adapted for making use of atomic energy in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission." 42 U.S.C. § 2014.

> There are at least four alternatives to the proposed CISF project which are neither recognized nor addressed in the Environmental Report, contrary to NEPA requirements.[447]

Joint Petitioners claim that ISP's discussion of the "no-action alternative" in its Environmental Report is deficient because it does not discuss potential alternatives to the proposed project, such as HOSS, and conflicts with the NRC's Continued Storage Rule.[448] Additionally, Joint Petitioners claim that ISP did not conduct an appropriate analysis of the costs and benefits associated with the proposed project.

Joint Petitioners' claim that ISP's Environmental Report fails to consider other alternatives does not demonstrate a genuine dispute on a material issue.[449] Joint Petitioners identify five separate alternatives that ISP's Environmental Report allegedly fails to consider: (1) establishment of a dry transfer system; (2) modification of ISP's emergency response plan to include preparations for emissions mitigation; (3) modification of the CISF design to prevent "malevolent" acts; (4) federal government control of the ISP facility; and (5) implementation of HOSS at reactor sites.[450] However, Joint Petitioners do not explain why these five alternatives must be evaluated by ISP in its Environmental Report.

Indeed, Joint Petitioners' first four "alternatives" do not appear to be alternatives to constructing ISP's proposed facility at all, but rather suggestions for how to improve it. As to Joint Petitioners' claim that ISP's Environmental Report must discuss using "safer storage methods . . . such as HOSS" at reactor sites as an alternative to constructing a central storage facility, Joint Petitioners fail to demonstrate how such a discussion would be material to the no-action alternative either. HOSS is a method of storage that has not been licensed, much less implemented, at any reactor site. ISP's Environmental Report is only required to analyze a no-action alternative of maintaining the status quo. Joint Petitioners do not explain why analyzing the unused HOSS method is necessary to analyzing the status quo.

Joint Petitioners' claims concerning the Continued Storage Rule are based on a fundamental misunderstanding of the Rule, which petitioners incorrectly assert "concludes that waste can be stored at the reactor site indefinitely."[451] It does no such thing. Rather, the Continued Storage Rule incorporates the impact determinations made in the continued storage GEIS, which merely analyzes the environmental impacts of storing waste at reactor sites after the end of their

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[447] Joint Pet'rs Pet. at 107.

[448] *Id.*

[449] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[450] Joint Pet'rs Pet. at 107-08.

[451] *Id.* at 107.

licenses. It did not include an analysis of safety benefits or advocate for a particular method of storage.

Joint Petitioners claim that ISP's Environmental Report does not provide a cost-benefit analysis ignores Chapter 7 of the Report, which contains the analysis that Joint Petitioners claim is omitted.[452] A petitioner has a duty to "read the pertinent portions of the license application."[453] This portion of Joint Petitioners contention does not demonstrate a genuine dispute because the alleged missing information is contained within the license application.

Joint Petitioners Contention 8 is not admitted.

9. Joint Petitioners Contention 9: ISP Misrepresents the Financial Benefits to the Federal Government from Opening and Operating a CISF

Joint Petitioners Contention 9 states:

> ISP maintains that establishment of the proposed ISP facility would financially benefit the US federal government. There is considerable dispute over whether the proposed action of opening a CISF at Interim Storage Partners' site in west Texas will provide over $5 billion of net economic benefit to the U.S. government.[454]

In Contention 9, Joint Petitioners claim that ISP's Environmental Report provides no benefit-cost analysis.[455] They assert that Table 7.4-1 depicts only purported benefits of the proposed storage facility, but fails to set forth its costs.[456] Joint Petitioners conclude: "NEPA does not require a cost-benefit analysis; but an agency choosing to 'trumpet' an action's benefits has a duty to disclose its costs."[457]

Despite Joint Petitioners' claim, ISP's Environmental Report does contain an entire chapter entitled "Benefit-Cost Analysis."[458] Joint Petitioners correctly point out that Table 7.4-1 only summarizes purported benefits, but they ignore the fact that on the next page Table 7.4-2 summarizes estimated costs.

The Commission expects petitioners to "read the pertinent portions of the

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[452] *See* ER Chapter 7.

[453] Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone,* CLI-01-24, 54 NRC at 358.

[454] Joint Pet'rs Pet. at 112.

[455] *Id.*

[456] *Id.* at 113.

[457] *Id.* at 114 (citing *Sierra Club v. Sigler,* 695 F.2d 957, 979 (5th Cir. 1983)).

[458] ER Chapter 7.

license application."[459] Because the information Joint Petitioners claim is missing from ISP's Environmental Report in fact appears there, Contention 9 fails to demonstrate a genuine dispute with the application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

In their reply, Joint Petitioners try for the first time to challenge the sufficiency of ISP's benefit-cost analysis and its alleged reliance on "flawed assumptions."[460] The Board grants ISP's motion to strike these new arguments, which could have been timely raised in Joint Petitioners original petition, but were not.

There is a world of difference between claiming a benefit-cost analysis is missing and claiming it is insufficient. "The Commission will not permit, in a reply, the filing of new arguments or new legal theories that opposing parties have not had an opportunity to address."[461] Rather, NRC regulations "demand a level of discipline and preparedness on the part of petitioners," who are required by our contention admissibility requirements to set forth their claims in detail at the outset of a proceeding.[462]

Joint Petitioners Contention 9 is not admitted.

10. Joint Petitioners Contention 10: The Predicted Length of the Period of Operation of the CISF Warrants Scrutiny Under NEPA of Storage Exceeding 100 Years

Joint Petitioners Contention 10 states:

> WCS plans to provide long-term [spent nuclear fuel] storage for up to either 40, 60 or 100 years, depending on which statement one wishes to rely on or until a geological repository is developed. The indefinite length of the interim storage scheme requires NEPA evaluation beyond 60 years of operations.[463]

Joint Petitioners claim that, notwithstanding ISP is applying for only a 40-year license,[464] it is not clear how long the ISP CISF will actually store spent nuclear fuel. Joint Petitioners cite different parts of ISP's license application where ISP hypothesizes how long the interim storage facility might store fuel: in one place, ISP estimates 60 years "or until a final geologic repository is licensed and operating;" in two other portions of the Environmental Report, ISP

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[459] Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170.

[460] Joint Pet'rs Reply at 47.

[461] *USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 439 (2006).

[462] *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 225, *reconsideration denied,* CLI-04-35, 60 NRC 619 (2004).

[463] Joint Pet'rs Pet. at 114.

[464] ISP License Application at 1-5.

estimates 60 to 100 years (or until a permanent repository is operational).[465] Because of these statements, Joint Petitioners contend that ISP must conduct a NEPA review beyond 60 years of the facility's licensing (at a minimum); beyond 100 years as a NEPA "cumulative impact;"[466] and for a period of "hundreds, or even thousands of years, or forever," because the facility might become a *de facto* repository.[467]

This proceeding concerns an application for a license to store spent fuel for up to 40 years. As NEPA requires a federal agency to "take a hard look at the environmental consequences of its proposed action,"[468] ISP's Environmental Report (and the NRC's subsequent EIS) must only take its hard look at the environmental impacts for a 40-year term. As to the *de facto* repository argument, it impermissibly challenges the Continued Storage Rule. The Continued Storage GEIS has evaluated environmental impacts of long-term spent fuel storage, analyzing three scenarios: (1) 60 years beyond the cessation of reactor operations, (2) 100 years after that period, and (3) indefinite storage where no repository is opened (i.e., the *de facto* repository scenario).[469] Therefore, Joint Petitioners Contention 10 asserts an impermissible challenge to the Continued Storage Rule, in violation of 10 C.F.R. § 2.335, and fails to raise a genuine, material dispute with ISP's application.

Joint Petitioners Contention 10 is not admitted.

11. Joint Petitioners Contention 11: Having No Dry Transfer System and No Radioactive Emissions Mitigation Plan for ISP's CISF Are Impermissible Omissions Under the AEA and Must Be Addressed Under NEPA

Joint Petitioners Contention 11 states:

> ISP's plan to not have a dry transfer system ("DTS") or other technological means of handling problems with damaged, leaking or externally contaminated [spent nuclear fuel] canisters or damaged fuel in the canisters at the WCS site, from the date of commencement of operations, contradicts the expectations of the Continued Storage GEIS, and the unanalyzed risks, and increased possibilities of minor to severe radiological accidents must be addressed in the Environmental Impact Statement. There is no plan for radiation emissions mitigation or radioactive re-

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[465] Joint Pet'rs Pet. at 114-15.

[466] *Id.* at 117.

[467] *Id.* at 115.

[468] *Friends of Capital Crescent Trail v. Fed. Transit Admin.,* 877 F.3d 1051, 1055 (D.C. Cir. 2017) (citing *Robertson,* 490 U.S. at 350).

[469] *See* Continued Storage GEIS at 1-13 to -15; 10 C.F.R. § 51.23(b).

> leases at the CISF site. These refusals to contingently prepare for radiological problems at the site are a byproduct of ISP's "start clean/stay clean" policy, are unrealistic and must be addressed in the EIS as well as in licensing conditions.[470]

In Contention 11, Joint Petitioners claim that the lack of a dry transfer facility at ISP's proposed storage facility presents an impermissible risk under the AEA and is inadequately addressed in ISP's Environmental Report. Contention 11 asserts that a dry transfer facility is needed because canisters could become damaged through transportation,[471] damage to cladding during long-term storage of high burnup fuel,[472] gradual degradation of fuel assemblies and canisters, canister accidents, or attack.[473] Contention 11 also asserts that "[t]here is no plan for radiation emissions mitigation or radioactive releases at the CISF site."[474]

Contention 11 is not admissible for three reasons.

First, Joint Petitioners fail to address the relevant contents of ISP's application. Although Contention 11 suggests various ways in which canisters might be damaged, neither the contention nor the referenced portions of the Alvarez report and the Thompson declaration cite, much less dispute, any portions of ISP's application that concern the proposed facility's safety analyses, aging management plans, or quality assurance programs. Nor do Contention 11 or its supporting references directly dispute how ISP proposes to address the special challenges posed by high burnup fuel.[475] Therefore, Contention 11 fails to raise a genuine dispute with ISP's application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

Second, Contention 11 fails to raise a plausible scenario. NRC regulations require spent nuclear fuel to be "packaged in a manner that allows handling and retrievability without the release of radioactive materials to the environment."[476] In Contention 11, Joint Petitioners speculate that, nonetheless, damaged containers might arrive at the site of the proposed storage facility in violation of NRC regulations and, in the absence of repackaging capability, create various dangers.[477]

The Commission affirmed a licensing board's decision not to admit a similar contention in *Private Fuel Storage*.[478] The State of Utah had proffered a con-

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[470] Joint Pet'rs Pet. at 118.

[471] *Id.* at 124.

[472] *Id.* at 120-21.

[473] *Id.* at 125.

[474] *Id.* at 118; *see also id.,* Decl. of Dr. Gordon Thompson (Nov. 12, 2018); *id.,* Decl. of Robert Alvarez (Oct. 23, 2018).

[475] *See, e.g.,* ISP License Application, Chapter 13 at Attach. A, Proposed License Conditions.

[476] 10 C.F.R. § 72.122(h)(5).

[477] Joint Pet'rs Pet. at 124-25.

[478] *Private Fuel Storage,* CLI-04-22, 60 NRC at 136-37.

tention claiming that a canister "improperly constructed or improperly sealed" could be shipped to the proposed storage facility and cause harm.[479] Because the NRC had generically determined that an accidental canister breach is not credible,[480] the Commission upheld the board's rejection of the contention.[481] Moreover, the Commission ruled that Utah (like Joint Petitioners here) had improperly failed to focus on and challenge implementation of NRC-approved quality assurance programs — those very programs that ensure a transportation accident or canister breach is not credible.[482] Because *Private Fuel Storage* is so closely analogous to this proceeding, we must reject Joint Petitioners Contention 11 for the same reasons.[483]

Third, insofar as Contention 11 criticizes the lack of a dry transfer system because, allegedly, its absence may complicate eventual shipment of spent fuel to a permanent repository, it is an impermissible challenge to the NRC's Continued Storage Rule[484] in violation of 10 C.F.R. § 2.335. Contention 11 raises concerns about canister compatibility with future transport and repository requirements for disposal.[485] However, although the Continued Storage GEIS does assume that a dry storage system would be built during long-term storage (that is, within 160 years after the licensed operating life of a reactor),[486] neither the GEIS nor NRC regulations require ISP to construct a dry storage system during the initial 40-year license for its proposed facility. Moreover, the Continued Storage Rule makes clear that ISP's Environmental Report is not required to evaluate the impacts of storage beyond the term of the license it is requesting.[487]

Joint Petitioners Contention 11 is not admitted.

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[479] *Id.*

[480] *See* Final Rule, Emergency Planning Licensing Requirements for Independent Spent Fuel Storage Facilities (ISFSI) and Monitored Retrievable Storage Facilities (MRS), 60 Fed. Reg. 32,430, 32,438 (June 22, 1995).

[481] *Private Fuel Storage,* CLI-04-22, 60 NRC at 137.

[482] *Id.* at 138.

[483] Insofar as Joint Petitioners Contention 11 addresses the impacts of a terrorist attack outside the United States Court of Appeals for the Ninth Circuit's jurisdiction, the Commission has also made clear that NEPA consideration of impacts from terrorism is necessarily outside the scope of this proceeding. *See Oyster Creek,* CLI-07-8, 65 NRC at 124, 128-29.

[484] 10 C.F.R. § 51.23.

[485] Joint Pet'rs Pet. at 121.

[486] Continued Storage GEIS at 5-4 & n.2.

[487] 10 C.F.R. § 51.23(b).

12. Joint Petitioners Contention 12: IS[P]/WCS Is Disqualified from and/or Has Waived Applicability of the Continued Storage Generic Environmental Impact Statement to the Licensing Review

Joint Petitioners Contention 12 states:

> The proposed WCS CISF does not qualify for the exclusions from NEPA scrutiny conferred by the Waste Storage GEIS. Consideration of severe accidents, Environmental Justice, terrorism and sabotage and related mitigation in the transportation and operations elements of the ISP/WCS CISF plan may not be treated as generic issues and excused from consideration under NEPA.[488]

Joint Petitioners assert five separate arguments allegedly in support of Contention 12: (1) the proposed facility is not legally authorized;[489] (2) because the proposed facility differs significantly from the assumptions in the Continued Storage GEIS, ISP is disqualified from relying on the Continued Storage Rule;[490] (3) the Texas Commission on Environmental Quality (TCEQ) concedes that the proposed project is site-specific;[491] (4) the NRC's Continued Storage Rule does not apply to ISFSIs;[492] and (5) ISP's financing mechanism for its proposed interim storage facility "diverges sharply from the [Private Fuel Storage Facility] Prototype of the GEIS."[493] None supports an admissible contention.

First, as explained *supra,* both the Commission and the United States Court of Appeals for the District of Columbia Circuit have already determined that the NRC has statutory authority under the AEA to issue away-from-reactor spent fuel storage installation licenses.[494]

Joint Petitioners' second, third, and fourth assertions all wrongly claim that ISP's application may not rely on the Continued Storage Rule and Continued Storage GEIS because of design differences between ISP's proposed facility and the Continued Storage GEIS's model. The Continued Storage GEIS acknowledges that not all facilities will be a replica of the "assumed generic facility" on which its analyses are based. Where there are differences, the GEIS mandates an independent evaluation of the environmental impacts of the proposed facility — especially as to "size, operational characteristics, and location of the facility."[495] Where there are differences between the GEIS analyses and the proposed WCS

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[488] Joint Pet'rs Pet. at 127.

[489] *Id.* at 127-28.

[490] *Id.* at 128-31.

[491] *Id.* at 131-33.

[492] *Id.* at 133.

[493] *Id.* at 133-34.

[494] *See Private Fuel Storage,* CLI-02-25, 56 NRC at 392; *Bullcreek,* 359 F.3d at 543.

[495] Continued Storage GEIS at 5-2.

storage facility, those analyses are addressed in ISP's Environmental Report's Chapter 4 and in its emergency response mitigation measures in Chapter 5. Joint Petitioners do not dispute any of these chapters, and therefore raise no genuine dispute with the application, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Finally, insofar as Joint Petitioners claims concerning financing are all rooted in a belief that "ISP's proposal involves a funding stream from DOE for which there is no federal statutory authorization,"[496] those concerns have been mooted. As explained *supra,* ISP has expressly acknowledged that, as the law now stands, it cannot contract with DOE to store private utilities' spent fuel,[497] and likewise ISP has withdrawn its request for an exemption from the NRC's regulations regarding financing.

Joint Petitioners Contention 12 is not admitted.[498]

13. Joint Petitioners Contention 13: Any Anticipated Nuclear Reprocessing Activity Must Be Disclosed in the EIS and Included in Cumulative Effects Analysis

Joint Petitioners Contention 13 states:

> The WCS CISF, by aggregating [spent nuclear fuel] in west Texas, would provide a stockpile of spent fuel for purposes of reprocessing. The return of spent fuel reprocessing is supported by the Texas Commission on Environmental Quality. The radioactively dangerous industrial activity of reprocessing must be addressed, analyzed and disclosed in a discussion of cumulative environmental impacts of the [spent nuclear fuel] waste storage project.[499]

Joint Petitioners assert that nuclear reprocessing is a "strong possibility" that must be discussed under NEPA as a cumulative impact of ISP's proposed project.[500] As evidence, Joint Petitioners rely on "a 2015 slide show given by a Holtec representative to the New Mexico State Legislature;"[501] a 2017 *Los Angeles Times* article;[502] a 2008 "Draft Global Nuclear Energy Partnership Pro-

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[496] Joint Pet'rs Pet. at 134.

[497] ISP June 28, 2019 Response to Board; Tr. at 44.

[498] Because we would reach the same decision even if we consider Joint Petitioners' reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply that concern Joint Petitioners Contention 12.

[499] Joint Pet'rs Pet. at 134-35.

[500] Tr. at 129.

[501] Joint Petr's Pet. at 135.

[502] *Id.* (quoting an Eddy-Lea Energy Alliance member saying "[w]e believe if we have an interim storage site, we will be the center for future nuclear fuel reprocessing").

grammatic Environmental Impact Statement [GNEP]" published by DOE;[503] a 2014 report by the TCEQ;[504] and a 2018 DOE request for public comment on DOE's interpretation of the definition of high-level waste as set forth in the AEA and NWPA.[505]

Joint Petitioners claim that NEPA requires a cumulative impacts analysis of reprocessing spent nuclear fuel at the proposed facility because such action "falls within the realm of 'cumulative actions' delineated in the CEQ regulations."[506] Joint Petitioners contend that reprocessing activities have "business community support" and backing from the TCEQ,[507] which characterized these activities as "a fine idea."[508] Joint Petitioners allege that, once the proposed project begins operation, reprocessing activities will create cumulative environmental impacts that should be discussed under NEPA.[509]

Although Joint Petitioners correctly state that "[u]nder NEPA, an EIS 'must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of 'past, present, and reasonably foreseeable future actions,'"[510] this requirement has limits. An EIS must include other related actions only when those actions have been formally proposed and are pending before an agency.[511] Consistent with NEPA's "rule of reason," the Commission has held that projects that are merely contemplated and not concrete or reasonably certain do not warrant consideration in a cumulative impact analysis.[512]

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[503] *Id.* at 136.

[504] *Id.* at 137 (citing ER Attach. 1-2, [TCEQ], "Assessment of Texas's High Level Radioactive Waste Storage Options" (Mar. 2014)).

[505] *Id.* at 137-38 (citing Request for Public Comment on the U.S. Department of Energy Interpretation of High-Level Radioactive Waste, 83 Fed. Reg. 50,909, 50,909-10 (Oct. 10, 2018) (soliciting public input on a reinterpretation of the AEA so that wastes generated from nuclear reprocessing activities would no longer be considered high-level waste if the waste does not exceed concentration limits for Class C LLRW as set out in 10 C.F.R. § 61.55; or does not require disposal in a deep geologic repository and meets the performance objectives of a disposal facility as demonstrated through a performance assessment conducted in accordance with applicable regulatory requirements)).

[506] *Id.* at 140 (citing 40 C.F.R. § 1508.7).

[507] Joint Petr's Pet. at 135, 137-38.

[508] Tr. at 127.

[509] Joint Petr's Pet. at 138.

[510] *Id.* (quoting *Colo. Envtl. Coal. v. Dombeck,* 185 F.3d 1162, 1176 (10th Cir. 1999).

[511] *Kleppe,* 427 U.S. at 410 & n.20 (indicating that while NEPA addresses proposed actions, it does not mandate that an agency contemplate the possible environmental impacts of less imminent activities).

[512] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-14, 55 NRC 278, 295 (2002). The Commission reiterated that a possible future action must "be in a sufficiently advanced stage to be considered a 'proposal' for action that 'bring[s] NEPA into play." *Strata Energy, Inc.* (Ross In Situ Uranium Recovery Project), CLI-16-13, 83 NRC 566, 577 (2016) (quoting *McGuire/Catawba,* CLI-02-14, 55 NRC at 295).

Joint Petitioners Contention 13 does not create a genuine dispute with the application because ISP is not asking to conduct reprocessing activities in this licensing action. We agree with the NRC Staff that, at most, the evidence proffered by Joint Petitioners "reflects speculation about the potential for (or benefits of) future reprocessing activities."[513] Joint Petitioners' contention relies on mere conjecture and does not identify a pending proposal for a reprocessing facility that would meet the Commission's standard for materiality. For these reasons, Joint Petitioners have failed to demonstrate a genuine dispute with ISP's application.[514]

Joint Petitioners Contention 13 is not admitted.[515]

14. Joint Petitioners Contention 14: NEPA Requires Significant Security Risk Analyses for the Spent Nuclear Fuel and Greater-Than-Class-C Wastes Proposed for Interim Storage, and Associated Transportation Component, at ISP/WCS's Texas Facility

Joint Petitioners Contention 14 states:

> The NRC should, under NEPA, consider the risks, impacts and safety/security arrangements for the ISP/WCS CISF [spent nuclear fuel] transportation effort, given the long historical record and experience derived from research and litigation over the proposed Yucca Mountain geologic facility. There is a constantly-changing threat environment that radiological shipments to waste storage facilities such as ISP/WCS and a consequent need to plan for an evolving variety of design-basis threats (DBTs) and beyond-design-basis-events (BDBE). In-transit risks are a central part of the equation and need to be addressed. To "stock" the ISP CISF with [spent nuclear fuel] and GTCC wastes, the materials must be transported there, and the lack of details on waste conveyance in the WCS Environmental Report belies the centrality of transportation to the implementation of the project.[516]

Joint Petitioners claim that ISP's Environmental Report should contain an analysis for terrorist attacks as a "not so remote and highly speculative" envi-

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[513] NRC Consol. Answer at 69.

[514] 10 C.F.R. § 2.309(f)(1)(vi).

[515] Because we would reach the same decision even if we considered Joint Petitioners' reply, we deny as moot ISP's motion to strike insofar as it pertains to portions of the reply concerning Joint Petitioners Contention 13.

[516] Joint Pet'rs Pet. at 142. Although characterized as the basis for Contention 14, this statement appears to be what Joint Petitioners intend to litigate as their contention.

ronmental impact, consistent with the United States Court of Appeals for the Ninth Circuit's decision in *San Luis Obispo Mothers for Peace v. NRC.*[517]

In *San Luis Obispo Mothers for Peace,* the Ninth Circuit held "that it was unreasonable for the NRC to categorically dismiss the possibility of terrorist attack on the Storage Installation . . . as too remote and highly speculative to warrant consideration under NEPA."[518] And, although Joint Petitioners acknowledge that Texas is not within the Ninth Circuit,[519] they claim that because "hundreds of [spent nuclear fuel] transport trips" will come through "the Ninth Circuit's geographical area" en route to Texas, Ninth Circuit law must be applied and thus ISP must conduct a terrorism analysis in its Environmental Report.[520]

As explained *supra,* the Commission takes the position (as upheld by the United States Court of Appeals for the Third Circuit[521]) that for all licensing actions outside the Ninth Circuit, "NEPA does not require the NRC to consider the environmental consequences of hypothetical terrorist attacks on NRC-licensed facilities."[522] Unless the proposed facility would be located in one of the nine states in the Ninth Circuit, no terrorism analysis under NEPA is required. ISP's facility would be constructed in Texas, which is in the Fifth Circuit. ISP's Environmental Report accordingly need not conduct an analysis concerning terrorism under NEPA. Contention 14 is therefore outside the scope of this proceeding.[523]

Joint Petitioners Contention 14 is not admitted.

15. Joint Petitioners Contention 15: Adoption of Sierra Club Contentions by Joint Petitioners

Joint Petitioners Contention 15 states:

> Pursuant to 10 C.F.R. § 2.309(f)(3), Joint Petitioners move to adopt all contentions filed by Sierra Club in this proceeding and to re-allege them as their own as if written herein.[524]

To adopt a contention, a participant must (1) demonstrate standing and (2)

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[517] *Id.* at 150 (quoting *San Luis Obispo Mothers for Peace v. NRC,* 449 F.3d 1016, 1032 (9th Cir. 2006)).

[518] *San Luis Obispo Mothers for Peace,* 449 F.3d at 1030 (internal quotations omitted).

[519] Joint Pet'rs Reply at 56.

[520] *Id.*

[521] *N.J. Dep't of Envtl. Prot.,* 561 F.3d at 142-43.

[522] *Oyster Creek,* CLI-07-8, 65 NRC at 129.

[523] 10 C.F.R. § 2.309(f)(1)(iii).

[524] Joint Pet'rs Pet. at 159.

have proffered its own admissible contention.[525] Because Joint Petitioners have not proffered an admissible contention, they cannot adopt Sierra Club's admissible contention.

Joint Petitioners Contention 15 is not admitted.

D. Fasken

1. Fasken's Referred Contention

Before it submitted contentions in response to this proceeding's *Federal Register* notice, Fasken also filed a motion with the Commission to dismiss both this proceeding and the *Holtec* proceeding.[526] SECY denied Fasken's motion to dismiss, and referred it for review under the NRC's contention admissibility standards.[527]

Fasken's Referred Contention states:

> The NRC lacks jurisdiction over the [application] because [it is] premised on the proposition that the U.S. Department of Energy ("DOE") will be responsible for the spent fuel that would be transported to and stored at the proposed [facility]. This premise is prohibited under the NWPA because the DOE is precluded from taking title to spent fuel until a permanent repository is available. 42 U.S.C. §§ 10222(a)(5)(A), 10143.
>
> The NRC's acceptance and processing of the [application] conflicts with the essential predicate that a permanent repository be available before licensure of a CISF. Further, processing the subject applications implies that the NRC disregards the NWPA's unambiguous requirement that spent fuel remain owned by and is the responsibility of reactor licensees until a permanent repository is available. The logic that underpins the plain language of the NWPA's requirement for a functioning permanent repository is effectively vitiated by processing [this application]. Movants contend the CISF [applicant] should be required to show cause why [its application does] not constitute a violation of the NWPA since no permanent repository for spent nuclear fuel exists in the United States. Processing [the application] to licensure under the present circumstances invites the situation Congress was attempting to avoid because licensure of a CISF without an available permanent repository contradicts the NWPA's objective to establish a permanent repository. The prospect that any CISF will become a *de facto* permanent repository is precisely what the NWPA intends to avoid.[528]

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[525] *See Indian Point,* CLI-01-19, 54 NRC at 132-33.

[526] Fasken Motion to Dismiss at 1-8.

[527] Order Denying Motions to Dismiss at 2-3.

[528] Fasken Motion to Dismiss at 1-2.

Fasken's contention is similar to Beyond Nuclear's contention. However, it relies solely upon Beyond Nuclear's filings and incorporates by reference "the arguments and authorities in the Beyond Nuclear Inc. motion to dismiss at sections IV, V and VI."[529]

The Commission has approved the incorporation of contentions of other petitioners by reference, but only for those who have demonstrated standing and have submitted an admissible contention themselves.[530] The Commission also cautioned: "Nor will we permit wholesale incorporation by reference by a petitioner who, in a written submission, merely establishes standing and attempts, without more, to incorporate the issues of other petitioners."[531]

Although Fasken demonstrates standing, Fasken merely relies upon the arguments made in Beyond Nuclear's lone contention, which does not comport with the Commission's caveat in *Indian Point.* For this reason (and for the reasons we do not admit Beyond Nuclear's contention *supra*), Fasken's referred contention is rejected.

Fasken's referred contention is not admitted.

2. Fasken Contention 1

Fasken Contention 1 states:

> The applicant's proposed CISF is not needed to ensure safe storage of [spent nuclear fuel], even for indefinite durations.[532]

Fasken challenges the purpose and need statement in section 1.1 of ISP's Environmental Report.[533] Fasken claims that ISP's statement that its proposed facility will be a "safer and more secure centralized storage location" conflicts with the Continued Storage GEIS.[534] Fasken also claims that ISP's application does not comply with three alleged requirements: (1) ISP has not shown that its CISF will further the cause of establishing a permanent repository;[535] (2) ISP "has not addressed the statutory requirement that construction of a CISF may not commence before a license for a permanent repository has been issued;"[536]

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[529] *Id.* at 7.
[530] *Indian Point,* CLI-01-19, 54 NRC at 132.
[531] *Id.* at 133.
[532] Fasken Pet. at 9.
[533] *Id.*
[534] *Id.*
[535] *Id.* at 13.
[536] *Id.* at 14.

and (3) ISP fails to demonstrate that its WCS CISF will not become a *de facto* repository.[537]

None of Fasken's claims supports an admissible contention.

First, as explained *supra,* ISP's assertion of enhanced safety is not in conflict with the Continued Storage GEIS, which concludes that spent fuel may be stored safely, but does not favor one method of storage over another. Moreover, the purpose and need section of ISP's Environmental Report sets forth potential benefits that are unrelated to enhanced safety, such as freeing up decommissioned sites for other uses and avoiding the costs of maintaining spent fuel at multiple sites throughout the country.[538]

Second, Fasken does not identify any requirement for ISP to demonstrate that its proposed facility will further the cause of eventually establishing a permanent repository.

Third, Fasken is mistaken in claiming that construction of a CISF may not commence before the NRC licenses a permanent repository. The NWPA bars DOE from constructing a monitored retrieval storage facility before the NRC licenses construction of a repository,[539] but does not prohibit a private company from seeking a license to construct a CISF at any time.

Finally, we reject Fasken's claim that ISP must demonstrate that the WCS site will not become a *de facto* repository for the same reasons we have rejected similar claims in Sierra Club Contention 5 and Joint Petitioners Contention 10, discussed *supra.*

Fasken's Contention 1 is not admitted.[540]

3. Fasken Contention 2

Fasken Contention 2 states:

> ISP's SAR fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the WCS site, contrary to the requirements of 10 C.F.R. § 72.103.[541]

Supported by the declaration of Aaron Pachlhofer, a geologist employed by Fasken, Fasken Contention 2 claims that ISP's SAR fails to address a total

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[537] *Id.* at 13.

[538] ER at 1-5 to -6.

[539] 42 U.S.C. § 10168(d)(1).

[540] Because we would reach the same decision even if we consider Fasken's replies, we deny as moot ISP's motion to strike insofar as it pertains to portions of the replies that concern Fasken Contention 1.

[541] Fasken Pet. at 15.

of 4,579 well bores in Texas and New Mexico within a 10-mile radius of the WCS site,[542] as allegedly required by 10 C.F.R. § 72.103.[543] However, Fasken Contention 2 ignores portions of ISP's application that concern compliance with section 72.103, and does not identify a requirement for additional discussion of the well bores within a 10-mile radius of the proposed site.

Fasken Contention 2 is premised on an alleged violation of 10 C.F.R. § 72.103(a)(1), which states:

> East of the Rocky Mountain Front (east of approximately 104° west longitude), except in areas of known seismic activity including but not limited to the regions around New Madrid, MO; Charleston, SC; and Attica, NY; sites will be acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g.

The investigation ISP performed to satisfy this provision is described in numerous sections of its SAR and related attachments.[544] Fasken fails to challenge these portions of ISP's application, which evaluate and reach the conclusions required by section 72.103(a)(1).

For example, although Fasken claims that "ISP's SAR fails to admit the presence of nearly 5,000 wells located within 10 miles of the site,"[545] SAR section 2.1 reflects ISP's consideration of local land uses, including "drilling for and production from oil and gas wells." It cannot be said that ISP ignored oil and gas wells. Absent some demonstration that such wells would affect the consideration of "unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site" that is required by section 72.103(a)(1) — and Fasken has provided none — we are not aware of any requirement to further enumerate or list wells within any specific radius of the site.

Fasken ignores other relevant discussion in ISP's application. For example, ISP's application states:

> Subsurface petroleum product exploration and production have been conducted in

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[542] At oral argument, Fasken's counsel corrected the claimed number to be 4,579. Tr. at 324.

[543] Fasken Pet. at 16.

[544] *See, e.g.,* SAR section 2.1 (describing the geography and demography of the site); section 2.6, which is entitled "Geology and Seismology," and includes subsections 2.6.1 (Basic Geologic and Seismic Information), 2.6.2 (Vibratory Ground Motion), 2.6.3 (Surface Faulting), 2.6.4 (Stability of Subsurface Materials), 2.6.5 (Slope Stability), and 2.6.6 (Volcanism); and SAR Attachments D (Seismic Hazard Evaluation for WCS CISF) and E (Geotechnical Investigation for WCS CISF).

[545] Fasken Pet. at 17.

> the area of the Central Basin Platform for over 75 years. The local area has been heavily explored for oil and gas reserves over the last 35 years. Most of the oil wells in the vicinity of the CISF site have been abandoned or are in the process of secondary or tertiary recovery. The *absence of oil wells on the site* supports the absence of favorable conditions for oil production. Oil and gas wells are also located to the west in New Mexico.[546]

Most importantly, insofar as Fasken claims that oil and gas wells are inducing seismic activity, Fasken ignores ISP's conclusion that any such effects pose little risk. SAR section 2.6.2 states: "The absence of late-Quaternary faulting and the low to moderate rate of background seismicity, even that associated with petroleum recovery activities, results in relatively low seismic hazard at the WCS CISF." Fasken likewise fails to acknowledge or challenge the extensive evaluation of induced seismicity from oil and gas activities in section 4.3 of Attachment D to the SAR. Although Attachment D is proprietary, as explained *supra* all petitioners had the opportunity to seek access, but Fasken failed to do so.

Nor has Fasken identified any plausible impact from oil and gas wells that might affect ISP's proposed facility. As ISP points out, the proposed site boundary includes but a single dry hole, and all but a handful of the 4,579 well bores Fasken claims are within a 10-mile radius are miles away.[547]

Additionally, insofar as Fasken claims that "these abandoned wells should be analyzed as potential pathways to groundwater,"[548] it likewise ignores — and therefore fails to address — the multiple explanations in ISP's application as to why groundwater contamination is not an issue. For example, SAR section 2.7 states: "The method of storage (dry cask), the nature of the storage casks, the extremely low permeability of the red bed clay and the depth to groundwater beneath the WCS CISF preclude the possibility of groundwater contamination from the operation of the WCS CISF."

Because Fasken fails to acknowledge or address the relevant portions of ISP's application, and because it also fails to provide factual or legal support for its claims, Fasken Contention 2 does not satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).[549]

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[546] ISP License Application at 12-2 (emphasis added).

[547] ISP Answer to Fasken at 38.

[548] Fasken Pet. at 17.

[549] For its part, initially the NRC Staff would have had us admit Fasken Contention 2 insofar as it challenges the impact of wells on site stability, but not as to potential groundwater contamination. NRC Staff Answer to Fasken at 16-17. At oral argument, however, the Staff announced that its position has changed. Tr. at 198. In light of ISP's response to RAI-2.2-2, which expanded ISP's discussion of gas and oilfield operations in the vicinity of the proposed facility, the Staff now considers Fasken Contention 2 to be moot and inadmissible in its entirety. Tr. at 198.

Fasken Contention 2 is not admitted.[550]

4. Fasken Contention 3

Fasken Contention 3 states:

> The Applicant's Emergency Response Plan (ERP) fails to address how licensee will protect the facility from credible fire and explosion effects including those that are caused by aircraft crashes.[551]

Contention 3 claims that ISP's emergency response plan fails to establish that its proposed storage facility will effectively perform its safety functions under all credible fire and explosion conditions, as required by 10 C.F.R. § 72.122(c).[552] The contention is not admissible, primarily because Fasken misunderstands the regulatory requirements for emergency response plans, and therefore fails to address, much less dispute, the sections of ISP's application that actually concern the matters Fasken raises.

Specifically, Fasken claims that ISP does not satisfy 10 C.F.R. § 72.122(c), which states that "[s]tructures, systems and components important to safety must be *designed and located* so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions."[553] Section 72.122(c) is a facility *design* requirement. In contrast, an applicant's emergency response plan must address the requirements of 10 C.F.R. § 72.32, which concerns the applicant's response to onsite emergencies.

Apparently rooted in this fundamental confusion, Fasken repeatedly fails to acknowledge where ISP's application does address the matters Fasken is concerned about, and therefore Fasken Contention 3 fails to raise a genuine dispute with the application as required by 10 C.F.R. § 2.309(f)(1)(vi).

First, ISP's grounds for complying with 10 C.F.R. § 72.122(c) are set forth in Chapter 12, "Accident Analysis,"[554] which Fasken does not cite or address.

Second, citing 10 C.F.R. § 72.44(c)(1)(i), which requires that a *license* include technical specifications to guard against the uncontrolled release of radioactive materials, Fasken appears to wrongly assume that such specifications should

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[550] Because we would reach the same decision even if we consider Fasken's replies, we deny as moot ISP's motion to strike insofar as it pertains to portions of the replies that concern Fasken Contention 2.

[551] Fasken Pet. at 18.

[552] *Id.*

[553] Emphasis added.

[554] SAR at 12-1 to -9.

appear in ISP's emergency response plan.[555] In fact, they appear — as they should — in ISP's Proposed License, Appendix A,[556] which Fasken does not cite or address.

Third, Fasken does not cite or address ISP's description of its fire protection system for the proposed facility, which appears in section 4.3.8 of the SAR.

Fourth, although Fasken claims that ISP's emergency response plan fails to demonstrate compliance with "as low as reasonably achievable" (ALARA) dose rate principles, Fasken does not cite or address ISP's actual discussion of ALARA, which is found in Chapter 11 of the SAR.

In addition to Fasken's failure to address or dispute the relevant portions of ISP's application, Fasken Contention 3 also appears to be premised on a misreading of whether ISP has determined that an aircraft crash is a credible event for purposes of the design requirements of 10 C.F.R. § 72.122(c). Fasken appears to assume that all events that could trigger an emergency alert are necessarily credible events for which the facility must be designed to survive with its safety functions intact.[557] They are not. For purposes of 10 C.F.R. § 72.122(c), ISP sets forth in section 12.2.2 of the SAR the credible events that could lead to such an accident from an offsite event, and they do not include aircraft crashes. Fasken does not reference or dispute this section.

Finally, separate and apart from failing to acknowledge or challenge the relevant portions of ISP's application, Fasken makes various generalized claims about the inadequacy of ISP's equipment and its inability to cope with a fire or explosion in a timely fashion. As Fasken does not support these claims with specific fact or with expert opinion, Fasken Contention 3 also fails to satisfy 10 C.F.R. § 2.309(f)(1)(v).

Fasken Contention 3 is not admitted.[558]

5. Fasken Contention 4

Fasken Contention 4 states:

> ISP has failed to adequately discuss and evaluate the impact the proposed site will have on the environment and has also failed to include adverse information specifically relating to potential of waste-contaminated groundwater traveling to

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[555] Fasken Pet. at 19.

[556] *See* ISP License Application at App. A, Proposed Technical Specifications.

[557] Fasken Pet. at 19.

[558] Because we would reach the same decision even if we consider Fasken's replies, we deny as moot ISP's motion to strike insofar as it pertains to portions of the replies that concern Fasken Contention 3.

aquifers and other groundwater formations located below and around the proposed site.[559]

Fasken Contention 4 appears to assume that operation of the proposed facility could contaminate aquifers and other groundwater formations that underlie or surround it. In its SAR, ISP describes four independent reasons why that should not happen: "[t]he method of storage (dry casks), the nature of the canisters, the extremely low permeability of the red clay and the depth to groundwater."[560]

Fasken cites, but does not challenge, ISP's assessment that both the dry cask storage method and the nature of the canisters preclude any credible pathway for groundwater contamination.[561] Indeed, Fasken does not even cite, much less challenge, other portions of ISP's SAR and Environmental Report in which ISP asserts that a leak of contaminants is not credible.[562]

Fasken appears to rely on the premise that a pathway to groundwater contamination could be established in the event of an impact from "large, fully-fueled aircrafts," which Fasken claims is a credible event.[563] However, as explained in our ruling on Fasken Contention 3 *supra,* Fasken fails to support its assertion that an aircraft crash is a credible event. Therefore, contrary to 10 C.F.R. § 2.309(f)(1)(v), Fasken likewise fails to provide a factual basis for this same premise to Fasken Contention 4.

Because Fasken has not challenged ISP's determination that the facility's design precludes a pathway to groundwater contamination, Fasken's claims about ISP's characterization and evaluation of groundwater formation do not raise a genuine dispute on a material issue, as required by 10 C.F.R. § 2.309(f)(1)(vi). Absent a pathway to groundwater contamination, Fasken's claims are not material because their resolution would make no difference in the outcome of the licensing proceeding.

Finally, although Fasken purports to challenge ISP's compliance with the NRC's NEPA-implementing regulations in 10 C.F.R. Part 51, it addresses only ISP's SAR. Fasken does not cite to or mention, much less controvert, any portion of ISP's Environmental Report, including sections that specifically evaluate potential groundwater impacts.[564]

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[559] Fasken Pet. at 26.

[560] SAR at 2-21.

[561] Fasken Pet. at 27-28 (citing SAR at 2-21).

[562] *See, e.g.,* SAR at 11-1 to -2, App. A.11; ER at 4-29 to -32, 6-1 to -2.

[563] Fasken Pet. at 27-28.

[564] *See, e.g.,* ER at 3-24 to -29, 4-29 to -32.

Fasken Contention 4 is not admitted.[565]

6. Fasken Contention 5

Fasken Contention 5 states:

> The Applicant's Environmental Report (ER) discusses its assessment of the presence of threatened and endangered species. ER, sections 3.5.4–3.5.8[.] However, the ER does not adequately characterize the threatened and endangered species in the area of the proposed CISF.[566]

Fasken asserts that ISP's Environmental Report violates 10 C.F.R. § 51.45 because it "fail[s] to adequately evaluate the potential for the presence of threatened and endangered species and relevant conservation efforts that may be undermined by the proposed CISF," specifically concerning the dunes sagebrush lizard and lesser prairie chicken.[567] Fasken claims that the Environmental Report should include the dunes sagebrush lizard's threatened status, and "discuss the efforts of the regional oil and gas community to protect the lesser prairie chicken."[568] In support, Contention 5 relies on declarations from Mr. Pachlhofer, Fasken's geologist, and Mr. Taylor, president of Fasken Land and Minerals.[569]

At oral argument, Fasken's counsel clarified that the crux of its Contention 5 is that "there's an omission of material information rather than contradicting that which has actually been presented" in ISP's Environmental Report as to the collective efforts of the oil and gas industry protecting the dunes sagebrush lizard's and lesser prairie chicken's habitats.[570]

As to Fasken's claim that the Environmental Report must reflect the dunes sagebrush lizard's threatened status, there is no genuine dispute with the application. As ISP points out, neither the U.S. Fish and Wildlife Service nor the State of Texas lists the dunes sagebrush lizard as an animal requiring increased protections,[571] and Fasken does not proffer any legal requirement for ISP to do so.

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[565] Because we would reach the same decision even if we consider Fasken's replies, we deny as moot ISP's motion to strike insofar as it pertains to portions of the replies that concern Fasken Contention 4.

[566] Fasken Pet. at 31.

[567] *Id.* at 31-32.

[568] *Id.* at 32.

[569] Fasken Pet. Ex. 3, Decl. of Aaron Pachlhofer; *id.* Ex. 1, Decl. of Tommy Taylor.

[570] Tr. at 321-22, 336.

[571] ISP Answer to Fasken at 70. *See also* Tr. at 338-39 (Fasken counsel agreeing with ISP counsel that the lesser prairie chicken is currently delisted).

Regarding Fasken's claim that the Environmental Report must discuss the efforts of the oil and gas companies to save and conserve the dunes sagebrush lizard, the lesser prairie chicken, and their respective habitats, Fasken Contention 5 is inadmissible for lack of the factual support required by 10 C.F.R. § 2.309(f)(1)(v). Although 10 C.F.R. § 51.45(b) does require a discussion of the affected environment and impacts to that environment by the project, including animal habitats in the area and those likely impacts upon them by the proposed action, NEPA and Part 51 do not require a discussion concerning ongoing animal conservation efforts by area oil, gas, and ranching companies.

Fasken Contention 5 is not admitted.[572]

V. RULING ON PETITIONS

As set forth above, Beyond Nuclear, Sierra Club, SEED (of Joint Petitioners), and Fasken have demonstrated standing in accordance with 10 C.F.R. § 2.309(d). Only Sierra Club has proffered an admissible contention meeting the requirements of 10 C.F.R. § 2.309(f)(1). Therefore, in accordance with 10 C.F.R. § 2.309(a), the Board denies Beyond Nuclear's, Joint Petitioners' and Fasken's respective petitions, and grants the request for hearing and petition for leave to intervene by Sierra Club. Sierra Club is admitted as a party to this proceeding.

VI. ORDER

For the foregoing reasons:

A. Beyond Nuclear's petition is *denied.* Beyond Nuclear's contention is *not admitted.*

B. Sierra Club's petition is *granted.* Sierra Club Contention 13 is *admitted in part.* Sierra Club's other contentions are *not admitted.*

C. Joint Petitioners' petition is *denied.* Joint Petitioners' contentions are *not admitted.*

D. Fasken's petition is *denied.* Fasken's contentions are *not admitted.*

E. ISP's motion to strike a portion of Sierra Club's reply on Sierra Club Contention 13 is *denied in part* and *denied in part* as moot. ISP's motion to

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[572] Although we would reach the same decision even if we consider Fasken's replies, we recognize new arguments in Fasken's replies, including a new allegation that ISP must consult with the U.S. Fish and Wildlife Service, that improperly "expand the scope of the arguments set forth" in ISP's initial petition. *Palisades,* CLI-06-17, 63 NRC at 732. Accordingly, we grant ISP's motion to strike insofar as it pertains to portions of the replies that concern Fasken Contention 5.

strike portions of Sierra Club's reply on Sierra Club Contentions 1, 4, 9, 11, and 14 is *denied* as moot.[573]

F. ISP's motion to strike a portion of Joint Petitioners' reply on Joint Petitioners Contention 9 is *granted.*[574] ISP's motion to strike portions of Joint Petitioners' reply on Joint Petitioners Contentions 4, 12, and 13 is *denied* as moot.[575]

G. ISP's motion to strike a portion of Fasken's replies on Fasken Contention 5 is *granted.*[576] ISP's motion to strike portions of Fasken's replies on Fasken's standing and Fasken Contentions 1, 2, 3, and 4 is *denied* as moot.[577]

H. The admitted contention will be adjudicated under the procedures set forth at 10 C.F.R. Part 2, Subpart L.

Any appeal of this decision to the Commission shall be filed in conformity with 10 C.F.R. § 2.311.

It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Paul S. Ryerson, Chairman
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

Rockville, Maryland
August 23, 2019

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[573] [ISP's] Motion to Strike Portions of the Reply Filed by Sierra Club (Dec. 27, 2018).

[574] [ISP's] Motion to Strike Portions of the Reply Filed by [Joint Petitioners] (Dec. 27, 2018) at 5-7.

[575] *Id.* at 4-5, 7.

[576] [ISP's] Motion to Strike Portions of the Replies Filed by [Fasken] (Dec. 10, 2018) at 5, 10.

[577] *Id.* at 5-10.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kristine L. Svinicki, Chairman
Jeff Baran
Annie Caputo
David A. Wright

In the Matter of **Docket No. 40-9075-MLA**

POWERTECH (USA), INC.
(Dewey-Burdock In Situ Uranium Recovery Facility) **September 26, 2019**

INTERLOCUTORY REVIEW

A ruling denying a motion for summary disposition is an interlocutory decision. The Commission disfavors interlocutory review.

INTERLOCUTORY REVIEW

A delay in the time a licensee may start operations due to pending adjudication is not immediate and irreparable harm warranting interlocutory Commission review.

INTERLOCUTORY REVIEW

Unsubstantiated claims that a licensee will suffer harm to its credit rating, ability to obtain financing and its ability to carry on its work will not support interlocutory review. *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-11, 40 NRC 55, 61 (1994); *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-09-6, 69 NRC 128, 133-36 (2009).

INTERLOCUTORY REVIEW

A claim of "protracted litigation" will not in itself support interlocutory review of a decision denying summary disposition. Prolonged litigation is not a "pervasive and unusual effect" on litigation warranting interlocutory review.

BOARD AUTHORITY

A Board has no authority to direct the manner in which the Staff conducts its safety and environmental reviews. *Powertech (USA), Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), CLI-16-20, 84 NRC 219, 262 (2016); *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-11-14, 74 NRC 801, 813 n.70 (2011); *Shaw Areva MOX Services, LLC,* CLI-09-2, 69 NRC 55, 63 (2009).

REFERRED RULING: NOVEL ISSUE

The Board or presiding officer may refer its ruling to the Commission under 10 C.F.R. § 2.323(f)(1) where the ruling presents a significant and novel issue of law. In the alternative, a party may petition the presiding officer to refer its ruling to the Commission under 10 C.F.R. § 2.323(f)(2). But our rules of procedure do not provide a party the right to solicit Commission review directly on a claim of a novel issue of law. *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-00-11, 51 NRC 297, 299 (2000); *Connecticut Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-01-25, 54 NRC 368, 374-75 (2001); *Indian Point,* CLI-09-6, 69 NRC at 138.

MEMORANDUM AND ORDER

Powertech (USA), Inc. (Powertech) petitions for review of the Atomic Safety and Licensing Board's decision denying the Staff's motion for summary disposition of Contention 1A.[1] Powertech requests that we reverse the Board's denial of summary disposition and terminate this proceeding.[2] For the reasons described below, we deny Powertech's petition for review.

I. BACKGROUND

[1] Brief of Licensee Powertech (USA), Inc. Petition for Review of LBP-18-05 (Nov. 26, 2018) (Petition); *see also* LBP-18-5, 88 NRC 95 (2018).

[2] Petition at 1-2, 25.

A. The Litigation Prior to LBP-18-5

The Board described the history of this proceeding in its decision.[3] Briefly, this proceeding commenced when the Oglala Sioux Tribe (Tribe) and Consolidated Intervenors (together, Intervenors) were granted intervention and a hearing concerning Powertech's 2009 license application.[4] The Staff issued a Final Supplemental Environmental Impact Statement (FSEIS) in January 2014 and issued the license to Powertech in April 2014.[5] An evidentiary hearing followed in August 2014.

In 2015, the Board issued a partial initial decision, which found in favor of the Staff and Powertech on all contentions except Contentions 1A and 1B, both of which concerned the Staff's consideration of the potential impacts of the proposed project on Native American cultural resources at the project site.[6] With respect to Contention 1A, the Board found that the FSEIS "does not contain an analysis of the impacts of the project on the cultural, historical, and religious sites of the Oglala Sioux Tribe and the majority of the other consulting Native American tribes," without which the National Environmental Policy Act's (NEPA) "hard look requirement has not been satisfied."[7] The Board found that suspension of the license was not necessary, but it held that the Staff should work to remedy the deficiencies in the FSEIS, report to the Board on its progress, and eventually resolve the contention with a settlement agreement or, if not able to reach a settlement, with a motion for summary disposition.[8] In 2016, we affirmed the Board decision in LBP-15-16 in all respects relevant to this appeal.[9]

Over the course of the following three years, the Staff sought the Tribe's participation in properly characterizing cultural resources at the site. In April 2017, the Staff offered the Oglala Sioux Tribe an opportunity to participate in

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[3] LBP-18-5, 88 NRC at 101-07.

[4] LBP-10-16, 72 NRC 361, 376 (2010).

[5] *See* Exs. NRC-008-A-1 to NRC-008-B-2, "Environmental Impact Statement for the Dewey-Burdock Project in Custer and Fall River Counties, South Dakota, Supplement to the Generic Environmental Impact Statement for *In-Situ* Leach Uranium Milling Facilities" (Final Report), NUREG-1910, Supplement 4, vols. 1-2 (Jan. 2014) (ADAMS accession nos. ML14246A350, ML14246A329, ML14246A330, ML14246A331); Ex. NRC-012, License Number SUA-1600, Materials License for Powertech (USA) Inc. (Apr. 8, 2014) (ML14246A408).

[6] LBP-15-16, 81 NRC 618, 708-10 (2015).

[7] *Id.* at 655.

[8] *Id.* at 657-58, 710.

[9] *See* CLI-16-20, 84 NRC 219, 262 (2016). We affirmed the Board's decision on the merits, but we disagreed that its ruling rendered the decision non-final. We held that the Board's decision was final and appealable, although we ultimately approved the Board's approach in retaining jurisdiction over the matter until the deficiencies identified in the FSEIS were resolved. *See id.* at 242-43, 250-51.

a cultural resources survey, but in May 2017, the Tribe declined, providing a list of specific conditions for its participation.[10] In August 2017, the Staff filed its first motion for summary disposition of Contentions 1A and 1B and argued that further efforts to consult with the Tribe would be unlikely to result in an agreement.[11] The Board granted summary disposition of Contention 1B but denied it with respect to Contention 1A.[12] Although Powertech sought the Commission's review of the Board's decision with respect to Contention 1A, the Staff continued to work with the Tribe to find an acceptable method to identify cultural resources at the site.[13] We declined Powertech's petition for interlocutory review of the Board's denial of summary disposition.[14]

B. The March 2018 Approach

In March 2018, the Staff proposed a survey approach that appeared to potentially satisfy the Tribe's specific requests for a cultural resources site survey as stated in the Tribe's May 2017 response to the Staff's April 2017 proposal.[15] This approach involved hiring a contractor to facilitate a new survey, inviting other Lakota Sioux Tribes that had not participated in an earlier survey, obtaining oral histories from tribal elders, allowing more than one opportunity to examine the site, and allowing the participating Tribes to comment on the field survey report.[16] According to the proposal, the precise survey methodology would be worked out in consultation among the Staff, the contractor, and the Tribe in the weeks before the initial phase of the survey.[17]

After some initial disagreement, Powertech and the Tribe eventually agreed to the March 2018 Approach.[18] With the parties in agreement, the Staff performed

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[10] *See* NRC Staff's Motion for Summary Disposition of Contention 1A (Aug. 17, 2018) (Staff Motion), Attach. 1, NRC Staff's Statement of Material Facts to Support Motion for Summary Disposition of Contention 1A, at 2 (Statement of Facts).

[11] NRC Staff's Motion for Summary Disposition of Contentions 1A and 1B (Aug. 3, 2017).

[12] LBP-17-9, 86 NRC 167 (2017). Contention 1B concerned whether the Staff had satisfied its obligation under the National Historic Preservation Act (NHPA) to consult with the Tribe.

[13] *See* Staff Motion, Attach. 1, Statement of Facts at 3-12.

[14] CLI-18-7, 88 NRC 1 (2018).

[15] *See* Letter from Cinthya I. Román, Chief, Environmental Review Branch, NRC, to Trina Lone Hill, Director, Cultural Affairs & Historic Preservation Office, Oglala Sioux Tribe (Mar. 16, 2018) (ML18075A499) (March 2018 Approach), Encl. 1 — Timeline for NRC Staff's Approach for Obtaining Information on Lakota Sioux Cultural Resources Potentially Impacted by the Dewey-Burdock ISR Project (Mar. 16, 2018) (ML18075A502) (Timeline).

[16] Staff Motion, Attach. 1, Statement of Facts at 10-11.

[17] *See* March 2018 Approach at 2; *id.,* Encl. 1, Timeline.

[18] See Oglala Sioux Tribe's Response to NRC Staff's March 16, 2018 Cultural Resources Survey *(Continued)*

various activities in preparation for the first phase of the onsite survey, scheduled to take place during the two-week period of June 11-22, 2018.[19] On June 1 and 4, 2018, the contractor, Dr. Paul Nickens, and the Staff held webinars and teleconference calls to discuss the survey methodology with the invited Tribes.[20] During a June 5 teleconference, Dr. Nickens presented a proposed work plan and requested comments from the Tribes.[21]

On June 8, however, counsel for the Tribe informed the Staff that the Tribe would not participate in the field survey scheduled to start on June 11.[22] On June 12, the Tribe provided the Staff and Dr. Nickens with a document entitled "Discussion Draft — Cultural Resources Survey Methodology" (June 12 Discussion Draft), which proposed numerous additions to Dr. Nickens's proposed survey methodology.[23] The June 12 Discussion Draft proposed bringing several dozen tribal elders, spiritual leaders, warrior society leaders, and technical staff to visit the site over several days in each of the seasons of the year and a field survey performed at 10-meter intervals throughout the site (approximately 10,500 acres).[24] These additions would cause the survey to take more than a year to complete and, by the Tribe's estimate, cost over $2 million to perform.[25] On June 13, 2018, the Tribe held an emergency meeting of its Cultural Affairs and Historic Preservation Advisory Council to discuss the survey methodology, with the NRC Staff and Dr. Nickens in attendance.[26] The Tribe provided an updated "discussion draft" on June 15, 2018 (June 15 Discussion Draft), which, in addition to the conditions stated in the June 12 Discussion Draft, also called for examining areas over 20 miles from the Dewey-Burdock site.[27] The June 15

Proposal (Mar. 30, 2018), at 1 (Tribe's Response to March 2018 Approach); Letter from John Mays, Chief Operating Officer, Powertech USA, Inc., to Cinthya I. Román, Chief, Environmental Review Branch, NRC (Apr. 11, 2018), at 1 (unnumbered) (ML18101A223).

[19] Staff Motion, Attach. 1, Statement of Facts at 15-18.

[20] *See id.,* Attach. 1, Statement of Facts at 17; *see also* Summary of NRC Webinar and Teleconference Call Sessions to Discuss Survey Methodology for the Dewey-Burdock In Situ Uranium Recovery (ISR) Project (June 29, 2018) (ML18164A241) (Summary of Survey Methodology Sessions). Although other Tribes were invited to participate, only the Oglala Sioux Tribe participated on June 1 and 4. *Id.* at 1. On the June 5 teleconference, the Rosebud Sioux Tribe participated, along with the Oglala Sioux Tribe. *Id.*

[21] *See* Staff Motion, Attach. 1, Statement of Facts at 18; *see also* "Proposed Initial Work Plan for Phase 1 Tribal Field Survey at the Dewey-Burdock ISR Project Area, June 11-22, 2018" (ML18157A092).

[22] *See* Email from Travis Stills, Oglala Sioux Tribe Counsel, to Diana Diaz-Toro, Project Manager, NRC (June 8, 2018) (ML18159A585).

[23] *See* LBP-18-5, 88 NRC at 119-21.

[24] *See id.*

[25] *Id.* at 121.

[26] Staff Motion, Attach. 1, Statement of Facts at 21.

[27] *Id.,* Attach. 1, Statement of Facts at 21-22.

Discussion Draft further stated that the Tribe was aware that the Staff expected the budget to be much lower than the Tribe's proposal and that it was "now NRC's task to either accept the [Tribe's] proposal or to propose an approach that limits the [Tribe's] proposed survey methodology to meet what NRC considers a reasonable budget."[28]

Soon afterwards, the Staff informed the Tribe that it was discontinuing survey efforts.[29] Counsel for the Staff explained via email that the Tribe's proposal was "far apart . . . from what the staff expected" preparing for the first phase of the survey and that it represented "structural differences, rather than minor details that could be promptly resolved" before the second week of the scheduled phase one survey.[30] Staff counsel stated that Staff was not prepared to continue to incur day-to-day costs at the site and considered it necessary to discontinue the activities scheduled for the following week.[31]

The Tribe disagreed with the Staff's decision to terminate all field work.[32] During the June 15 email exchange, counsel for the Tribe claimed that the plan Dr. Nickens had presented in the webinars was simply an "open site survey," to which the Tribe had long objected and which included "no plan for protecting the Tribes' confidential cultural resources information."[33] The Tribe stated that, nonetheless, progress had been made toward "a viable survey methodology."[34] The Tribe's counsel also stated that the Tribe was prepared to continue with a planned "windshield tour" and fieldwork scheduled for the second week of phase one.[35] Despite the Tribe's response, the fieldwork remained discontinued.

C. The Staff's Motion

On August 17, 2018, the Staff moved a second time for summary disposition of Contention 1A and argued that the Staff had done all that it reasonably could to remedy the NEPA deficiencies identified by the Board in LBP-15-16. Therefore, the Staff argued, the information should be deemed "not reasonably

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[28] LBP-18-5, 88 NRC at 121.

[29] *See* Email exchange between Emily Monteith, NRC Staff Counsel, and Travis Stills, Oglala Sioux Tribe Counsel (June 15, 2018), at 2 (unnumbered) (ML18173A266) (Email Exchange).

[30] *Id.* at 1, 2 (unnumbered).

[31] *Id.* at 1 (unnumbered).

[32] *Id.*

[33] *Id.* at 3 (unnumbered). The Board explained that the term "open site survey" has been used throughout the proceeding to mean "a survey 'where there is no support from NRC staff or contractor . . . [a]nd it is essentially opening the site to the tribes to go out and do what they will do and be totally responsible for providing all the data and the analysis with no set protocol or methodology.'" LBP-18-5, 88 NRC at 116-17 (quoting Tr. at 1431 (Apr. 6, 2018)).

[34] Email Exchange at 3 (unnumbered).

[35] *Id.* at 1 (unnumbered).

available" as described by Council on Environmental Quality (CEQ) regulations:[36]

> (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant . . . the agency shall include within the environmental impact statement: (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.[37]

The Staff acknowledged in its motion that no new cultural resources information had been obtained.[38] The Staff maintained that the March 2018 Approach was reasonable because it included the elements that the Tribe had previously identified as necessary for a sufficient survey, including involving other tribes, hiring a qualified contractor, involving tribal elders, and providing two opportunities to view the site.[39] The Staff argued that the cost to obtain more complete information with the Tribe's help would be exorbitant due to the Tribe's conditions set forth in the June 12 Discussion Draft and June 15 Discussion Draft.[40] It argued that the Tribe's discussion drafts constituted constructive repudiation of the previously agreed-upon March 2018 Approach.[41] Therefore, the Staff argued that obtaining the Tribe's cooperation to identify additional cultural resources was not reasonably feasible.[42]

Powertech filed a brief in support of the Staff's motion, and the Tribe both opposed the Staff's motion and filed a cross-motion for summary disposition.[43]

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[36] Staff Motion at 33-34.

[37] 40 C.F.R. § 1502.22. Although CEQ regulations do not bind the NRC, we give their regulations substantial deference, subject to certain conditions. *See* 10 C.F.R. § 51.10(a); *see also Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 222 n.10 (2007).

[38] Staff Motion at 15.

[39] *Id.* at 18-24.

[40] *Id.* at 13, 17-35.

[41] *Id.* at 16, 29-33.

[42] *Id.* at 33.

[43] Powertech (USA) Inc.'s Response in Support of NRC Staff Motion for Summary Disposition of Contention 1A (Aug. 31, 2018); Oglala Sioux Tribe's Response in Opposition to NRC Staff's Motion for Summary Disposition of Contention 1A (Sept. 21, 2018) (Tribe Response); Oglala Sioux Tribe Motion for Summary Disposition (Aug. 17, 2018) (Tribe Motion for Summary Disposition).

In opposing the Staff's Motion, the Tribe argued that the Staff never prepared a scientific methodology as contemplated by the March 2018 Approach.[44] According to the Tribe, Dr. Nickens's proposed methodology amounted to an "open site survey," which the Tribe has repeatedly rejected as inadequate and unscientific.[45] The Tribe claimed that during the June 5, 2018, teleconference, Dr. Nickens acknowledged that the survey was "not the type of approach he would recommend."[46] The Tribe maintained that its discussion drafts were intended "to facilitate the discussions" about the type of methodology to use, and that it had expected the NRC Staff to "continue working on the methodology" instead of abruptly discontinuing field activities.[47]

The Tribe, in its own motion for summary disposition, argued that the Staff had abandoned its attempts to comply with NEPA.[48] It therefore renewed its request for the Board to "vacate the license and remand the matter to the NRC Staff to comply with NEPA."[49] It also argued that, in the alternative, the Board "should vacate [Powertech's] license, enter a final decision in the Tribe's favor on Contention 1A, and dismiss Powertech's license application."[50]

D. The Board's Ruling in LBP-18-5

The Board rejected both motions for summary disposition and found that there were material facts in dispute that could not be resolved without an evidentiary hearing.[51] With respect to the Staff's motion, the Board recognized that had the March 2018 Approach been carried out, it might well have satisfied NEPA's hard look requirement.[52] The Board found that all parties had accepted the March 2018 Approach as reasonable by the time the contractor began its survey in June 2018.[53] The Board also found that the approach attempted to address each of the Tribe's concerns, including hiring a qualified contractor, involving other Lakota Sioux Tribes, providing iterative opportunities to view the

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[44] Tribe Response at 5-6.

[45] *See* Tribe Response, Attach., "Declaration of Kyle White" (Sept. 21, 2018), at 6-7 (White Declaration). Mr. White is the Director of the Oglala Sioux Tribe's Natural Resources Regulatory Agency and its Acting Tribal Historic Preservation Officer. *Id.,* Attach., White Declaration at 1.

[46] *Id.,* Attach., White Declaration at 7. This statement is not included in the Summary of Survey Methodology Sessions, but that summary does not purport to be a verbatim transcript of the participants' statements.

[47] *Id.*

[48] Tribe Motion for Summary Disposition at 9.

[49] *Id.* at 10.

[50] *Id.*

[51] LBP-18-5, 88 NRC at 100, 133-34.

[52] *Id.* at 126.

[53] *Id.* at 111.

site, involving tribal elders, and using a scientific methodology.[54] But the Board held that although the March 2018 Approach "could constitute a valid path for resolving Contention 1A," there was still a factual dispute over whether the Staff had acted reasonably in its attempts to implement that approach.[55] Therefore, it could not grant summary disposition in the Staff's favor.

Specifically, the Board found that the reasonableness of Dr. Nickens's proposed survey methodology was a material fact in dispute.[56] The Board noted that the March 2018 Approach did not stipulate a survey methodology but called for the contractor and the Tribe to agree on an appropriate methodology before the field survey.[57] In addition, the Board found a question of fact concerning the reasonableness of the Staff's decision to discontinue efforts to implement the March 2018 Approach.[58] The Board noted that the Staff could have conducted other planned aspects of the March 2018 Approach, such as conducting interviews with tribal elders, while it continued to work with the Tribe to identify an acceptable methodology.[59] The Board concluded that a material fact remained in dispute regarding whether the Staff's decision not to implement the March 2018 Approach — or any other approach — was reasonable.[60] Therefore, the Board found that material factual disputes existed regarding the Staff's explanation that the information is "not reasonably available."[61]

The Board also found that the material factual dispute about the reasonableness of the Staff's actions likewise precluded it from granting summary disposition to the Tribe.[62]

The Board concluded that the Staff had two choices: either resume implementation of the March 2018 Approach or prepare for another evidentiary hearing.[63] The Board observed that the Tribe had agreed to the timeframes for the survey, that is, two phases of two weeks each.[64] The Board cautioned the Tribe that, if the Staff chose to move forward with the survey, "the *only* aspect

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[54] *Id.* at 112-19.

[55] *Id.* at 100.

[56] *Id.* at 130.

[57] *Id.* at 126.

[58] *Id.* at 132-34.

[59] *Id.* at 133.

[60] *Id.* at 128.

[61] *Id.* at 129-30. Despite the Board's section heading, the Board concluded here that summary disposition at this time would be "wholly inappropriate," due to the existence of material factual disputes.

[62] *Id.* at 130.

[63] *Id.* at 134-35.

[64] *Id.* at 136.

of the Approach that is open for discussion is the site survey methodology."[65] Therefore, "any tribal negotiating position or proposal should *only* encompass the specific scientific method that would fit into the two week periods set out in the March 2018 Approach."[66] The Board stated that if the Staff were to choose to go to evidentiary hearing, then the Staff must show that the March 2018 Approach "contained a reasonable methodology," that the Staff acted reasonably in discontinuing all work, and that the Tribe's proposed alternatives were cost prohibitive.[67] The order concluded with a schedule for an evidentiary hearing that would take place in late February 2019 and an instruction for the Staff to notify the Board of its choice by November 30, 2018.[68] The Staff initially chose to continue to work toward implementing a new survey of the site.[69]

On February 15, 2019, Staff provided the Tribe with another proposal for survey methodology.[70] The parties met on February 22, 2019, to further negotiate the proposed survey methodology within the limitations set by the Board in LBP-18-5.[71] During a subsequent teleconference with the Board, the Staff stated that the February 22 negotiation was not productive and that it planned to file a motion requesting a schedule for an evidentiary hearing on the reasonableness of the Staff's February 22, 2019, proposal.[72] The Board granted the Staff's motion and scheduled a hearing on this issue for August 28-30, 2019.[73]

II. DISCUSSION

A. Standard for Interlocutory Review

A ruling denying a motion for summary disposition is an interlocutory decision, and we generally disfavor interlocutory review.[74] Our rules of procedure allow interlocutory review only where the party requesting review can show that it is threatened with "immediate and serious irreparable impact" or the board's

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[65] *Id.* at 135.

[66] *Id.* at 135.

[67] *Id.* at 136.

[68] *Id.* at 139.

[69] *See* Letter from Lorraine Baer, NRC Staff Counsel, to Administrative Judges (Nov. 30, 2018) (ML18334A295).

[70] *See* Proposed Draft Cultural Resources Site Survey Methodology for the Dewey Burdock *In-Situ* Uranium Recovery Project in Fall River and Custer Counties, South Dakota (Feb. 15, 2019) (ML19046A443).

[71] Tr. at 1563.

[72] Tr. at 1563-65, 1619-21; *see* Motion to Set Schedule for Evidentiary Hearing (April 3, 2019).

[73] Order (Granting NRC Staff Motion and Scheduling Evidentiary Hearing) (Apr. 29, 2019) (unpublished).

[74] *See* CLI-18-7, 88 NRC at 6.

decision "affects the basic structure of the proceeding in a pervasive and unusual manner."[75]

Powertech acknowledges that its petition addresses a non-final Board decision and is therefore interlocutory, but it asserts that it can meet our standard for interlocutory review.[76] Powertech argues that the Board "committed legal error with pervasive effect" when it found that there was still a genuine issue of material fact in the litigation and when it found that the Staff had not shown that further Native American cultural resources information is "unavailable" as that term is used in CEQ regulations. It argues further that these errors will cause Powertech immediate and irreparable harm.[77]

B. Powertech Has Not Met the Standard for Interlocutory Review

1. Irreparable Harm

Powertech claims that the "series of erroneous decisions" by the Board have "prolonged" the proceeding with "no end in sight."[78] Powertech argues that, as long as the proceeding drags on, Powertech cannot start operations and generate income, and it is increasingly difficult for Powertech to raise investment capital.[79] Therefore, Powertech claims that it will suffer immediate and irreparable harm in the form of financial collapse.

We are not persuaded by this argument. We have rejected claims that delay constitutes immediate and irreparable harm that warrants our interlocutory review.[80] We have also specifically rejected unsubstantiated claims that risks to a licensee's "credit rating, ability to obtain financing and ability to carry on its work" constituted irreparable harm.[81] Aside from the assertions in its petition, Powertech's claims are not supported by any evidence, such as affidavits or declarations.

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[75] *Id.*; *see also* 10 C.F.R. § 2.341(f)(2)(i)-(ii).

[76] Petition at 6.

[77] *See id.* at 2.

[78] *Id.* at 16.

[79] *Id.* at 17-18.

[80] *See* CLI-18-7, 88 NRC at 7.

[81] *See Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-11, 40 NRC 55, 61 (1994); *see also Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-09-6, 69 NRC 128, 133-36 (2009) (rejecting the argument that "truly exceptional delay or expense," resulting from contention potentially requiring production of thousands of documents, constituted "irreparable harm" warranting interlocutory review).

2. Pervasive and Unusual Effect on the Structure of the Proceeding

Powertech next argues that the Board "committed legal error with pervasive effect" in its rulings[82] and therefore affected the "basic structure of the proceeding in a pervasive and unusual manner."[83] We have found such an effect in rare situations, as where a board splits a proceeding among two boards or admits a contention conditionally.[84] We have found no examples, however, where we took interlocutory review on the bases Powertech argues here and Powertech has not provided any examples.

a. Protracted Litigation

Powertech argues that the Board's decision will affect this proceeding in a pervasive manner by prolonging it indefinitely.[85] Elsewhere in its petition, Powertech argues that if the Tribe can create a material issue of fact simply by "chang[ing] its perspective at . . . will," the proceeding could never come to a conclusion.[86] But Powertech supplies no example in our case law where we have found that protracted litigation in itself provides grounds for our immediate review. In fact, we have specifically rejected such arguments in the past.[87] Indeed, prolonging litigation is a likely result when a board denies a motion for summary disposition.

Moreover, while we do not need to decide whether "indefinite" litigation warrants interlocutory review as a "pervasive and unusual effect," we find that this case does not present that scenario. The challenged Board ruling did *not* find that the proceeding would continue until the Tribe's cooperation was finally secured — it found only that the reasonableness of the Staff's efforts was still in dispute.[88]

The Board's ruling did not give the Tribe free reign to change its perspective, as Powertech claims. The Board stated that the Tribe was bound by the terms

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[82] Petition at 2, 20-22.

[83] 10 C.F.R. § 2.341(f)(2)(ii).

[84] *See, e.g., Shaw Areva MOX Services, LLC* (Mixed Oxide Fuel Fabrication Facility), CLI-09-2, 69 NRC 55, 62-63 (2009) (conditional dismissal of contention); *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-7, 55 NRC 205, 213-14 (2002) (decision to adjudicate construction permit separately from operating permit); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-98-7, 47 NRC 307, 310 (1998) (establishment of separate board for different contentions).

[85] Petition at 20-21.

[86] *Id.* at 16.

[87] *See, e.g., Connecticut Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-01-25, 54 NRC 368, 373-74 (2001).

[88] LBP-18-5, 88 NRC at 130-34.

it had agreed to in accepting the March 2018 Approach, including the two two-week periods allotted to accomplish the survey.[89] We also observe that summary disposition is not the only option for ending this proceeding. The Board was prepared to proceed to an evidentiary hearing to establish whether further cultural resources information was reasonably obtainable. That hearing occurred in August 2019.

b. Claim That the Board Overstepped Its Role

Powertech also argues that the Board's ruling alters the structure of the proceeding in a pervasive and unusual manner in that it "appears . . . to dictate the terms of satisfaction of Contention 1A."[90] Powertech argues that the Board apparently will accept nothing "short of implementation of the March 2018 Approach as dispositive" of the contention.[91]

It is well-established that a Board has no authority to direct the manner in which the Staff conducts its safety and environmental reviews,[92] and we do not find that the Board inappropriately dictated the Staff's non-adjudicatory activities. The question of whether NEPA could be satisfied through an approach other than the March 2018 Approach was not before the Board. The Staff's Motion for Summary Disposition did not ask the Board to sanction some alternative approach for gathering cultural resources information. And the Board's decision suggested that an alternative approach might work as well to gather information about cultural resources.[93] In addition, the Board had no role in the development of the March 2018 Approach. The Staff proposed the approach, and Powertech and the Tribe agreed to it; Powertech's own petition for review acknowledges that it agreed to the March 2018 Approach.[94] And there were details still to be worked out within that approach — the survey methodology — that the Board did not purport to dictate or disturb. Therefore, we do not find that the Board has dictated the Staff's non-adjudicatory activities.

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[89] *Id.* at 135-36.

[90] Petition at 21.

[91] *Id.*

[92] *See* CLI-16-20, 84 NRC at 250; *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-11-14, 74 NRC 801, 813 n.70 (2011); *Shaw Areva MOX Services,* CLI-09-2, 69 NRC at 63.

[93] *See* LBP-18-5, 88 NRC at 127 ("The NRC Staff has not implemented the mutually agreed-upon March 2018 Approach or any alternative approach . . . .").

[94] Petition at 4.

3. Novelty of Issue

Powertech further argues that the Commission should take review because "historic and cultural resources in NEPA processes present a novel issue that warrants Commission review."[95] Our regulations provide that a presiding officer (or board) may refer a ruling to the Commission for immediate review if *in the presiding officer's judgment,* the ruling presents "significant and novel legal or policy issues."[96] And a party may request that the board certify a ruling for our immediate review.[97] We may also take review on our own initiative. But as the case Powertech cites for the Commission's authority to take review points out, a petitioner may not solicit Commission review on that basis.[98] Therefore, Powertech's request is procedurally improper.

Moreover, Powertech does not explain why it would be advantageous for the Commission to take review at this point in the litigation as opposed to waiting until the litigation is complete and the record fully developed. Powertech argues that this proceeding, in addition to another *in situ* uranium recovery project case posing similar cultural resources issues, poses "unique challenges for the Commission and NRC Staff to develop a uniform policy for addressing both NHPA and associated NEPA reviews."[99] However, we are not convinced that the creation of a uniform policy regarding cultural resources would benefit from our involvement before the Board issues a final ruling.

While we do not find that Powertech's concerns related to duration meet our high standards for interlocutory review, we are mindful of these considerations. As noted above, the Staff has now elected to terminate this adjudication through an evidentiary hearing, and the Board has established a schedule to complete this adjudication in the coming months.[100] We anticipate that the Board will use the available case management tools to close this proceeding consistent with the established schedule.[101] We also expect the parties to support the Board in reaching this goal.[102]

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[95] *Id.* at 23.

[96] 10 C.F.R. § 2.323(f)(1).

[97] *Id.* § 2.323(f)(2).

[98] Petition at 7 (citing *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-00-11, 51 NRC 297, 299 (2000)); *see also Haddam Neck,* CLI-01-25, 54 NRC at 374-75; *Indian Point,* CLI-09-6, 69 NRC at 138 (Commission will not entertain requests from a party that we take review in the exercise of our inherent supervisory authority).

[99] Petition at 23.

[100] Order (Granting NRC Staff Motion and Scheduling Evidentiary Hearing) (Apr. 29, 2019) (establishing November 29, 2019, as the deadline for a decision from the Board).

[101] *Statement of Policy on Conduct of Adjudicatory Proceedings,* CLI-98-12, 48 NRC 18, 20-21 (1998).

[102] *Id.* at 21-22.

To further these objectives, we offer the following observation. To clarify our stance on 40 C.F.R. § 1502.22, the Board suggests that we previously accepted "the procedural requirements included in section 1502.22(b), so their applicability in these circumstances continues to be appropriate" for addressing a situation where the agency has incomplete or unavailable information in the NEPA context.[103] On the contrary, we have recently reiterated that as an independent regulatory agency we are not bound by section 1502.22 and reformulated a contention to remove references to that regulation's requirements for developing a NEPA analysis when information was incomplete or unavailable.[104] Rather, we have consistently directed the Staff to undertake reasonable efforts to obtain unavailable information.[105] As Chairman Svinicki noted in her earlier dissent in this proceeding, section 1502.22 can be a useful guide in determining what is reasonable, but it is not controlling.[106] To the extent the Board has focused its analysis on whether the Staff advanced a reasonable proposal to conduct the survey and whether its determination to discontinue the survey was reasonable, we do not see a legal error with respect to section 1502.22. We offer this clarification to prevent overreliance on section 1502.22 throughout the remainder of this adjudicatory proceeding.

III. CONCLUSION

For the foregoing reasons, we deny review of the Board's decision in LBP-18-5.

IT IS SO ORDERED.

For the Commission

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of September 2019.

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[103] LBP-18-5, 88 NRC at 129 (citation omitted).

[104] *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 438, 444 (2011).

[105] *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-10-22, 72 NRC 202, 208-09 (2010).

[106] CLI-16-20, 84 NRC at 264 & n.7 (Svinicki, dissenting in part).

Additional Views of Chairman Svinicki

Today's ruling marks the third time in four years the Commission has entered an order regarding Contention 1A in this proceeding. When the Commission initially upheld the Board's determination to admit Contention 1A, in CLI-16-20, I dissented.[1] I found that the Board insufficiently addressed the Staff's claim that it met the National Environmental Policy Act's (NEPA) requirement to undertake reasonable efforts to obtain the information on cultural resources that Contention 1A asserted was lacking.[2] Subsequently, I joined the majority in rejecting Powertech's appeal from a Board order denying summary disposition on Contention 1A in CLI-18-7.[3] However, I again wrote separately to emphasize that while I found our standards for interlocutory appeal unmet, my views on the admissibility of Contention 1A were unchanged.[4]

Regarding the current appeal, I agree with the majority that Powertech's filing falls short of our high standards for interlocutory review. Nonetheless, I continue to believe that a stricter application of NEPA at the time of contention admissibility may have saved the agency many years of litigation. As I observed in my previous additional views accompanying CLI-18-7, the order upheld in CLI-16-20 led to an unworkable adjudicatory proceeding resulting in now three years of adjudicatory delay.[5] That delay, and associated expense, forms the basis for much of Powertech's instant appeal. While I concur with the majority that the Commission has not historically found concerns related to delay and expense sufficient to warrant interlocutory review, Powertech's appeal illustrates to me that extreme cases of adjudicatory delay might. Nonetheless, as the majority observes, the parties are now pursuing an evidentiary hearing that should complete this proceeding in the coming months. I join the majority in offering my expectation that the Board and parties will work together to meet the established schedule.

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[1] CLI-16-20, 84 NRC 219 (2016).

[2] *Id.* at 263-64.

[3] CLI-18-7, 88 NRC 1 (2018).

[4] *Id.* at 11.

[5] *Id.*

Additional Views of Commissioner Baran

While I agree with the Commission's decision to deny review of the Board's conclusions in LBP-18-5, I write separately because I do not believe the "observation" about the NRC Staff's compliance with the National Environmental Policy Act made in the final paragraph of II.B.3. is necessary to reach a decision in this case. My agreement with the overall decision should not be read as an endorsement of this unnecessary dicta.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

E. Roy Hawkens, Chairman
Dr. Sue H. Abreu
Dr. Michael F. Kennedy

In the Matter of **Docket Nos. 50-250-SLR**
50-251-SLR
(ASLBP No. 18-957-01-SLR-BD01)

FLORIDA POWER & LIGHT COMPANY
(Turkey Point Nuclear Generating Units 3 and 4)

October 24, 2019

This proceeding involves Florida Power & Light Company's (FPL's) subsequent license renewal application for Turkey Point Nuclear Generating Units 3 and 4, located near Homestead, Florida. In March 2019, this Licensing Board granted a hearing request from Friends of the Earth, Inc., Natural Resources Defense Council, Inc., and Miami Waterkeeper, Inc. (collectively, Joint Intervenors) and admitted two environmental contentions challenging FPL's environmental report. In July 2019, this Board granted FPL's motions to dismiss Joint Intervenors' two admitted contentions as moot, having been cured by new information in the Draft Supplemental Environmental Impact Statement (DSEIS). Pending before this Board are requests from Joint Intervenors seeking (1) a rule waiver; and (2) the admission of six newly proffered environmental contentions challenging the DSEIS. This Board denies Joint Intervenors' requests, thereby terminating this proceeding.

RULES OF PRACTICE: MIGRATION TENET

A contention "migrates" when a licensing board construes an admitted contention challenging an applicant's environmental review document as a challenge to a subsequently issued environmental review document prepared by the NRC Staff without the petitioner amending the contention. *See Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015).

RULES OF PRACTICE: INTERESTED GOVERMENTAL PARTICIPANT

An interested governmental participant (IGP) loses that status when the intervenor whose contention the IGP has adopted withdraws from the proceeding. *Cf. Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-35, 60 NRC 619, 626-27 (2004) (affirming licensing board's ruling that a government entity could not participate as an IGP without adopting an admitted contention pursuant to 10 C.F.R. § 2.315(c)).

RULES OF PRACTICE: CONTENTIONS OF OMISSION AND ADEQUACY

"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." *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 200 n.53 (2011); *see also Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-16-11, 83 NRC 524, 534 (2016).

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

A litigant who proffers new or amended contentions after the deadline for submitting initial hearing petitions in 10 C.F.R. § 2.309(b) must demonstrate good cause for the belated filing. *See* 10 C.F.R. § 2.309(c)(1). Good cause exists if the litigant shows that "(1) the information upon which the [new or amended contention] is based was not previously available; (2) the information upon which the [contention] is based is materially different from information previously available; and (3) the [contention] has been submitted in a timely fashion based on the availability of the subsequent information." *See id.* § 2.309(c)(1)(i)-(iii).

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

The term "materially" within the meaning of 10 C.F.R. § 2.309(c)(1)(ii) "describes the type or degree of difference between the new information and previously available information . . . , and it is synonymous with, for example, 'significantly,' 'considerably,' or 'importantly.'" *Florida Power & Light Co.* (Turkey Point Units 6 and 7), LBP-17-6, 86 NRC 37, 48, *aff'd on other grounds,* CLI-17-12, 86 NRC 215 (2017).

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

The Commission and licensing boards generally consider approximately 30-60 days as the limit for timely filings based on new information. *Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 NRC 333, 342 n.43 (2011).

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

To satisfy the good cause standard, it is sufficient if a litigant timely proffers a new contention based on new analysis or new information in the DSEIS that is materially different from previously available information in the environmental report. *See* 10 C.F.R. § 2.309(c)(1)(i)-(iii).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

The six-factor contention admissibility standard in 10 C.F.R. § 2.309(f)(1) is "strict by design," *AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 118 (2006) (quoting *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001)), and failure to comply with any admissibility requirement "renders a contention inadmissible." *Entergy Nuclear Operations, Inc.* (Indian Point, Unit 2), CLI-16-5, 83 NRC 131, 136 (2016).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

Licensing boards need not "search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves; . . . . It is a 'contention's proponent, not the licensing board,' that 'is responsible for formulating the contention and providing the necessary information to satisfy [its] . . . admission[.]' *USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 457 (2006) (quoting *Statement of Policy on Conduct of Adjudicatory Proceedings,* CLI-98-12, 48 NRC 18, 22 (1998)).

RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS

"[N]o rule or regulation of the Commission . . . is subject to attack by way of [any] . . . means in any adjudicatory proceeding subject to [10 C.F.R. Part 2]." 10 C.F.R. § 2.335(a). However, "special circumstances" may exist in a particular proceeding "such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted." *Id.* § 2.335(b). In such circumstances, a litigant may petition that the application of a specified Commission rule or regulation "be waived or an exception be made for the particular proceeding." *Id.*

RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS

A litigant's petition for rule waiver must be accompanied by an affidavit demonstrating that four factors (commonly referred to as the *Millstone* factors) are satisfied: "(i) the rule's strict application would not serve the purposes for which it was adopted; (ii) the movant has alleged special circumstances that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived; (iii) those circumstances are unique to the facility rather than common to a large class of facilities; and (iv) a 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) (internal quotations omitted); *see Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 209 (2013) (holding that the fourth *Millstone* factor applies to a significant environmental problem).

RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS

If a licensing board concludes that the petitioning litigant has made a *prima facie* showing that 10 C.F.R. § 2.335(b) is satisfied, the board shall, "before ruling on the petition, certify the matter directly to the Commission" for a determination as to whether the rule should be waived or an exception made. 10 C.F.R. § 2.335(d).

RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS

The rule waiver standard is "stringent by design." *Exelon Generation Co.,*

LLC (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 207 (2013). "[T]o challenge the generic application of a rule, a petitioner seeking waiver must show that there is something extraordinary about the subject matter of the proceeding such that the rule should not apply." *Id.*

NEPA: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (PREPARATION)

Nothing in the National Environmental Policy Act (NEPA) proscribes an agency from arguing that an analysis or conclusion in one section of the DSEIS also applies to other sections where a sensible reading of the DSEIS supports such an argument. *Cf. NRDC v. Morton,* 458 F.2d 827, 834 (D.C. Cir. 1972) ("[I]t is the essence and thrust of NEPA that the pertinent [EIS] serve to gather in one place a discussion of the relative environmental impact of alternatives.").

NEPA: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (PREPARATION)

An agency's NEPA responsibilities can include the review of relevant local enforcement and oversight activities. *See* LBP-19-3, 89 NRC 245, 283 n.56.

NEPA: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (PREPARATION)

An agency may limit its discussion of environmental impact to a brief statement when it is the case that the alternative course involves no effect on the environment, or that an effect, briefly described, is simply not significant. *NRDC v. Morton,* 458 F.2d 827, 834 (D.C. Cir. 1972).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

Category 1 issues are those environmental issues with effects that (1) are generic to all, or a specified group of, nuclear power plants; (2) have been analyzed in the Generic Environmental Impact Statement (GEIS), NUREG-1437, and codified by notice and comment rulemaking in 10 C.F.R. Part 51; (3) need not be addressed on a site-specific basis by a license renewal applicant in the environmental report or by the NRC Staff in the DSEIS; and (4) cannot be litigated in NRC adjudicatory proceedings unless a litigant obtains a rule waiver pursuant to 10 C.F.R. § 2.335. *See* LBP-19-3, 89 NRC at 257-59.

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

Litigants must satisfy the "substantial burden" imposed by 10 C.F.R. § 2.335 of demonstrating that a rule waiver is warranted. *See Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 208 (2013).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

A rule waiver is required to challenge a Category 1 issue even if the challenge revolves around new information identified and evaluated by the NRC Staff in a DSEIS. *See, e.g., Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 384 n.39 (2012) ("Fundamentally, any contention on a 'Category 1' issue amounts to a challenge to our regulation that bars challenges to generic environmental findings.") (quoting *Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 20 (2007)).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

"[A] waiver [is] required to litigate any new and significant information relating to a Category 1 issue," because "'[a]djudicating Category 1 issues site by site based merely on a claim of "new and significant information," would defeat the purpose of resolving generic issues in a GEIS.'" *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 384 (2012) (quoting *Vermont Yankee,* CLI-07-3, 65 NRC at 21).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

The NRC's "divergent treatment of generic and site-specific issues is reasonable" and permitted by NEPA. *Massachusetts v. NRC,* 522 F.3d 115, 120 (1st Cir. 2008); *see also NRDC v. NRC,* 823 F.3d 641, 652 (D.C. Cir. 2016) (holding that the NRC's rule waiver process for Category 1 issues comports with NEPA, which "'does not mandate particular hearing procedures and does not require hearings'") (quoting *Beyond Nuclear v. NRC,* 704 F.3d 12, 18-19 (1st Cir. 2013)).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

The Commission has stated that its designation of an environmental issue as a Category 1 issue "reflects the NRC's expectations that [its] NEPA obligations have been satisfied with reference to [its] previously conducted environmental analysis in the GEIS." *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 212-13 (2013). To obtain a rule waiver, a "petitioner must show that *new and significant* information, unique to a particular plant, exists . . . such that the Category 1 finding in 10 C.F.R. Part 51, Subpart A, Appendix B should be waived to litigate the issue in a site-specific proceeding." *Id.* at 213 (emphasis added).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

Regarding the first *Millstone* factor, the *purpose* of the NRC's designation of "groundwater quality degradation (plants with cooling ponds in salt marshes)" as a Category 1 issue is satisfied unless a movant shows that new information is significant insofar as it would lead to a determination that the environmental impact during the subsequent licensing review period will be greater than "small," 10 C.F.R. pt. 51, subpt. A, app. B, table B-1. Such a showing would evince a conclusion that the strict application of the Category 1 issue would not serve the purpose for which it was adopted.

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 1 ISSUES)

A petitioner may not improperly cloak a Category 1 issue with a Category 2 label and thereby avoid the rule waiver requirement in 10 C.F.R. § 2.335. *Cf.* LBP-19-3, 89 NRC at 282 (rejecting as Contention 1 issues discrete components of an environmental contention that purported to challenge the cumulative impacts analysis in the environmental report).

ADJUDICATION: DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (CATEGORY 2 ISSUES)

Category 2 issues — i.e., environmental issues with effects that are not generic to all, or a specified group of, nuclear power plants — must receive a plant-specific analysis in the environmental report and DSEIS, and these issues can be litigated in NRC adjudicatory proceedings. *See* LBP-19-3, 89 NRC at 257-59.

ADMINISTRATIVE PRACTICE: ASSUMPTION OF COMPLIANCE

A licensing board accords "substantial weight" to the determination of state environmental regulatory agencies that a licensee will comply with its legal obligations. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 527 (1977) (holding that a finding of environmental acceptability made by a competent state authority pursuant to a thorough hearing "is properly entitled to substantial weight in the conduct of our own NEPA analysis") (internal quotation marks omitted); *cf. Pacific Gas and Electric Co.* (Diablo Canyon Power Plant, Units 1 and 2), CLI-03-2, 57 NRC 19, 29 (2003) (absent evidence to the contrary, Commission will assume that licensee will comply with license obligations); *see Florida Power & Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), CLI-16-18, 84 NRC 167, 174-75 n.38 (2016).

MEMORANDUM AND ORDER
(Denying Requests for Rule Waiver and Admission of Newly Proffered Contentions, and Terminating Proceeding)

This proceeding involves Florida Power & Light Company's (FPL's) subsequent license renewal application for Turkey Point Nuclear Generating Units 3 and 4, located near Homestead, Florida. As relevant here, in March 2019, this Licensing Board granted a hearing request from Friends of the Earth, Inc., Natural Resources Defense Council, Inc., and Miami Waterkeeper, Inc. (collectively, Joint Intervenors) and admitted two environmental contentions challenging FPL's environmental report (ER). *See* LBP-19-3, 89 NRC 245 (2019). That same month, the NRC Staff issued the Draft Supplemental Environmental Impact Statement (DSEIS) for Turkey Point Units 3 and 4. Pursuant to the migration tenet, Joint Intervenors' two admitted contentions became challenges to the DSEIS.[1] In July 2019, this Board granted FPL's motions to dismiss Joint Intervenors' two admitted contentions as moot, having been cured by new information in the DSEIS. *See* LBP-19-6, 90 NRC 17 (2019). Now pending before this Licensing Board are requests from Joint Intervenors seeking (1) a rule waiver; and (2) the admission of six newly proffered environmental contentions challenging the DSEIS.

[1] A contention "migrates" when a licensing board construes an admitted contention challenging an applicant's environmental review document (here, FPL's ER) as a challenge to a subsequently issued environmental review document prepared by the NRC Staff (here, the NRC Staff's DSEIS) without the petitioner amending the contention. *See Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015).

For the reasons discussed below, we deny Joint Intervenors' requests. Because our ruling disposes of all pending contentions, this proceeding is terminated at the Licensing Board level.

I. PROCEDURAL BACKGROUND

On January 30, 2018, FPL applied for a twenty-year subsequent license renewal (SLR) for two nuclear power reactors, Turkey Point Units 3 and 4.[2] As required by 10 C.F.R. § 51.53(c), FPL submitted an ER with its application.[3] In response to a notice of opportunity to request a hearing published in the *Federal Register,*[4] Joint Intervenors filed a timely hearing request that raised challenges to the ER.[5]

On March 7, 2019, this Board granted Joint Intervenors' hearing request and admitted two environmental contentions of omission, Contentions 1-E and 5-E. *See* LBP-19-3, 89 NRC at 302 n.82.[6] "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." *Florida Power & Light Co.*

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[2] *See* Letter from Mano K. Nazar, President and Chief Nuclear Officer, FPL, to Document Control Desk, NRC (Jan. 30, 2018); [FPL], Turkey Point Nuclear Plant Units 3 and 4 [SLR] Application (rev. 1 Apr. 2018) [hereinafter SLRA]. The original licenses issued to FPL for Units 3 and 4 authorized forty years of operation, and the first renewal was for an additional twenty years of operation. The current licenses for the units will expire, respectively, on July 19, 2032 and April 10, 2033. *See* SLRA at 1-1.

[3] *See* [FPL] SLRA, App. E, Applicant's [ER], Subsequent Operating License Renewal Stage, Turkey Point Nuclear Plant Units 3 and 4 (Jan. 2018) [hereinafter ER].

[4] *See* [FPL]; Turkey Point Nuclear Generating, Unit Nos. 3 and 4, 83 Fed. Reg. 19,304 (May 2, 2018); *see also* Commission Order (June 29, 2018) at 2 (unpublished) (granting a thirty-day filing extension).

[5] *See* LBP-19-3, 89 NRC at 255. Southern Alliance for Clean Energy (SACE) and Albert Gomez also filed hearing requests. *See id.* Additionally, Monroe County, Florida requested to participate as an interested governmental participant in support of the contentions proffered by SACE. *See id.* at 256-57.

[6] In the same decision, this Board (1) granted SACE's hearing request and admitted two proffered contentions; (2) granted Monroe County, Florida's request to participate as an interested governmental participant in support of SACE's two admitted contentions; and (3) denied Mr. Gomez's hearing request. *See* LBP-19-3, 89 NRC at 301-02.

On April 9, 2019, SACE withdrew from this proceeding as part of a settlement with FPL, resulting in the dismissal of its admitted contentions. *See* LBP-19-6, 90 NRC at 20. Monroe County, Florida thereby lost its status as an interested governmental participant in support of SACE's contentions. *Cf. Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-35, 60 NRC 619, 626-27 (2004) (affirming licensing board's ruling that a government entity could not participate as an interested governmental participant without adopting an admitted contention pursuant to 10 C.F.R. § 2.315(c)).

(Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 200 n.53 (2011); *see also Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-16-11, 83 NRC 524, 534 (2016).

In March 2019, the NRC Staff issued a DSEIS for Turkey Point Units 3 and 4 as required by 10 C.F.R. § 51.70.[7] Pursuant to the migration tenet, *see supra* note 1, Joint Intervenors' two contentions, which originally challenged FPL's ER, became challenges to the NRC Staff's DSEIS. On May 20, 2019, FPL moved to dismiss Contentions 1-E and 5-E as moot, arguing that the omissions had been cured by new information in the DSEIS. *See* LBP-19-6, 90 NRC at 20. On July 8, 2019, this Board granted FPL's request to dismiss Contentions 1-E and 5-E as moot. *See id.* at 26.

Meanwhile, pursuant to this Board's scheduling order governing the submission of new or amended contentions based on the DSEIS,[8] on June 24, 2019, Joint Intervenors moved to admit six newly proffered environmental contentions of adequacy challenging the DSEIS.[9] Joint Intervenors also submitted a petition for waiver of 10 C.F.R. §§ 51.53(c)(3), 51.71(d), and 10 C.F.R. Part 51, Subpart A, Appendix B.[10] The NRC Staff and FPL opposed the motion and the petition for waiver.[11] Joint Intervenors filed a reply in support of their motion.[12]

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[7] *See* Office of Nuclear Reactor Regulation, NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supp. 5, Second Renewal, Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 & 4, Draft Report for Comment (Mar. 2019) (ADAMS Accession No. ML19078A330) [hereinafter DSEIS].

[8] *See* Licensing Board Order (Granting in Part Intervenors' Joint Motion for Partial Reconsideration of Initial Scheduling Order) (Apr. 2, 2019) (unpublished) [hereinafter April 2019 Scheduling Order].

[9] *See* [Joint Intervenors'] Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] (June 24, 2019). Joint Intervenors later filed an amended motion. *See* [Joint Intervenors'] Amended Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] (June 28, 2019) [hereinafter Joint Intervenors' Motion for New Contentions]. This Board's decision in LBP-19-6 rendered moot that portion of Joint Intervenors' motion that sought to migrate Contentions 1-E and 5-E as originally admitted.

[10] *See* [Joint Intervenors'] Petition for Waiver of 10 C.F.R. §§ 51.53(c)(3), 51.71(d), and 10 C.F.R. Part 51, Subpart A, Appendix B (June 24, 2019) [hereinafter Joint Intervenors' Petition for Waiver].

[11] *See* NRC Staff's Answer to Joint Intervenors' (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) [hereinafter NRC Staff's Answer]; [FPL's] Answer Opposing Intervenors' Motion to Migrate or Amend Contentions 1-E and 5-E and to Admit New Contentions 6-E, 7-E, 8-E, and 9-E (July 19, 2019) [hereinafter FPL's Answer to Contentions]; [FPL's] Answer to Intervenors' Petition for Waiver of Certain 10 C.F.R. Part 51 Regulations (July 19, 2019) [hereinafter FPL's Answer to Waiver Petition].

[12] *See* Reply in Support of Motion to Migrate Contentions & Admit New Contentions in Response to NRC Staff's [DSEIS] (July 26, 2019) [hereinafter Joint Intervenors' Reply].

On July 26, 2019, Joint Intervenors also filed a reply in support of their petition for waiver, which

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On September 9, 2019, this Board held an oral argument at NRC headquarters in Rockville, Maryland, to assess Joint Intervenors' rule waiver request and the admissibility of their newly proffered contentions. *See* Official Transcript of Proceedings, [FPL] Turkey Point Nuclear Generating Units 3 and 4 at 260-466 (Sept. 9, 2019) [hereinafter Tr.].

II. LEGAL STANDARDS

We summarize below three legal standards that are implicated in this case: (1) the three-factor good cause standard in 10 C.F.R. § 2.309(c) governing the timeliness of contentions that are proffered after the deadline for submitting initial hearing petitions in 10 C.F.R. § 2.309(b); (2) the six-factor contention admissibility standard in 10 C.F.R. § 2.309(f)(1); and (3) the rule waiver criteria in 10 C.F.R. § 2.335 for a litigant who seeks to challenge a Commission regulation.

A. The Good Cause Standard in 10 C.F.R. § 2.309(c)

A litigant who, like Joint Intervenors, proffers new or amended contentions after the deadline in 10 C.F.R. § 2.309(b) must demonstrate good cause for the belated filing. *See* 10 C.F.R. § 2.309(c)(1). Good cause exists if the litigant shows that (1) the information upon which the new or amended contention is based was not previously available; (2) the information upon which the contention is based is materially different from information previously available;[13] and (3) the contention has been submitted in a timely fashion based on the availability of the subsequent information.[14] *See id.* § 2.309(c)(1)(i)-(iii). Regarding the timeliness criterion in item 3, this Board's Scheduling Order, *see supra* note 8, established June 24, 2019 as the deadline for filing new or amended contentions based on the DSEIS. *See* April 2019 Scheduling Order at 3.

FPL moved to strike, arguing that 10 C.F.R. § 2.335 does not permit a litigant who petitions for waiver to file a reply. We granted FPL's motion. *See* Licensing Board Order (Granting FPL's Motion to Strike) (Aug. 20, 2019) (unpublished).

[13] The term "materially" within the meaning of section 2.309(c)(1)(ii) "describes the type or degree of difference between the new information and previously available information . . . , and it is synonymous with, for example, 'significantly,' 'considerably,' or 'importantly.'" *Florida Power & Light Co.* (Turkey Point Units 6 and 7), LBP-17-6, 86 NRC 37, 48, *aff'd on other grounds,* CLI-17-12, 86 NRC 215 (2017).

[14] *Cf. Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 NRC 333, 342 n.43 (2011) ("We and our Licensing Boards generally consider approximately 30-60 days as the limit for timely filings based on new information.").

B. The Contention Admissibility Standard in 10 C.F.R. § 2.309(f)(1)

To be admissible, a timely-filed contention must satisfy the following six-factor contention admissibility criteria in 10 C.F.R. § 2.309(f)(1):

> (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
>
> (ii) Provide a brief explanation of the basis for the contention;
>
> (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
>
> (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
>
> (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue . . . , together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; [and]
>
> (vi) . . . [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application . . . that the petitioner disputes and the supporting reasons for each dispute.

10 C.F.R. § 2.309(f)(1)(i)-(vi).

The Commission's contention admissibility standard is "strict by design," *AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 118 (2006) (quoting *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001)), and failure to comply with any admissibility requirement "renders a contention inadmissible." *Entergy Nuclear Operations, Inc.* (Indian Point, Unit 2), CLI-16-5, 83 NRC 131, 136 (2016).

C. The Rule Waiver Criteria in 10 C.F.R. § 2.335

Pursuant to section 2.335(a), "no rule or regulation of the Commission . . . is subject to attack by way of [any] . . . means in any adjudicatory proceeding subject to [10 C.F.R. Part 2]." 10 C.F.R. § 2.335(a). The same regulation recognizes, however, that "special circumstances" may exist in a particular proceeding "such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted." *Id.* § 2.335(b). In such circumstances, a litigant may petition that the application of

a specified Commission rule or regulation "be waived or an exception be made for the particular proceeding." *Id.*

Commission precedent construing section 2.335(b) provides that a litigant's petition for rule waiver must be accompanied by an affidavit demonstrating that the following four factors (commonly referred to as the *Millstone* factors) are satisfied:

> (i) the rule's strict application would not serve the purposes for which it was adopted;
>
> (ii) the movant has alleged special circumstances that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;
>
> (iii) those circumstances are unique to the facility rather than common to a large class of facilities; and
>
> (iv) a 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) (internal quotations omitted); *see Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 209 (2013) (holding that the fourth *Millstone* factor applies to a significant environmental problem). If a licensing board concludes that the petitioning litigant has made a *prima facie* showing that section 2.335(b) is satisfied, the board shall, "before ruling on the petition, certify the matter directly to the Commission" for a determination as to whether the rule should be waived or an exception made. 10 C.F.R. § 2.335(d).

The Commission has described the rule waiver standard as "stringent by design." *Limerick,* CLI-13-7, 78 NRC at 207. "[T]o challenge the generic application of a rule, a petitioner seeking waiver must show that there is something extraordinary about the subject matter of the proceeding such that the rule should not apply." *Id.*

III. ANALYSIS

A. Contention 1-Eb Is Not Admissible

In Contention 1-Eb, Joint Intervenors allege that "[t]he DSEIS fails to analyze adequately mechanical draft cooling towers as a reasonable alternative that could mitigate adverse impacts of the cooling canal system [(CCS)] in connection with the license renewal of Turkey Point Units 3 and 4." Joint Intervenors'

Motion for New Contentions at 8.[15] Specifically, Joint Intervenors assert that the DSEIS fails adequately to "consider how the cooling tower alternative could reduce acknowledged adverse impacts to (1) threatened, endangered, and protected species and essential fish habitat and (2) groundwater use conflicts." *Id.* at 12.

The NRC Staff and FPL argue that both components of Contention 1-Eb are inadmissible pursuant to 10 C.F.R. § 2.309(f)(1). *See* NRC Staff's Answer at 19-23; FPL's Answer to Contentions at 10-20.[16] We agree.

1. Regarding the first component of Contention 1-Eb, Joint Intervenors fail to establish a genuine issue of material law or fact in asserting that the DSEIS fails to consider how the cooling tower alternative could mitigate adverse impacts to threatened, endangered, and protected species and essential fish habitat. *See* Joint Intervenors' Motion for New Contentions at 12.[17] The DSEIS describes the scenario in which discontinued use of the CCS as a heat sink for Units 3

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[15] As discussed *supra* Part I, this Board admitted Contention 1-E as a contention of omission, but we subsequently dismissed it as moot based on curative information in the DSEIS. *See* LBP-19-6, 90 NRC at 19, 26. Contention 1-Eb is an amended version of Contention 1-E that challenges the adequacy of the curative information.

[16] FPL also argues that Contention 1-Eb fails to satisfy the good cause standard in section 2.309(c) for belated filings to the extent it alleges that the DSEIS's cooling tower alternative discussion failed adequately to consider groundwater use conflicts. *See* FPL Answer to Contentions at 9-10. FPL is incorrect. The DSEIS contains a cooling tower alternative analysis (which includes a groundwater use conflicts discussion) that FPL failed to include in the ER. *See* Joint Intervenors' Motion for New Contentions at 9; LBP-19-6, 90 NRC at 21-23. Contention 1-Eb's challenge is thus directed at new information that (1) was not previously available; and (2) is materially different from previously available information in the ER, thereby satisfying section 2.309(c)(1)(i) and (ii). Additionally, Joint Intervenors submitted Contention 1-Eb within the June 24, 2019 deadline established by this Board's April 2019 Scheduling Order, thereby satisfying the timeliness requirement in section 2.309(c)(1)(iii). The good cause standard, *see supra* Part II.A, is satisfied.

[17] Joint Intervenors are similarly incorrect in asserting broadly that the DSEIS "is devoid of any substance on the environmental benefits" of the cooling tower alternative. Joint Intervenors' Motion for New Contentions at 11. *See, e.g.,* DSEIS § 4.5.7.1 (concluding that the impact of the cooling tower alternative on surface water resources would be "SMALL"); *id.* § 4.5.7.2 (concluding that the impact of the cooling tower alternative on groundwater resources would be "SMALL"); *id.* § 4.6.7 (concluding that the impact of the cooling tower alternative on terrestrial resources would be "less intense" than the impacts common to all replacement power alternatives due to "the smaller land area required for construction and operation," but the impacts would nevertheless be "MODERATE" due to impacts from the "permanent disturbance, fragmentation, and degradation of important terrestrial habitats"); *id.* § 4.7.7 (concluding that the impact of the cooling tower alternative on aquatic resources would be "MODERATE" in the local environs of the plant because cooling tower construction "would result in the permanent loss or impairment of sensitive aquatic habitats and could affect ecosystem function and connectivity"; however, FPL's restoration activities pursuant to its

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and 4 (a consequence of the cooling tower alternative) would result in less heat being discharged to the CCS, which could cause the water in the CCS to become "less saline and create more favorable habitat for [Endangered Species Act (ESA)-listed] species." DSEIS at 4-68.[18] The DSEIS further explains that if the CCS were no longer used to cool Units 3 and 4, FPL would still be required to take the CCS restorative actions mandated by a 2016 Consent Order with the State of Florida[19] and a 2015 Consent Agreement with Miami-Dade County,[20] *see id.,* which compel FPL to, *inter alia,* decrease the salinity of the CCS, develop a nutrient management plan for the CCS, and restore seagrass within portions of the CCS.[21] The DSEIS concludes that, under these circumstances, "the CCS would likely continue to provide habitat for ESA-listed species." *Id.* The DSEIS also states that as a result of continuing restoration activities during cooling tower operations, portions of the CCS would likely be restored "to a seagrass-based ecological system." *Id.* at 4-60. Finally, the DSEIS contains the following discussion regarding special status species and habitats for the cooling tower alternative:

> To the extent that license amendments would be necessary to authorize cooling towers to dissipate excess heat during plant operation, . . . the Endangered Species Act and Magnuson-Stevens Act would require the NRC to consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, as applicable, during the [S]taff's review of that alternative. If the cooling water system al-

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nutrient management plan "would likely return portions of the CCS to a seagrass-based ecological system"); *id.* at 2-22 (summarizing in Table 2-2 the environmental impacts of the cooling tower alternative).

[18] Joint Intervenors correctly observe that some of the NRC Staff's arguments regarding the environmental benefits of discontinued use of the CCS as a heat sink for Units 3 and 4 rely on discussions from the DSEIS section on the "no-action alternative" rather than the DSEIS section on the "cooling tower alternative." *See, e.g.,* Tr. at 315. Joint Intervenors are incorrect, however, in asserting that such reliance is improper unless the DSEIS expressly states that an analysis or conclusion in one section also applies to another section. *See id.* at 317. Nothing in the National Environmental Policy Act (NEPA) proscribes an agency from arguing that an analysis or conclusion in one section of the DSEIS also applies to other sections where, as here, *see id.* at 320, 327-28, a sensible reading of the DSEIS supports such an argument. *Cf. NRDC v. Morton,* 458 F.2d 827, 834 (D.C. Cir. 1972) ("[I]t is the essence and thrust of NEPA that the pertinent [EIS] serve to gather in one place a discussion of the relative environmental impact of alternatives.").

[19] *See Fla. Dep't of Envtl. Prot. v. FPL,* OGC File No. 16-02441, Consent Order (June 20, 2016) (ADAMS Accession No. ML16216A216) [hereinafter Florida Consent Order].

[20] *See Miami-Dade Cty., Dep't of Regulatory and Econ. Res., Division of Envtl. Res. Mgmt. v. FPL,* Consent Agreement (Oct. 7, 2015) (ADAMS Accession No. ML15286A366) [hereinafter Miami-Dade Consent Agreement].

[21] *See* NRR, Biological Assessment for the Turkey Point Nuclear Generating Unit Nos. 3 and 4 Proposed [SLR] at 36 (Dec. 2018) (ADAMS Accession No. ML18353A835) (incorporated by reference in the DSEIS at 4-60) [hereinafter Biological Assessment].

> ternative required a Clean Water Act, Section 404 permit, the U.S. Army Corps of Engineers could be involved in [Endangered Species Act] consultation. The consultations would determine whether the construction and operation of cooling towers would affect any federally listed species, adversely modify or destroy designated critical habitat, or result in adverse effects on Essential Fish Habitat, if present. Ultimately, the magnitude and significance of adverse impacts on special status species and habitats would depend on the location and layout of the cooling towers, the design of the cooling towers, operational parameters, and the special status species and habitats present in the area when the alternative is implemented.

Id. at 4-70.

Joint Intervenors fail to show why the above discussions are inadequate, and they fail to contest any of the above conclusions regarding the beneficial impacts on special species and habitat if the CCS were no longer used as a heat sink for Units 3 and 4. These failures render the first component of Contention 1-Eb inadmissible pursuant to 10 C.F.R. § 2.309(f)(1)(vi) for failing to show a genuine dispute with the DSEIS on a material issue of law or fact.

2. The second component of Contention 1-Eb fares no better. Joint Intervenors argue that the DSEIS fails to consider how the cooling tower alternative could mitigate adverse impacts to groundwater use conflicts. *See* Joint Intervenors' Motion for New Contentions at 12. More specifically, they claim that the DSEIS "does not analyze how ending the heat contribution of Turkey Point Units 3 and 4 to the cooling canals could freshen the water and reduce the groundwater impacts faster." *Id.* at 16. Joint Intervenors are incorrect.

The DSEIS describes the scenario in which discontinued use of the CCS would reduce discharges of heated water and other effluents to the CCS, potentially reducing the amount of water used to support freshening activities. *See* DSEIS at 4-35 to 4-36. Joint Intervenors do not cite, much less contest, that part of the DSEIS. This aspect of Contention 1-Eb is therefore inadmissible for failing to raise a genuine dispute with the DSEIS on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).

B. Contention 5-Eb Is Not Admissible

In Contention 5-Eb, Joint Intervenors assert that "[t]he DSEIS is deficient in its analysis of the potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat." Joint

Intervenors' Motion for New Contentions at 21.[22] Joint Intervenors specifically fault the DSEIS for "fail[ing] to consider the impacts of ammonia discharges on all but one threatened and endangered species [i.e., the West Indian manatee] and important habitat." *Id.* at 23-24.

The NRC Staff and FPL argue that Contention 5-Eb is inadmissible pursuant to 10 C.F.R. § 2.309(f)(1). *See* NRC Staff's Answer at 23-30; FPL's Answer to Contentions at 20-26.[23] We agree.

In the DSEIS and the Biological Assessment (which is incorporated by reference in the DSEIS, *see supra* note 21), the NRC Staff discusses the environment at the Turkey Point facility and the role that ammonia might play in that environment. For example, the DSEIS states that FPL monitors the CCS, Biscayne Bay, Card Sound, marshland, mangrove areas, and canals adjacent to the CCS "for numerous water quality parameters, including ammonia and other nutrients" to evaluate the effects, if any, of CCS operations on the surrounding environment. DSEIS at 3-41. Ammonia concentrations in the CCS, as measured between June 2010 and May 2016, ranged from below detectable levels to 0.3 milligrams per liter (mg/L), and they averaged 0.04 mg/L. *Id.* at 3-42. Notably, these measurements are all below the Miami-Dade County water quality standard for ammonia of 0.5 mg/L, and the average concentration is more than an order of magnitude below that standard. *See id.*[24]

As explained in the DSEIS, absent species-specific information to the contrary, the NRC Staff "assumes that the relevant State water quality criteria [here, the Miami-Dade ammonia water quality standard] are reasonably protective of [threatened or endangered species] because under Section 303(c) of the Clean

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[22] As discussed *supra* Part I, this Board admitted Contention 5-E as a contention of omission, but we subsequently dismissed it as moot based on curative information in the DSEIS. *See* LBP-19-6, 90 NRC at 19, 26). Contention 5-Eb is an amended version of Contention 5-E that challenges the adequacy of the curative information.

[23] FPL also argues that Contention 5-Eb fails to satisfy the good cause standard in section 2.309(c). *See* FPL's Answer to Contentions at 7-8. FPL is incorrect. The DSEIS includes new information and new analysis regarding ammonia emanating from the CCS that FPL failed to include in the ER. *See* Joint Intervenors' Motion for New Contentions at 21-22; LBP-19-6, 90 NRC at 23-25. Contention 5-Eb's challenge to that new information and analysis is thus based on information that (1) was not previously available; and (2) is materially different from previously available information in the ER, thereby satisfying section 2.309(c)(1)(i) and (ii). Additionally, Joint Intervenors submitted Contention 5-Eb within the June 24, 2019 deadline established by this Board's April 2019 Scheduling Order, thereby satisfying the timeliness requirement in section 2.309(c)(1)(iii). The good cause standard, *see supra* Part II.A, is satisfied.

[24] The DSEIS attributes the existence of ammonia in the CCS to the decay of organic material. *See* DSEIS at 3-42. According to the DSEIS, ammonia is transported from the CCS by the outflow of water into groundwater that then travels to adjacent surface water bodies. *See id.* at 3-43 to 3-44. As discussed *infra* in text, however, there is no evidence of an ecological impact on Biscayne Bay or Card Sound from the low levels of ammonia in the CCS.

Water Act, the [Environmental Protection Agency (EPA)] or the States are required to adopt water quality standards to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." DSEIS at 4-66; *accord* Biological Assessment at 61 ("[I]f waters inhabited by [threatened or endangered species] meet water quality criteria for ammonia, the NRC [S]taff assumes that there would be no lethal effects or impairments to growth, survival, or reproduction [of such species].").

The DSEIS states that "no contaminants associated with the CCS, including ammonia, have been found in Biscayne Bay itself[.]" DSEIS at 4-66. The DSEIS further states that FPL's water "monitoring program has not detected evidence in the surrounding marsh and mangrove[ ] areas of any impacts of ammonia [or other nutrients] from the CCS on soil pore water quality via the groundwater pathway[.]" *Id.* at 3-53. Finally, the Biological Assessment states that based on data from FPL's "extensive water quality monitoring program," there is "no evidence of an ecological impact [from ammonia] on the areas surrounding the CCS and no discernible influence from the CCS on Biscayne Bay[.]" Biological Assessment at 60; *accord* DSEIS at 4-22 ("[D]iscern[i]ble effects from CCS . . . ammonia . . . on Biscayne Bay or Card Sound water qualities ha[ve] not been detected.").

Although no ammonia attributable to the CCS has been found in Biscayne Bay, *see* DSEIS at 4-65, and no effect from CCS ammonia has been detected in Biscayne Bay or Card Sound, *see id.* at 4-22, the DSEIS states that exceedances of the Miami-Dade ammonia water quality standard have been detected at the bottom of the Barge Turning Basin, the Turtle Point remnant canal, the S-20 canal, and the Sea-Dade remnant canal, which are excavations outside of, but close to, the CCS. *See* DSEIS at 3-50 to 3-53; Biological Assessment at 60. A report referenced in the DSEIS concludes that these elevated ammonia levels appear to be "limited to the locations of deep stagnant anoxic [i.e., low oxygen] water bodies," and are "attributable to the degradation of plant and animal material." DSEIS at 3-51; *accord id.* ("[T]he [elevated] ammonia values are consistent with the anoxic conditions that exist at the bottom of remnant canals and the accumulation of organic matter falling into the remnant canals from surrounding areas of the bay.").

The NRC Staff analyzed the impact of the elevated ammonia levels in the deep basin and remnant canals on the following threatened or endangered species that might conceivably be exposed: four types of sea turtles; the smalltooth sawfish; and the West Indian manatee. *See* DSEIS at 4-62 to 4-67; Biological Assessment at 59-62. Regarding sea turtles, the NRC Staff stated that they are unlikely to be present in the "stagnant, or dead-end canals." DSEIS at 4-66. "Even if sea turtles were to be present in the canals, exposure time would be limited because sea turtles are expected to only occur transiently and for short durations, if at all." *Id.* The NRC Staff therefore concluded that "the very low

likelihood of sea turtles to be exposed to elevated ammonia levels and the short duration of potential exposure is unlikely to result in measurable effects on sea turtles." *Id.*

Regarding smalltooth sawfish, the NRC Staff observed that they are a ureotelic species that "convert ammonia to urea and native tri-methyl amine oxide, which counteracts its toxicity" and, accordingly, they "are expected to be less vulnerable to ambient ammonia than many other aquatic species." DSEIS at 4-66. Based on this information, the NRC Staff concluded "that even if smalltooth sawfish are present in the canal areas with elevated ammonia levels, individuals are unlikely to be measurably affected." *Id.*

Finally, with regard to the West Indian manatee, the NRC Staff observed that the "stagnant or dead-end canals" where the elevated ammonia concentrations are located "do not provide preferred habitat for manatees[.]" Biological Assessment at 61. The NRC Staff concluded that "because of the very low likelihood of manatees [being] exposed to contaminants associated with the CCS, including ammonia, and because of the short duration of any such potential exposure, any effects on manatees would be insignificant or discountable." *Id.* Additionally, the NRC Staff concluded that "continued operation of Turkey Point Unit[s] . . . 3 and 4 will not appreciably diminish the ecological value of designated critical habitat within Biscayne Bay for the manatee[.]" *Id.*; *accord id.* at 62.

The NRC Staff also analyzed the impact of the CCS, including its ammonia content, on (1) ESA-listed species that inhabit the CCS, *see* Biologic Assessment at 32-37, 44, 45-47; DSEIS at 2-23 (Table 2-2, Note (a)); *id.* at 4-6 (Table 4-2, Note (c)); (2) ESA-listed species that may feed in the CCS, *see* Biological Assessment at 41-42, 49-55, 57-58; and (3) ESA-listed species in wetlands. *See id.* at 46-47, 51-53, 57-58, 64.[25]

As shown above, the NRC Staff analyzed the impact of ammonia on threatened and endangered species and sensitive habitats. The sole basis for Joint Intervenors' claim of inadequate analysis is their assertion that the DSEIS includes a more thorough analysis for the West Indian manatee than for other threatened and endangered species. *See* Joint Intervenors' Motion for New Contentions at 24-25. Contrary to Joint Intervenors' understanding, however, different 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 — and, hence, consistent with NEPA — in analyzing the impact of ammonia in proportion to its potential impacts on threatened and en-

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[25] As mentioned *supra* in text, 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]." Biological Assessment at 61; *accord* DSEIS at 4-66. Joint Intervenors offer no facts or expert opinions that impugn the NRC Staff's assumption.

dangered species and their habitats. *See Morton,* 458 F.2d at 834 ("The agency may limit its discussion of environmental impact to a brief statement, when that is the case, that the alternative course involves no effect on the environment, or that [an] effect, briefly described, is simply not significant.").[26]

In sum, Joint Intervenors fail to support their claim that different analytic treatment of species is not justified by the differing circumstances of the different species and their habitats, as required by 10 C.F.R. § 2.309(f)(1)(v), and they fail to demonstrate a genuine dispute of material law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi). Contention 5-Eb is therefore not admissible.

C. Contention 6-E Is Not Admissible

Before we address the admissibility of Contention 6-E, we consider the following two threshold issues: (1) whether Contention 6-E requires a rule waiver pursuant to 10 C.F.R. § 2.335; and (2) whether Contention 6-E satisfies the good cause standard in 10 C.F.R. § 2.309(c). As discussed below, we conclude that a rule waiver is not required and that the good cause standard is satisfied.

1. A Rule Waiver Is Not Required Because Contention 6-E Does Not Challenge a Category 1 Issue[27]

Contention 6-E challenges the DSEIS's conclusion that the CCS's impacts on adjacent surface waters via the groundwater pathway will be small during the SLR term. *See* Joint Intervenors' Motion for New Contentions at 40. Although

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[26] Joint Intervenors err in asserting that the NRC Staff's evaluation of ammonia's impacts on all threatened and endangered species must "consider '[s]everal water quality parameters, including pH, temperature, and salinity; the rate and duration of exposure; and a species' specific physiobiology[.]'" Joint Intervenors' Motion for New Contentions at 23 (emphasis omitted) (quoting Biological Assessment at 60). The above passage from the Biological Assessment quoted by Joint Intervenors was *not* addressing the scope of analysis required by NEPA; rather, it was addressing factors that can "affect the extent to which an organism experiences toxicity from [an elevated] level of ammonia." Biological Assessment at 60. Joint Intervenors fail to explain why a species that is not exposed to an elevated level of ammonia should be expected to experience ammonia toxicity.

[27] As discussed more fully in LBP-19-3, 89 NRC at 257-59, Category 1 issues are those environmental issues with effects that (1) are generic to all, or a specified group of, nuclear power plants; (2) have been analyzed in the Generic Environmental Impact Statement (GEIS), NUREG-1437, and codified by notice and comment rulemaking in 10 C.F.R. Part 51; (3) need not be addressed on a site-specific basis by a license renewal applicant in the ER or by the NRC Staff in the DSEIS; and (4) cannot be litigated in NRC adjudicatory proceedings unless a litigant obtains a rule waiver pursuant to 10 C.F.R. § 2.335. In contrast, Category 2 issues — i.e., environmental issues with effects that are not generic to all, or a specified group of, nuclear power plants — must receive a plant-specific analysis in the ER and DSEIS, and these issues can be litigated in NRC adjudicatory proceedings.

Joint Intervenors argue that a rule waiver is not required, *see* Joint Intervenors' Petition for Waiver at [unnumbered] 6, they nevertheless filed a protective petition for a waiver of 10 C.F.R. §§ 51.53(c)(3) and 51.71(d), and Appendix B to 10 C.F.R. Part 51, Subpart A. *See id.* We conclude — in agreement with all the parties — that a rule waiver is not required.

When FPL prepared the ER, it treated the issue raised in Contention 6-E as a Category 1 issue based on its conclusion that "the Category 1 issue, 'Altered salinity gradients,' [was] applicable to Turkey Point[.]" DSEIS at 4-21. When the NRC Staff prepared the DSEIS, it determined that FPL should not have treated this matter as a Category 1 issue because "the GEIS (NUREG-1437) did not consider how a nuclear power plant [like Turkey Point Units 3 and 4] with a cooling pond in a salt marsh may indirectly impact the water quality of adjacent surface water bodies via a groundwater pathway." *Id.* As the NRC Staff explained, unlike the Category 1 configuration described in the GEIS, Turkey Point Units 3 and 4 are not located on an estuary where "changes in salinity [are] due to the operational effects of intake and discharge structures in estuaries." *Id.* at 4-22. Rather, "[a]t Turkey Point, the intake and discharge structures associated with Units 3 and 4 are located within the enclosed CCS, which does not directly discharge to the surface waters of Biscayne Bay." *Id.* Given Turkey Point's unique configuration, the NRC Staff concluded that the issue of "water quality impacts on adjacent water bodies (plants with cooling ponds in salt marshes)" is not a Category 1 issue, *see id.* at xvii, and the NRC Staff therefore analyzed the matter as a Category 2 issue. *See id.* at 4-21 to 4-23.

Under these circumstances, states the NRC Staff, Joint Intervenors need not obtain a rule waiver because Contention 6-E raises "a new issue that was not addressed in the GEIS as . . . a Category 1 . . . issue." NRC Staff's Answer at 32 n.127; *accord* Tr. at 270 (NRC Staff concedes that a waiver is not required to adjudicate Contention 6-E). FPL likewise concedes that a rule waiver is not required to adjudicate Contention 6-E, *see* Tr. at 270, given "the NRC Staff's determination in the DSEIS to treat this as a new issue and to prepare a site-specific analysis (thereby treating the issue as the functional equivalent of a Category 2 issue)." FPL's Answer to Waiver Petition at 9. We agree that a rule waiver is not required because Contention 6-E does not challenge a Category 1 issue and, hence, does not raise an impermissible challenge to a regulation.

2. The Good Cause Standard in Section 2.309(c) Is Satisfied

Joint Intervenors argue that Contention 6-E satisfies the good cause standard, *see supra* Part II.A, and therefore is not time-barred. *See* Joint Intervenors' Motion for New Contentions at 31-40. The NRC Staff disagrees, arguing that Joint Intervenors "fail to demonstrate good cause for the filing of [Contention

6-E] almost nine months after the August 1, 2018 deadline for filing initial contentions," and pointing out that Joint Intervenors' expert, Dr. Fourqurean, relies on sources that existed "long before the deadline[.]" NRC Staff's Answer at 37. FPL similarly challenges the timeliness of Contention 6-E, asserting that Joint Intervenors "do not explain how any of [Dr. Fourqurean's] observations constitute new and materially different information, or why they could not have raised such concerns based on the ER." FPL's Answer to Contentions at 32 (emphasis omitted).

We conclude that the good cause standard is satisfied. Contention 6-E challenges the DSEIS's site-specific analysis and conclusion that the CCS's impacts on adjacent surface waters via the groundwater pathway would be small during the SLR term. Contrary to FPL's argument, *see* FPL's Answer to Contentions at 32, Joint Intervenors could not reasonably be expected to have raised this challenge based on the ER because the ER treated this matter as a Category 1 issue. *See* DSEIS at 4-21. The DSEIS, in contrast, viewed the matter as a Category 2 issue involving "new information" and requiring a new "site-specific analysis." *Id.*; *see also* Joint Intervenors' Motion for New Contentions at 39 (new information in the DSEIS is "materially different from what [FPL] presented in the [ER]").

Contention 6-E's challenge is thus based on, and directed at, new information and analysis in the DSEIS that (1) was not previously available; and (2) is materially different from previously available information in the ER, thereby satisfying section 2.309(c)(1)(i) and (ii). Additionally, Joint Intervenors submitted Contention 6-E within the June 24, 2019 deadline established by this Board's April 2019 Scheduling Order, thereby satisfying the timeliness requirement in section 2.309(c)(1)(iii). The good cause standard is satisfied.[28]

3. Contention 6-E Is Not Admissible

Although Contention 6-E is timely and does not require a rule waiver, it fails to satisfy the admissibility standard in 10 C.F.R. § 2.309(f)(1). Contention 6-E

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[28] The timeliness arguments advanced by the NRC Staff and FPL appear to focus on their assertion that the sources relied upon by Joint Intervenors' expert, Dr. Fourqurean, are neither new nor materially different from previously available information. *See* NRC Staff's Answer at 37; FPL's Answer to Contentions at 32. That may be true, but it is quite beside the point for purposes of analyzing the good cause standard here. The salient — and decisive — facts are that Joint Intervenors timely proffered a new contention based on new information in the DSEIS that is materially different from previously available information in the ER. *See* 10 C.F.R. § 2.309(c)(1)(i)-(iii).

Notably, at oral argument, counsel for FPL conceded that the good cause standard would not bar Joint Intervenors from challenging "a new analysis or new information" in the DSEIS. Tr. at 331. In our judgment, that concession fatally undercuts FPL's timeliness argument.

states that "[t]he DSEIS fails to take the requisite 'hard look' at the impacts on surface waters via the groundwater pathway." Joint Intervenors' Motion for New Contentions at 40. This contention disputes the DSEIS's conclusion in section 4.5.1.1 that the CCS's impacts on adjacent surface water bodies via the groundwater pathway would be small during the SLR term, arguing that this conclusion (1) is based on unreliable modeling, *see id.*; (2) improperly substitutes the existence of enforcement requirements and oversight imposed by Florida's Consent Order and Miami-Dade County's Consent Agreement for a proper NEPA analysis, *see id.*; and (3) is contradicted by new reports and an expert opinion submitted by Dr. Fourqurean on behalf of Joint Intervenors. *See id.* at 41-42, 44.

The NRC Staff and FPL argue that Contention 6-E fails to satisfy the contention admissibility standard in 10 C.F.R. § 2.309(f)(1). *See* NRC Staff's Answer at 32-38; FPL's Answer to Contentions at 34-39. We agree. We address the three components of Contention 6-E in turn.

a. The first component of Contention 6-E asserts that the NRC Staff relied on unreliable modeling when it concluded that the CCS's impacts on adjacent surface water bodies via the groundwater pathway will be small during the SLR term. In support of this assertion, Joint Intervenors cite to a single page in the DSEIS, *see* Joint Intervenors' Motion for New Contentions at 41 nn.172 & 173 (citing DSEIS at 3-49), and they make the following claims: (1) "[t]he DSEIS recognizes that [FPL's] efforts to reduce salinity in the [CCS] through the addition of water pumped from the Upper Floridan aquifer have been unsuccessful," *id.* at 41; (2) the "effort to 'freshen' the [CCS] did not achieve the 34 [practical salinity units (PSU)] annual average as predicted by [FPL's] modelers," *id.*; and (3) the DSEIS's conclusions regarding CCS salinity impacts are based on "unsupported assertions by [FPL's] modelers that more favorable climatic conditions will resolve the problem." *Id.* at 43-44. In our judgment, Joint Intervenors' claims are based on an erroneous view of the DSEIS's analyses and, accordingly, do not support the contention or give rise to a genuine dispute of material fact.

The DSEIS explains that FPL has numerically modeled CCS operation with a focus on quantifying the volumes of water and the mass of salt entering and exiting the CCS. *See* DSEIS at 3-49. The models are used as tools "to understand and predict different aspects of the CCS," including "the effectiveness of [FPL's] mitigation measures." *Id.*

The following passage from the DSEIS supports the conclusion that the NRC Staff independently assessed the reasonableness of FPL's modeling:

> The most recent modeling was conducted by Tetra Tech for FPL. The focus of

> this modeling was to quantify the volumes of water and the mass of salt entering and exiting the CCS (FPL 2012a). Model calculations for the various components of the CCS incorporate hydrological, chemical, and meteorological data collected in and around the CCS (FPL 2012a). Selected model inputs were adjusted to calibrate the model against observed changes in CCS water and salt storage. The calibration minimized differences between simulated and observed salt and water storage changes within the CCS. The calibration process builds confidence that the model will produce adequate predictions of CCS behavior (FPL 2014b).

DSEIS at 3-49.

As germane to Joint Intervenors' allegations underlying the first component of Contention 6-E, the DSEIS states in pertinent part:

> In 2014, Tetra Tech used numerical models to estimate the volume of Upper Floridan aquifer water that would be required to reduce CCS water salinity to seawater range. The modeling exercise produced an estimate that with the addition of 14 [million gallons per day (mgd)] (53,000 [cubic meters per day (m^3/day)]) of Upper Floridan aquifer water that had a salinity of 2 PSU it would require less than a year to reduce salinities in the CCS to 35 PSU (Tetra Tech 2014a). However, while FPL then added an average of 12.8 mgd (48,500 m^3/day) of Upper Floridan aquifer brackish water to the CCS from the beginning of November 2016 to the end of May 2017, salinities in the CCS did not go down to 35 PSU (FPL 2017a). Rather, at the end of May 2017, average salinity concentrations in the CCS were 64.9 PSU (FPL 2017b).
>
> Comparing CCS data and model results, the modelers concluded that during this period (most of which occurred during the dry season), evaporation rates exceeded precipitation rates. . . . However, the addition of Upper Floridan aquifer water helped to moderate the effects of the dry season (typically, November–April) on the CCS. For example, CCS salinities during the dry seasons of 2014 and 2015, which were not as dry as 2017, exceeded 90 PSU, while the addition of brackish water from the Upper Floridan aquifer and saltwater from the marine wells was effective in keeping CCS salinities below 70 PSU in the 2017 dry season. The modelers anticipate that under more favorable climatic conditions (e.g., less severe dry seasons), the addition of Upper Floridan aquifer water should help to reduce CCS water salinities to 34 PSU (FPL 2017a, FPL 2017b).

DSEIS at 3-49. Additionally, the DSEIS states that if FPL fails to reach an annual average salinity of 34 PSU or lower within four years of implementing freshening activities (i.e., by May 2021, *see* Tr. at 386, 416), the Consent Or-

der with Florida requires FPL to submit a plan detailing additional mitigation measures, and a revised timeframe for achieving the salinity target. *See id.*[29]

Contrary to Joint Intervenors' claim, *see* Joint Intervenors' Motion for New Contentions at 41, a fair reading of the DSEIS does not establish that FPL's efforts to reduce the salinity in the CCS have been unsuccessful; rather, the DSEIS shows that FPL's freshening efforts have achieved a measure of success.[30] Nor, contrary to Joint Intervenors' speculation, *see id.,* does the fact that FPL's freshening efforts have not yet achieved a CCS salinity level of 34 PSU raise a credible inference that FPL's model is fatally flawed or that its freshening efforts are ultimately doomed to failure.[31] Finally, contrary to Joint Intervenors' claim, *id.* at 43-44, the DSEIS does not indicate that FPL's model relies on more favorable climatic conditions in the future as an essential assumption for achieving a CCS salinity of 34 PSU; rather, the DSEIS discusses the observed effects of drier conditions, and the anticipated effects of less severe dry seasons, on the model predictions and results.[32]

Because we conclude that Joint Intervenors' assertions in support of the first component of Contention 6-E are based on an erroneous view of the DSEIS's analyses, that aspect of Contention 6-E is inadmissible for failing to provide the necessary support, as required by 10 C.F.R. § 2.309(f)(1)(v), and for failing to

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[29] The Consent Order between FPL and Florida states in relevant part:

> If FPL fails to reach an annual average salinity of at or below 34 PSU by the end of the fourth year of freshening activities [i.e., by May 2021, *see* Tr. at 386, 416], within 30 days of failing to reach the required threshold, FPL shall submit a plan to [Florida] detailing additional measures, and a timeframe, that FPL will implement to achieve the threshold. Subsequent to attaining the threshold in the manner set forth above, if FPL fails more than once in a 3 year period to maintain an average annual salinity of at or below 34 PSU, FPL shall submit, within 60 days of reporting the average annual salinity, a plan containing additional measures that FPL shall implement to achieve the threshold salinity level.

DSEIS at 3-47 (quoting Consent Order).

[30] *See* DSEIS at 3-49 (observing that FPL's freshening efforts in the CCS during the 2017 dry season were effective in achieving a salinity level of 64.9 PSU, which is substantially lower than the greater-than-90 PSU level that existed in the 2014 and 2015 dry seasons that were wetter than the 2017 dry season).

[31] As the DSEIS states, *see* DSEIS at 3-49, pursuant to the Consent Order with Florida, the targeted deadline for FPL to reach a CCS salinity level of 34 PSU is May 2021. *See* Tr. at 386, 416; *supra* note 29. The DSEIS also shows that the NRC Staff independently assessed the reasonableness of the model underlying the freshening plan upon which that deadline is based. *See* DSEIS at 3-49. Joint Intervenors fail to show a genuine dispute of material fact exists with regard to that timeline or the reasonableness of the model upon which that timeline is based.

[32] *See* DSEIS at 3-49. As counsel for the NRC Staff observed, the reference in the DSEIS about "more favorable climatic conditions" was "a qualitative statement" recognizing that "weather conditions can affect the outcomes." Tr. at 372-73. We agree that the reference, reasonably read in context, simply "indicate[s] that a return to more . . . historically normal weather conditions, would result in more favorable conditions in the CCS." *Id.* at 374.

show a genuine dispute on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).

b. The second component of Contention 6-E asserts that the NRC Staff's conclusion in section 4.5.1.1 of the DSEIS that the CCS's impacts on adjacent surface water bodies via the groundwater pathway will be small improperly "substitutes the existence of permit requirements and oversite [sic] [by Florida and Miami-Dade County] for a proper NEPA analysis." Joint Intervenors' Motion for New Contentions at 40; *see also id.* at 43 ("The NRC Staff's conclusion [incorrectly] presumes that compliance with the [Florida] Consent Order and the Miami-Dade Consent agreement will effectively manage salinity conditions in the [CCS] and therefore prevent adverse impacts on adjacent surface water bodies."). We conclude that this aspect of Contention 6-E is inadmissible for two reasons.

First, contrary to Joint Intervenors' assertion, the NRC Staff did not — in abdication of its NEPA responsibilities — base its conclusion in section 4.5.1.1 of the DSEIS solely on the existence of enforcement requirements and continuing oversight of Florida and Miami-Dade County. As discussed *supra* Part III.C.3.a, the NRC Staff's conclusion is based, *inter alia,* on (1) the Staff's independent assessment of FPL's modeling for freshening the CCS; and (2) the Staff's review of FPL's freshening plans and its progress in achieving freshening goals.[33] Because this aspect of Contention 6-E fails to acknowledge the full basis underlying the NRC Staff's conclusion in section 4.5.1.1 of the DSEIS, it is grounded on an erroneous factual predicate, which renders it inadmissible for failing to provide the necessary factual support, as required by 10 C.F.R. § 2.309(f)(1)(v), and for failing to show a genuine dispute on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).

Second, insofar as Joint Intervenors suggest that NEPA proscribes the NRC Staff from considering enforcement requirements and oversight activities by

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[33] The DSEIS also describes the structure and physical operation of the CCS, *see* DSEIS § 3.1.3.2; the CCS's connection with Biscayne Aquifer groundwater, *see id.*; and the Biscayne Aquifer's connection with surface water in Biscayne Bay and Card Sound. *See, e.g., id.* §§ 3.5.1, 3.5.1.1, 4.5.1.1. The DSEIS describes recent studies to evaluate potential effects of CCS operations via the movement of groundwater from the CCS to adjacent surface water bodies and explains that, in response to enforcement requirements imposed by Florida and Miami-Dade County, "FPL conducts an extensive water quality monitoring program that includes the CCS, Biscayne Bay, Card Sound, marshland, mangrove areas, and canals adjacent to the CCS." *Id.* § 3.5.1.4. These discussions in the DSEIS support the conclusion that the NRC Staff complied with NEPA's "hard look" requirement when assessing the impacts on surface water via the groundwater pathway, which, in turn, belies Joint Intervenors' assertion that the NRC Staff "substitute[d]" the existence of enforcement and oversight by Florida and Miami-Dade County for a proper NEPA analysis. *See* Joint Intervenors' Motion for New Contentions at 40.

local authorities when preparing the DSEIS, they are incorrect as a matter of law. As we explained in a previous decision in this case:

> Pursuant to binding case law, we accord "substantial weight" to the determination of [Florida and Miami-Dade County] that FPL will comply with its legal obligations. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 527 (1977) (holding that a finding of environmental acceptability made by a competent state authority pursuant to a thorough hearing "is properly entitled to substantial weight in the conduct of our own NEPA analysis.") ([brackets omitted and] internal quotation marks omitted); *cf. Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-03-2, 57 NRC 19, 29 (2003) (absent evidence to the contrary, Commission will assume that licensee will comply with license obligations). FPL's past violations in this case, standing alone, do not constitute sufficient information to give rise to a genuine dispute with the assumption that [Florida and Miami-Dade County] will enforce, and FPL will comply with, the legally mandated mitigation measures . . . . *See Florida Power & Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), CLI-16-18, 84 NRC 167, 174-75 n.38 (2016).

LBP-19-3, 89 NRC at 282-83.[34] To the extent that Contention 6-E attacks the NRC Staff's consideration of the enforcement and oversight activities of Florida and Miami-Dade County, it is inadmissible for failing to show a genuine dispute on a material issue of law, as required by 10 C.F.R. § 2.309(f)(1)(vi).

c. The third component of Contention 6-E asserts that new reports and an expert opinion submitted by Dr. Fourqurean contradict the DSEIS's conclusion in section 4.5.1.1 that the CCS's impacts on adjacent surface water bodies via the groundwater pathway will be small. *See* Joint Intervenors' Motion for New Contentions at 41-42, 44. However, except for their reference to Dr. Fourqurean's expert opinion, *see id.* at 44, Joint Intervenors fail to specify any "new report" (much less a specific statement in a new report) to support the contention's assertion. This failure renders the third component of Contention 6-E inadmissible to the extent it purports to rely on unidentified "new reports," because it fails to provide supporting facts, as required by 10 C.F.R. § 2.309(f)(1)(v). As the Commission has admonished:

> [I]t is not up to our [licensing] boards to search through pleadings or other materials

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[34] In the same decision, we observed that an agency's NEPA responsibilities can include the review of relevant enforcement and oversight activities. *See* LBP-19-3, 89 NRC at 283 n.56. Joint Intervenors provide no factual basis for concluding that the NRC Staff's NEPA review in the instant case was deficient. *See, e.g.,* DSEIS at 3-47, 3-62 to 3-73 (discussing enforcement and oversight activities of Florida and Miami-Dade County).

> to uncover arguments and support never advanced by the petitioners themselves; . . . . It is a "contention's proponent, not the licensing board," that "is responsible for formulating the contention and providing the necessary information to satisfy [its] . . . admission[.]"

USEC Inc. (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 457 (2006) (quoting *Statement of Policy on Conduct of Adjudicatory Proceedings,* CLI-98-12, 48 NRC 18, 22 (1998)).

Regarding Dr. Fourqurean's opinion, Joint Intervenors make a passing reference to "phosphorus loadings attributable to the [CCS]" and assert broadly that Dr. Fourqurean's report "demonstrates impacts on water quality in Biscayne Bay via the groundwater pathway are impacting seagrass communities and that continued operation of the [CCS] is likely to violate narrative water quality standards." Joint Intervenors' Motion for New Contentions at 42, 44. This concern with phosphorus loadings overlooks that, as discussed in the DSEIS, in May 2016, FPL submitted to Florida the monitoring results from certain surface water monitoring stations in channels adjacent to the CCS for certain nutrients, including total phosphorus, and Florida "reviewed this information and determined that no exceedances of surface water quality standards were detected in the Biscayne Bay monitoring[.]" DSEIS at 3-51. Joint Intervenors (and Dr. Fourqurean) simply speculate that phosphorus in Biscayne Bay must originate from the CCS (as opposed to other known sources, such as agricultural runoff, *see* DSEIS at 3-50), and they speculate that water quality violations are "likely." *See* Joint Intervenors' Motion for New Contentions at 44. Such speculation, however, does not constitute the factual support required by section 2.309(f)(1)(v), nor does it raise a genuine dispute with the DSEIS on a material issue of law or fact, as required by section 2.309(f)(1)(vi).[35] This component of Contention 6-E is therefore not admissible.

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[35] In support of Contention 6-E, Joint Intervenors make the cursory assertion that Dr. Fourqurean's report demonstrates that CCS operations — specifically the discharge of nutrients, including phosphorus, into Biscayne Bay — are impacting seagrass communities and are likely to violate water quality standards. *See* Joint Intervenors' Motion for New Contentions at 42, 44. Joint Intervenors fail to acknowledge, however, that the DSEIS discusses nutrients (including phosphorus) in the CCS, *see* DSEIS at 3-42 to 3-44; the source of nutrients in the CCS, *see id.* at 3-44; the adverse impacts of nutrients on the environment, including seagrass, *see id.* at 3-44, 3-50; how those impacts have changed over time, *see id.* at 3-44; and FPL's efforts to monitor and address CCS nutrient impacts to groundwater and surface water resources. *See id.* at 3-48 to 3-53. Nor does Contention 6-E acknowledge the nutrient management plan that FPL implemented in 2017 pursuant to its Consent Order with Florida. That plan "is composed of three primary nutrient management strategies: (1) active algae and nutrient removal, (2) canal and berm maintenance, and (3) salinity reduction and controlled flow management." *Id.* at 3-44. As the DSEIS explains:

(Continued)

D. Contention 7-E Challenges a Category 1 Issue, and Joint Intervenors Fail to Satisfy the Rule Waiver Criteria in 10 C.F.R. § 2.335[36]

Contention 7-E states that "[t]he DSEIS fails to take the requisite 'hard look' at impacts to groundwater quality." Joint Intervenors' Motion for New Contentions at 44. This contention challenges a Category 1 issue — i.e., "groundwater quality degradation (plants with cooling ponds in salt marshes)." 10 C.F.R. pt. 51, subpt. A, app. B, table B-1. We must therefore determine whether Joint Petitioners have satisfied the "substantial burden" imposed by 10 C.F.R. § 2.335 of demonstrating that a rule waiver is warranted. *See Limerick,* CLI-13-7, 78 NRC at 208.

Joint Intervenors urge us to resolve this issue in the affirmative, arguing that they satisfy the four-factor *Millstone* test, *see supra* Part II.C, for obtaining a rule waiver. *See* Joint Intervenors' Petition for Waiver at 6-10 (unnumbered).[37] The NRC Staff and FPL argue that the *Millstone* test is not satisfied and, accordingly, that we must reject Contention 7-E because it is an impermissible challenge to a Commission regulation and, thus, outside the scope of this proceeding. *See*

> Under this nutrient management plan, FPL has performed bench and pilot tests to find the most appropriate active nutrient and algae removal methods for the unique ecology and water chemistry of the CCS. These nutrient and algae removal methods include using chemical flocculants/coagulants, nonchemical means (i.e., physical removal), and aeration. In addition, FPL reviewed Turkey Point canal practices in order to revise them to integrate the goal of minimizing erosion and nutrient inputs from sediment and berm sources (FPL 2017b).

Id. The DSEIS further states that "[t]he impact of . . . nutrients on water quality has been the focus of CCS operational concerns." *Id.* at 4-22. Although increased levels of nutrients reportedly have been "found in local areas adjacent to the CCS, . . . discernable effects from CCS derived . . . nutrients . . . on Biscayne Bay or Card Sound water qualities [have] not been detected." *Id.* In light of the above, and "upon consideration of [Florida's and Miami-Dade County's] existing requirements and their continuing oversight of FPL's remediation efforts," the NRC Staff concluded that CCS impacts on adjacent surface water bodies during the SLR term will be small. *Id.* at 4-23. Nothing in Joint Intervenors' discussion of Contention 6-E demonstrates a genuine dispute of material law or fact with the above discussions and conclusions, as required by section 2.309(f)(1)(vi).

[36] As discussed *supra* note 27, a Category 1 issue is not subject to challenge in an NRC adjudicatory proceeding unless a petitioner obtains a section 2.335 rule waiver.

[37] Joint Intervenors also argue that a waiver is not required because "[n]o NRC regulation prohibits intervenors from challenging new information identified and evaluated by the NRC Staff in a DSEIS with respect to a Category 1 issue." Joint Intervenors' Petition for Waiver at 6 (unnumbered). We summarily reject this argument as foreclosed by Commission case law. *See e.g., Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 384 n.39 (2012) ("Fundamentally, any contention on a 'Category 1' issue amounts to a challenge to our regulation that bars challenges to generic environmental findings.") (quoting *Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 20 (2007)).

NRC Staff's Answer at 56-58; FPL's Answer to Waiver Petition at 10-18. We agree with the NRC Staff and FPL.[38]

As discussed *supra* Part II.C, the Commission uses the four-factor *Millstone* test for resolving rule waiver petitions. Pursuant to that test, to obtain a rule waiver, Joint Intervenors must show the following:

> (i) the rule's strict application would not serve the purposes for which it was adopted;
>
> (ii) the movant has alleged special circumstances that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;
>
> (iii) those circumstances are unique to the facility rather than common to a large class of facilities; and
>
> (iv) a waiver of the regulation is necessary to reach a significant safety [or environmental] problem.

Millstone, CLI-05-24, 62 NRC at 559-60 (2005) (internal quotations omitted). Joint Intervenors' waiver request founders fatally on the first *Millstone* factor.

Joint Intervenors argue that the first *Millstone* factor is satisfied because "[a]llowing a petitioner to challenge the adequacy of analysis pertaining to new information regarding a Category 2 issue while preventing such challenge with respect to new information regarding a Category 1 issue . . . would not serve the purposes for which sections 51.53(c)(3) and 51.71(d) and Appendix B were adopted." Joint Intervenors' Petition for Waiver at 7-8 (unnumbered). Joint Intervenors argue further that "prevent[ing] challenges to analysis of new information would be contrary to NEPA's requirement that agencies 'broad[ly] disseminat[e]' information to 'permit[ ] the public and other government agencies to react to the effects of a proposed action at a meaningful time.'" *Id.* at 7 (unnumbered) (quoting *Marsh v. Or. Nat. Res. Council,* 490 U.S. 360, 371 (1989)).

Although new information related to a Category 1 issue may provide a basis for satisfying the first *Millstone* factor, Joint Intervenors are incorrect to the extent they argue that new information will always satisfy that factor.[39] Rather,

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[38] The NRC Staff and FPL also argue that Contention 7-E should be rejected on timeliness grounds for failing to satisfy the good cause standard in 10 C.F.R. § 2.309(c). *See* NRC Staff's Answer at 42; FPL's Answer to Contentions at 40. Because we reject Contention 7-E as an impermissible challenge to a Category 1 issue, we need not consider the timeliness issue.

[39] Joint Intervenors appear to argue that the mere existence of new information regarding a Category 1 issue satisfies the *first* Millstone factor because (1) such information essentially transforms

(Continued)

a "petitioner must show that *new and significant* information, unique to a particular plant, exists . . . such that the Category 1 finding in 10 C.F.R. Part 51, Subpart A, Appendix B should be waived to litigate the issue in a site-specific proceeding." *Limerick,* CLI-13-7, 78 NRC at 213 (emphasis added). The Commission has stated that its designation of an environmental issue as a Category 1 issue "reflects the NRC's expectations that our NEPA obligations have been satisfied with reference to our previously conducted environmental analysis in the GEIS." *Id.* at 212-13. Applying that statement to the present context — in particular, to the first *Millstone* factor — the Commission's designation of "groundwater quality degradation (plants with cooling ponds in salt marshes)" as a Category 1 issue whose environmental impacts would be "small" during the SLR period, 10 C.F.R. pt. 51, subpt. A, app. B, table B-1, "reflects the NRC's expectations that [its] NEPA obligations have been satisfied with reference to [its] previously conducted environmental analysis in the GEIS." *Limerick,* CLI-13-7, 78 NRC at 212-13.

Accordingly, in our judgment, the *purpose* of the NRC's designation of "groundwater quality degradation (plants with cooling ponds in salt marshes)" as a Category 1 issue is satisfied here *unless* Joint Intervenors show that new information is significant insofar as it would lead to a determination that the environmental impact during the SLR period will be greater than "small." 10 C.F.R. pt. 51, subpt. A, app. B, table B-1. Such a showing would evince a conclusion, consistent with the first *Millstone* factor, that the strict application of the Category 1 issue being challenged in Contention 7-E would not serve the purpose for which it was adopted. *See* FPL's Answer to Waiver Petition at 14-15; Tr. at 284, 287-88, 304-05, 307. Joint Intervenors failed to make this showing. *See supra* note 39.

Joint Intervenors nevertheless opine that they "have not yet had an opportunity to review or challenge the sufficiency of [the DSEIS's analysis of new

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a Category 1 issue into a Category 2 issue; and (2) a contrary conclusion would contravene NEPA. *See* Joint Intervenors' Petition for Waiver at 7-8 (unnumbered). The first rationale is foreclosed by Commission case law, which holds that "a waiver [is] required to litigate any new and significant information relating to a Category 1 issue," because "'[a]djudicating Category 1 issues site by site based merely on a claim of "new and significant information," would defeat the purpose of resolving generic issues in a GEIS.'" *Limerick,* CLI-12-19, 76 NRC at 384 (quoting *Vermont Yankee,* CLI-07-3, 65 NRC at 21). That new information has been identified does not, contrary to Joint Intervenors' understanding, automatically convert an issue from Category 1 to Category 2. Joint Intervenors' second rationale is likewise foreclosed by the reasoning in the above-cited *Limerick* decision, CLI-12-19, as well as by federal appellate case law, which holds that the NRC's "divergent treatment of generic and site-specific issues is reasonable" and permitted by NEPA. *Massachusetts v. NRC,* 522 F.3d 115, 120 (1st Cir. 2008); *see also NRDC v. NRC,* 823 F.3d 641, 652 (D.C. Cir. 2016) (holding that the NRC's rule waiver process for Category 1 issues comports with NEPA, which "'does not mandate particular hearing procedures and does not require hearings'") (quoting *Beyond Nuclear v. NRC,* 704 F.3d 12, 18-19 (1st Cir. 2013)).

information]." Joint Intervenors' Petition for Waiver at 7 (unnumbered). To satisfy section 2.335(b), however, they had an obligation to provide sufficient information, via their petition and accompanying affidavit, to satisfy the four *Millstone* factors, including a showing that the environmental impact to groundwater quality from operation of the CCS during the SLR period would be greater than small. This they failed to do.

Because Joint Intervenors failed to satisfy the first *Millstone* factor, we deny their petition for a rule waiver. Absent a rule waiver, Contention 7-E is outside the scope of this proceeding, *see* 10 C.F.R. § 2.309(f)(1)(iii), because it constitutes an impermissible challenge to a Commission regulation. *See id.* § 2.335(a).

E. Contention 8-E Is Not Admissible

In Contention 8-E, Joint Intervenors assert that "[t]he DSEIS fails to take the requisite 'hard look' at cumulative impacts on water resources." Joint Intervenors' Motion for New Contentions at 47. They specifically challenge the NRC Staff's conclusion that FPL's "'freshening system, combined with proper operation and maintenance of the [CCS], will result in no substantial contribution to cumulative impacts on groundwater quality or associated impacts on surface water quality in Biscayne Bay during the [SLR] period.'" *See id.* at 48 (quoting DSEIS at 4-117). Joint Intervenors ground their challenge on the following two premises: (1) the NRC Staff improperly relies on FPL's "remediation and freshening efforts" that, according to Joint Intervenors, will not be successful, *id.* at 49; and (2) the NRC Staff "unlawfully substitutes the existence of state and county requirements and oversite [sic] for a proper NEPA analysis." *Id.*

The NRC Staff and FPL argue that Contention 8-E fails to satisfy the contention admissibility standard in 10 C.F.R. § 2.309(f)(1). *See* NRC Staff's Answer at 43-45; FPL's Answer to Contentions at 42-43.[40] We agree.

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[40] The NRC Staff and FPL also argue that Contention 8-E fails to satisfy the good cause standard in section 2.309(c), *see supra* Part II.A, because Joint Intervenors did not timely file previously available information. *See* NRC Staff's Answer at 45; FPL's Answer to Contentions at 42. We reject this argument for the reasons discussed *supra* note 28; namely, Joint Intervenors timely proffered a new contention based on, and directed at, new information in the DSEIS that was not in the ER — i.e., the NRC Staff's analysis of cumulative impacts on water resources caused by the CCS and the hypersaline plume. *See* Joint Intervenors' Motion for New Contentions at 48 (quoting DSEIS at 4-117); *accord id.* at 25; Tr. at 439-40.

We also decline FPL's invitation to reject Contention 8-E as an impermissible challenge to a Category 1 issue. *See* FPL's Answer to Contentions at 42. Commission regulations explicitly designate "cumulative impacts" as a Category 2 issue that can be challenged in NRC adjudicatory proceedings. *See* 10 C.F.R. pt. 51, subpt. A, app. B, table B-1. Although a petitioner may not improperly cloak a Category 1 issue with a Category 2 label and thereby avoid the rule waiver

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1. Regarding the first premise underlying Contention 8-E, Joint Intervenors argue that the NRC Staff improperly relies on the success of FPL's remediation and freshening efforts for the conclusion that the cumulative impacts of the operation of Turkey Point Units 3 and 4 during the SLR period on groundwater and surface water quality in Biscayne Bay will be insubstantial. *See* Joint Intervenors' Motion for New Contentions at 48-49. In particular, Joint Intervenors contest the DSEIS's conclusion that "[FPL's] recovery well system will be 'successful' in retracting the hypersaline plume before the end of the current license period[.]" *Id.* at 48.

At the outset, we note that Joint Intervenors fail to specify any factual statement, document, or expert opinion to support this aspect of the contention. This failure alone renders Contention 8-E inadmissible. As the Commission has declared, "[i]t is a 'contention's proponent, not the licensing board,' that 'is responsible for formulating the contention and providing the necessary information to satisfy [its] . . . admission.'" *USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC at 457 (quoting *Statement of Policy on Conduct of Adjudicatory Proceedings,* CLI-98-12, 48 NRC at 22).[41]

In any event, Joint Intervenors provide no support for their assertion that the NRC Staff failed to take NEPA's required "hard look" at the proposed action's cumulative impacts on water resources. Joint Intervenors point to a portion of a single sentence in the DSEIS, which says in full:

> As stated in Section 4.5.1.2 of this [DSEIS], current modeling projections indicate that FPL's recovery well system will be successful in retracting the hypersaline plume back to within the boundaries of the CCS within 10 years of the startup

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requirement in section 2.335, *see* Tr. at 441-42, 448-49; *cf.* LBP-19-3, 89 NRC at 282 (rejecting as Contention 1 issues discrete components of an environmental contention that purported to challenge the ER's cumulative impacts analysis), we agree with the NRC Staff and Joint Intervenors that Contention 8-E does not suffer from that infirmity. *See* Tr. at 441 (counsel for NRC Staff states that Contention 8-E raises a "Category 2 site-specific issue"); Joint Intervenors' Motion for New Contentions at 48 (Contention 8-E challenges "a Category 2 issue that is subject to a site-specific analysis"). Rather, as discussed in the above paragraph, Contention 8-E focuses on the NRC Staff's analysis of cumulative impacts on water resources caused by the CCS and the hypersaline plume, implicating issues that are akin to the Category 2 issue in Contention 6-E. *See supra* Part III.C.

[41] We acknowledge that Joint Intervenors' motion includes a section (Section IV.B) entitled "New Information" that summarizes their "expert opinions" and "new reports." *See* Joint Intervenors' Motion for New Contentions at 25-31. In the section of their motion arguing that Contention 8-E satisfies the admissibility requirement in section 2.309(f)(1)(v) (i.e., Section IV.F), Joint Intervenors include a solitary citation (without any discussion or explanation) to Section IV.B. *See id.* at 49. This passing and non-descript reference to a lengthy section in their motion fails to satisfy section 2.309(f)(1)(v), which requires a petitioner to provide "a concise statement of the alleged facts or expert opinions" that support the contention, along with "references to the specific sources and documents[.]" 10 C.F.R. § 2.309(f)(1)(v).

(i.e., by about 2028) while also retracting the saltwater interface back to the east from its current location.

DSEIS at 4-116; *see* Joint Intervenors' Motion for New Contentions at 48. But that sentence does not address, much less impugn, the NRC Staff's review of the relevant groundwater modeling. In this regard, the DSEIS states as follows:

> In order to stop and then retract the westward migration of hypersaline groundwater originating from the CCS, the 2016 [Florida] Consent Order requires FPL to permit, construct, and operate a recovery well system to remediate the hypersaline plume in the Biscayne aquifer. This requirement is also consistent with the 2015 Consent Agreement between FPL and Miami-Dade County . . . .
>
> * * * *
>
> In its [ER], FPL stated that groundwater modeling of the recovery well system operation indicates that the westward migration of the hypersaline plume will be stopped in 3 years of operation, with retraction of the hypersaline plume north and west of the CCS beginning in 5 years. FPL further projects that system operation will achieve retraction of the plume back to the FPL site boundary within 10 years, as required by the 2016 [Florida] Consent Order . . . . FPL is required to conduct periodic continuous surface electromagnetic mapping surveys to delineate the extent of the hypersaline plume in order to measure the success of recovery and remediation efforts and report the results to [Florida]. After 5 years of system operation, FPL must provide a report to [Florida] that evaluates the effectiveness of the recovery well system in retracting the hypersaline plume to the L-31E Canal within 10 years. If FPL's report shows that the remediation efforts will not retract the hypersaline plume to the L-31E Canal within 10 years, FPL must develop and submit an alternative plan to [Florida] for its approval.

DSEIS at 3-70 to 3-71 (citations omitted); *see also id.* at 3-73 (discussing FPL's modeling "analysis using the variable density, three-dimensional groundwater model . . . to 'allocate relative contributions of other entities or factors to the movement of the saltwater interface'"); *id.* at 4-27.

The DSEIS also reviewed the layout, operation, and efficacy of the hypersaline groundwater recovery well system:

> The installed full-scale hypersaline groundwater recovery wells system consists of 10 hypersaline groundwater recovery (extraction) wells (i.e., numbered RW-1 through RW-10), generally located along the western edge of the CCS, and the Class 1 deep injection well (DIW-1) for disposal of the recovered hypersaline groundwater . . . . Between September 2016 and May 2018, the testing and recovery well systems have extracted and disposed of approximately 8,285 million gallons (31.4 million [cubic meters]) of hypersaline groundwater, with the removal of 1.92 million tons (1.74 million metric tons) of salt from the Biscayne aquifer.

> Section 3.5.2.3, "Groundwater Use," provides additional details on the groundwater well system.

DSEIS at 3-70 (citation omitted); *see also id.* at 3-67 to 3-73 (discussing FPL's groundwater monitoring program).

The DSEIS acknowledged that groundwater models "entail substantial uncertainty" because they are "approximations of natural systems and are dependent on a number of input variables based on assumptions regarding present and future environmental conditions." DSEIS at 4-27. Nevertheless, based on the NRC Staff's review of (1) FPL's groundwater modeling and modeling results; (2) the operation and efficacy of FPL's hypersaline groundwater recovery well system; (3) FPL's groundwater monitoring program; and (4) the regulatory enforcement and oversight of Florida and Miami-Dade County, the NRC Staff concluded that FPL's groundwater remediation efforts would be successful. *See id.* at 4-27 to 4-28; 4-116 to 4-117. Joint Intervenors do not specify a deficiency in the NRC Staff's review, nor do they provide the necessary support to show the existence of a genuine dispute of material law or fact. This aspect of Contention 8-E is therefore not admissible pursuant to 10 C.F.R. § 2.309(f)(1)(vi).[42]

2. Regarding the second premise underlying Contention 8-E, Joint Intervenors assert that the NRC Staff "unlawfully substitutes the existence of state and county requirements and oversite [sic] for a proper NEPA analysis." Joint Intervenors' Motion for New Contentions at 49. This is the identical argument that Joint Intervenors advanced in support of Contention 6-E, and we reject it here for the same two reasons that we rejected it there. *See supra* Part III.C.3.b. First, contrary to Joint Intervenors' assertion, the NRC Staff did not base its cumulative impacts conclusion in section 4.16.2.1 of the DSEIS solely on the existence of state and county enforcement requirements and oversight. Rather, as discussed *supra* Part III.E.1, the NRC Staff also considered (1) FPL's groundwater modeling and modeling results; (2) the operation and efficacy of FPL's hypersaline groundwater recovery well system; and (3) FPL's groundwater monitoring program. Insofar as Contention 8-E fails to acknowledge all the factors underlying the NRC Staff's cumulative impacts conclusion, it is based on an erroneously incomplete factual predicate, which renders it inadmissible for failing to provide supporting alleged facts, as required by section 2.309(f)(1)(v),

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[42] In support of their assertion that Contention 8-E raises a genuine dispute on a material issue of law or fact, Joint Intervenors rely on the information and arguments they advanced in support of Contention 6-E. *See* Joint Intervenors' Motion for New Contentions at 49. That reliance is misplaced in light of our conclusion, *see supra* Part III.C.3, that Contention 6-E fails to satisfy section 2.309(f)(1)(vi).

and for failing to show a genuine dispute on a material issue of law or fact, as required by section 2.309(f)(1)(vi).

Second, and in any event, Joint Intervenors are incorrect as a matter of law in their notion that NEPA proscribes the NRC Staff from considering local enforcement and oversight activities when preparing the DSEIS. *See supra* text accompanying note 34. Contention 8-E is therefore not admissible.

F. Contention 9-E Is Not Admissible

In Contention 9-E, Joint Intervenors assert that "[t]he DSEIS fails to take the requisite 'hard look' at impacts to groundwater use conflicts." Joint Intervenors' Motion for New Contentions at 49. This contention disputes the NRC Staff's conclusion in section 4.5.1.2 that impacts on groundwater use conflicts from continued operation of the Turkey Point units during the SLR period will be small for the Biscayne aquifer and moderate for the Upper Floridan aquifer. *See id.* at 51. According to Joint Intervenors, "the rate of groundwater withdrawal necessary to hit salinity targets and retract the hypersaline plume is substantially higher than evaluated in the DSEIS," *id.* at 52, which will result in greater groundwater use conflicts than contemplated in the DSEIS. *See id.* To support this contention, Joint Intervenors rely on the expert opinion of Mr. E.J. Wexler. *See id.* at 52 nn.206 & 207 (citing to Declaration of E.J. Wexler at 2 (June 28, 2019) [hereinafter Wexler Decl.]).[43]

The NRC Staff and FPL argue that Contention 9-E fails to satisfy the contention admissibility standard in 10 C.F.R. § 2.309(f)(1). *See* NRC Staff's Answer at 47-51; FPL's Answer to Contentions at 45-47.[44] We agree.

Joint Intervenors' sweeping assertion that the DSEIS fails to take a hard look at impacts on groundwater use conflicts ignores the DSEIS's extensive consideration of that topic. *See* Joint Intervenors' Motion for New Contentions at 49-50. The DSEIS's analyses of groundwater use conflicts for the Biscayne and Upper Floridan aquifers include detailed discussions on FPL's water withdrawal rates,

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[43] In support of Contention 9-E, Joint Intervenors also argue that the NRC Staff "unlawfully substitute[d] the existence of state and county requirements and oversite [sic] for a proper NEPA analysis." Joint Intervenors' Motion for New Contentions at 50. For the reasons discussed *supra* Parts III.C.3.b and III.E.2, this argument lacks merit.

[44] The NRC Staff and FPL also argue that Contention 9-E fails to satisfy the good cause standard in section 2.309(c), *see supra* Part II.A, because Joint Intervenors did not timely file previously available information. *See* NRC Staff's Answer at 51-52; FPL's Answer to Contentions at 44-45. We reject this argument for the reasons discussed *supra* notes 28 and 40; namely, Joint Intervenors timely proffered a new contention based on, and directed at, new information in the DSEIS that was not in the ER — i.e., the NRC Staff's discussion of groundwater modeling as it relates to groundwater use conflicts. *See* Joint Intervenors' Motion for New Contentions at 51-52; *accord id.* at 25.

see DSEIS at 4-28 to 4-33; the relevant State water withdrawal permits and authorizations, *see id.* at 4-29 to 4-31; FPL's legal obligations under those permits and authorizations, including withdrawal allocations and mitigative actions to avoid harm to other groundwater users, *see id.* at 4-29 to 4-32; and the specific modeling and confirmatory evaluations performed by FPL and State regulators to support issuance of the permits.[45] *See id.* at 4-29 to 4-33.

Informed by the above analyses in the DSEIS, the NRC Staff made the following determination:

> [FPL reasonably] predicts retraction of the westward [hypersaline] plume to the edge of the CCS by about 5 years and complete retraction within 10 years (i.e., by about 2028), with minor aquifer drawdown impacts. Thus, FPL would achieve the compliance deadline for retraction of the hypersaline plume and its effect on the location of the regional saltwater interface, as set forth in its 2016 consent order with [Florida] (FDEP 2016e), without undue impact on groundwater resources or producing unintended groundwater use conflicts.

DSEIS at 4-30; *accord id.* at 4-32.

The NRC Staff summarized its groundwater use conflicts evaluation as follows:

> In summary, based on the evaluation presented above, the NRC Staff anticipates that operation of the recovery well system will not result in any interference with existing permitted uses of groundwater, will not impact natural resources, and will not result in lateral movement of the saltwater interface in the Biscayne aquifer. Further, intermittent operation of FPL's marine wells is not expected to substantially alter groundwater flow or result in any substantial drawdown in the Biscayne aquifer. For the Upper Floridan aquifer, groundwater modeling performed to evaluate aquifer response from continued operation of FPL's freshening well system indicates the potential for appreciable drawdowns in offsite production wells, including in potable water wells located approximately 10 [miles] (16 [kilometers]) from the Turkey Point site. While the projected drawdowns would be noticeable in affected offsite wells, the effects would not be expected to affect water availability or impair the Upper Floridan aquifer as a resource. Consistent with these impacts, the NRC Staff concludes that the potential for groundwater use conflicts

[45] Significantly, the DSEIS states that Florida reviewed FPL's groundwater modeling, and it also performed confirmatory analyses that included a modeling scenario under drought conditions. *See* DSEIS at 4-29 to 4-30. The NRC Staff independently reviewed this material. *See, e.g., id.* at 4-29 ("The NRC Staff reviewed the modeling report (Tetra Tech 2016) as well as the [Florida] report and impacts evaluation that were included in FPL's water use individual permit (Permit No. 13-06251-W) (SFWMD 2017a).").

> from FPL's groundwater withdrawals would be SMALL for the Biscayne aquifer and MODERATE for the Upper Floridan aquifer during the [SLR] term.

DSEIS at 4-33.

Notwithstanding the NRC Staff's consideration of the groundwater use conflicts issue, Joint Intervenors dispute the NRC Staff's conclusions regarding potential groundwater use conflicts for the Biscayne and Upper Floridan aquifers, asserting that the Wexler Declaration supports the following two premises upon which Contention 9-E is grounded: (1) FPL's effort to reduce the CCS salinity to 34 PSU is not working and is unlikely to work in the future; and (2) FPL's effort to mitigate the hypersaline plume is not working and is unlikely to work in the future. *See* Joint Intervenors' Motion for New Contentions at 52. Based on these two premises, Joint Intervenors claim that FPL's groundwater withdrawal for CCS freshening and plume mitigation will be substantially higher than evaluated in the DSEIS, which will give rise to greater groundwater use conflicts than the DSEIS contemplated. *See id.* Joint Intervenors fail, however, to support these two premises, and thus they fail to raise a genuine dispute with the DSEIS on a material issue of law or fact.[46]

First, Mr. Wexler fails to support the premise that FPL's effort to reduce the CCS salinity to 34 PSU is not working and is unlikely to work in the future.[47] As discussed *supra* Part III.C.3.a, where we rejected this identical premise, the DSEIS shows that (1) the targeted deadline for FPL to reach a CCS salinity level of 34 PSU is May 2021; (2) the NRC Staff independently assessed the reasonableness of the model on which that deadline is based; and (3) Joint Intervenors failed to show a genuine dispute of material fact with regard to that timeline or the reasonableness of the model on which the timeline is based. *See supra* note 31. Mr. Wexler likewise fails to provide support to show a genuine dispute of material fact regarding that timeline or the reasonableness of

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[46] In support of their challenge to the NRC Staff's conclusions regarding potential groundwater use conflicts for the Biscayne and Upper Floridan aquifers, Joint Intervenors broadly cite to Section IV.B of their motion, *see* Joint Intervenors' Motion for New Contentions at 52 n.205, and to page 2 of Mr. Wexler's Declaration, *see id.* at 52 nn.206 & 207. Those references describe concerns about groundwater modeling and the NRC Staff's analysis, but they fail to provide a credible factual roadmap showing that those concerns will cause the predicted impacts on groundwater use conflicts to be different from those stated in the DSEIS. This failure, standing alone, renders Contention 9-E inadmissible pursuant to 10 C.F.R. § 2.309(f)(1)(vi) for failing to show a genuine dispute of material fact.

[47] Mr. Wexler simply states that FPL "was unable to achieve freshening of the CCS . . . from November 2016 to May 2017, salinities in the CCS did not go down to 35 PSU (FPL 2017a), at the end of May 2017, average salinity concentrations in the . . . CCS were 64.9 PSU (FPL 2017b)." Wexler Decl. at 4. As we explained *supra* Part III.C.3.a, these statements do not demonstrate that FPL's freshening efforts are not working or that they are likely to fail. *See supra* notes 30-32 and accompanying text.

the model on which the timeline is based, rendering this aspect of Contention 9-E inadmissible pursuant to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

The second premise on which Contention 9-E is based — i.e., the claim that FPL's effort to mitigate the hypersaline plume is not working and is unlikely to work in the future — similarly lacks support. Mr. Wexler asserts that his analysis using FPL's model "shows that without freshening the CCS, the recovery system will not be able to meet the target of retracting the hypersaline water." Wexler Decl. at 2. In other words, Mr. Wexler states that the second premise (i.e., that FPL's current plan to mitigate the hypersaline plume will not succeed) follows inexorably from the first premise (i.e., that FPL's current plan to reduce CCS salinity will not succeed). This is an example of heaping conjecture upon conjecture. As we have shown, the first premise lacks adequate support; it therefore follows that the second premise, to the extent it is grounded on the first premise, likewise lacks adequate support.

Notably, the second premise is identical to the premise Joint Intervenors advanced in support of Contention 8-E. *See* Joint Intervenors Motion for New Contentions at 48 (disputing that "[FPL's] recovery well system will be 'successful' in retracting the hypersaline plume before the end of the current license period"). In rejecting that premise in the context of Contention 8-E, we stated that the NRC Staff's conclusion was "based on its review of (1) FPL's groundwater modeling and modeling results; (2) the operation and efficacy of FPL's hypersaline groundwater recovery well system; (3) FPL's groundwater monitoring program; and (4) the regulatory enforcement and oversight of Florida and Miami-Dade County[.]" *Supra* Part III.E.1. We concluded that Joint Intervenors failed to identify a deficiency in the NRC Staff's review, and they failed to provide the necessary support to show a genuine dispute on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(v) and (vi). *See id.* The second aspect of Contention 9-E suffers from the same infirmities.[48]

Mr. Wexler nevertheless asserts that data from a "new, independently developed model" show that "freshening of the CCS will be difficult to achieve with the volumes of water currently being used and the locations selected for adding the water." Wexler Decl. at 2. Even assuming *arguendo* that Mr. Wexler were correct that mitigation goals will be difficult to achieve under the current plan, that does not establish a genuine dispute of material fact with the DSEIS, because this concern fails to acknowledge the DSEIS's discussion that Florida

[48] Mr. Wexler also claims that "new water quality information" supports his views. *See* Wexler Decl. at 2. But, as the NRC Staff correctly states, *see* NRC Staff's Answer at 48, this so-called "new" information — i.e., two FPL reports issued in 2017 — was considered by the NRC Staff in the DSEIS. *See, e.g.,* DSEIS at 3-41, 3-42, 3-44 to 3-47, 3-49, 6-15. Similarly, the 2016 and 2018 Tetra Tech models cited by Mr. Wexler were likewise considered in the DSEIS. *See id.* at 3-73, 4-26, 6-31.

regulatory authorities are actively engaged in the regulation and oversight of FPL's (1) reduction of CCS salinity; (2) mitigation of the hypersaline plume; (3) withdrawal of groundwater; and (4) contribution to groundwater use conflicts. *See* DSEIS at 4-28 to 4-33. Mr. Wexler provides no reason to conclude that Florida would refrain from modifying current requirements affecting the "volumes of water currently being used and the locations selected for adding the water[,]" Wexler Decl. at 2 — if necessary — to achieve the desired water quality goals in a manner that does not contribute significantly to groundwater use conflicts. As the DSEIS states, "even if the groundwater remediation timeframe is extended or delayed, the modeling results and the safeguards imposed by [Florida] through permit conditions provide reasonable assurance that any impacts on groundwater resources and users would be mitigated, while producing beneficial effects on groundwater quality."[49] DSEIS at 4-30.

In short, Contention 9-E is not admissible because it lacks supporting information and it fails to establish a genuine dispute of material law or fact with the DSEIS, as required by 10 C.F.R. § 2.309(f)(1)(v) and (vi).

IV. CONCLUSION AND ORDER

For the foregoing reasons, we (1) *deny* Joint Intervenors' petition for rule waiver for Contention 7-E; and (2) *deny* Joint Intervenors' motion to admit newly proffered contentions, thereby terminating this proceeding at the Licensing Board level.

An appeal to the Commission may be filed in accordance with the provisions in 10 C.F.R. § 2.311(b).

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[49] The water use permit issued to FPL by the South Florida Water Management District (SFWMD) for operation of the recovery well system bounds the total installed production capacity of the recovery wells. *See* DSEIS at 4-29. The permit also requires that FPL mitigate interference with existing legal uses of groundwater and mitigate harm to natural resources, possibly by reducing or otherwise altering groundwater withdrawals. *See id.* As necessary, SFWMD can order FPL to reduce withdrawals or undertake other mitigative measures. *See id.* at 4-32. Notably, the DSEIS states that "FPL does not anticipate the need to withdraw groundwater at a rate exceeding its current permits and/or authorizations during the [SLR] period (FPL 2018f)." *Id.* at 4-33. If such a need were to arise, FPL would be required to obtain approval from the responsible Florida regulatory authority. *See* Tr. at 464.

It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

E. Roy Hawkens, Chairman
ADMINISTRATIVE JUDGE

Dr. Sue H. Abreu
ADMINISTRATIVE JUDGE

Dr. Michael F. Kennedy
ADMINISTRATIVE JUDGE

Rockville, Maryland
October 24, 2019

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Paul S. Ryerson, Chairman
Nicholas G. Trikouros
Dr. Gary S. Arnold

In the Matter of **Docket No. 72-1050-ISFSI**
(ASLBP No. 19-959-01-ISFSI-BD01)

INTERIM STORAGE PARTNERS LLC
(WCS Consolidated Interim Storage Facility) **November 18, 2019**

This proceeding concerns the application of Interim Storage Partners LLC (ISP) to construct and operate a consolidated interim storage facility for spent nuclear fuel and greater-than-Class C waste in Andrews County, Texas. The Board considered a motion by ISP to dismiss Sierra Club Contention 13 and a motion by Sierra Club to amend Contention 13. The Board grants ISP's motion to dismiss and denies Sierra Club's motion to amend.

RULES OF PRACTICE: MOOTNESS

A contention of omission is cured when the applicant supplies the missing information. At that time, the contention is moot and should be dismissed.

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

Any petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so. Otherwise, such a contention will not be entertained.

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

To establish good cause, a petitioner must show that (1) the information upon which the new or amended contention is based was not previously available; (2) the information upon which the contention is based is materially different from information previously available; and (3) the contention has been submitted in a timely fashion after the new information on which it is based becomes available. "Materially different" simply means significantly different from information that was previously available.

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

An admissible contention must, among other things (1) show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; and (2) state the alleged facts or expert opinions that support the petitioner's position.

MEMORANDUM AND ORDER
(Ruling on Motion to Dismiss and Motion to Amend Contention 13)

Before the Board are (1) a motion by Interim Storage Partners LLC (ISP) to dismiss Sierra Club Contention 13;[1] and (2) a motion by Sierra Club to amend the same contention.[2] Because Contention 13, as admitted by the Board, is now moot, we grant ISP's motion to dismiss it. Because Sierra Club proffers an amended Contention 13 that is not admissible, we deny its motion to amend.[3]

I. BACKGROUND

The background of this proceeding is set forth in detail in the Board's August 23, 2019 Memorandum and Order,[4] but is summarized below.

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[1] Interim Storage Partners LLC's Motion to Dismiss Sierra Club's Contention 13 as Moot and Terminate This Proceeding (Sept. 9, 2019) [hereinafter ISP Motion to Dismiss].

[2] Sierra Club's Motion to Amend Contention 13 (Sept. 13, 2019) [hereinafter Sierra Club Motion to Amend].

[3] We do not terminate this proceeding, however, because one other proffered contention is pending. On November 13, 2019, the Office of the Secretary referred a motion for leave to file a late-filed contention that was submitted on October 23, 2019 by the Sustainable Energy and Economic Development Coalition (SEED). The time for briefing SEED's motion has not yet expired.

[4] LBP-19-7, 90 NRC 31, 42-47 (2019).

In April 2016, Waste Control Specialists LLC (WCS) submitted an application to the Nuclear Regulatory Commission (NRC) for a license to construct and operate a consolidated interim storage facility for spent nuclear fuel and greater-than-Class C waste in Andrews County, Texas.[5] A year later, WCS asked the NRC to suspend consideration of its application.[6] Thereafter, WCS merged with Orano CIS LLC to form ISP.[7]

In June 2018, ISP submitted a revised license application,[8] and the NRC issued a *Federal Register* notice that permitted the public to request a hearing and petition to intervene.[9] Sierra Club filed a timely hearing request[10] (as did others). After briefing, the Board heard oral argument in Midland, Texas concerning petitioners' standing and the admissibility of their contentions.[11]

In LBP-19-7, we denied the hearing requests of all other petitioners, but granted Sierra Club's hearing request and admitted one contention (Sierra Club Contention 13) that challenged the adequacy of ISP's discussion, in its Environmental Report, of the Texas horned lizard and the dunes sagebrush lizard (also known as the sand dune lizard). Sierra Club Contention 13 asserted in part that "there is no discussion of any studies or surveys to determine if the species are present and the impact of the project on those species."[12]

We observed (and ISP did not dispute[13]) that none of the studies cited in section 3.5.16 of ISP's Environmental Report — the studies on which ISP relied in discussing both species — was publicly available.[14] As a result, we concluded,

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[5] Waste Control Specialists LLC, Application for a License for a Consolidated Interim Spent Fuel Storage Facility (Apr. 28, 2016) (ADAMS Accession No. ML16133A100).

[6] Joint Request to Withdraw the Federal Register Notice Providing an Opportunity to Submit Hearing Requests (Apr. 19, 2017), Attach. 1, Letter from Rod Baltzer, WCS President and CEO, to NRC Document Control Desk (Apr. 18, 2017) (ADAMS Accession No. ML17109A480).

[7] Interim Storage Partners LLC License Application, Docket 72-1050, Andrews County, Texas, (rev. 2 July 2018) at 1-1, 1-4 (ADAMS Accession No. ML18206A483).

[8] Letter from Jeffery D. Isakson, ISP, to NRC Document Control Desk (June 8, 2018) (ADAMS Accession No. ML18166A003).

[9] Interim Storage Partners Waste Control Specialists Consolidated Interim Storage Facility, 83 Fed. Reg. 44,070, 44,070-75 (Aug. 29, 2018), corrected, 83 Fed. Reg. 44,680 (Aug. 31, 2018) (correcting the deadline date for petitioners to request a hearing to October 29, 2018). The Secretary of the Commission later extended this deadline to November 13, 2018. Order of the Secretary (Oct. 25, 2018) at 2.

[10] Petition to Intervene and Request for Adjudicatory Hearing by Sierra Club (Nov. 13, 2018) [hereinafter Sierra Club Hearing Petition].

[11] Licensing Board Notice and Order (Establishing Dates and Location of Oral Argument) (May 24, 2019) at 1 (unpublished).

[12] Sierra Club Hearing Petition at 78.

[13] *See* Interim Storage Partners LLC's Answer Opposing Hearing Request and Petition to Intervene Filed by Sierra Club (Dec. 10, 2018) at 109.

[14] LBP-19-7, 90 NRC at 78.

"no interested member of the public could access any of these studies, or learn how many people performed them, what their qualifications were, or how much time they spent."[15] Accordingly, we admitted Sierra Club Contention 13 in part, "solely as a contention of omission," because none of the studies listed in section 3.5.16 of ISP's Environmental Report was "either sufficiently described to judge its technical adequacy or made publicly available."[16]

Thereafter, ISP supplemented its Environmental Report with copies of (or the applicable ADAMS accession numbers for) each of the studies referenced in section 3.5.16.[17] With the concurrence of the NRC Staff,[18] ISP then moved to dismiss Sierra Club's Contention 13 as moot and to terminate this proceeding.[19] Sierra Club opposed,[20] and moved to amend Contention 13.[21] Both ISP and the NRC Staff oppose Sierra Club's motion to amend.[22]

II. ANALYSIS

A. Motion to Dismiss Contention 13 as Moot

As explained above, we admitted Sierra Club Contention 13 "solely as a contention of omission."[23] Such a contention is cured when the applicant supplies

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[15] *Id.*

[16] *Id.* at 80.

[17] Letter from Jack Boshoven, Chief Engineer, ISP, to Document Control Desk, Division of Spent Fuel Management, NRC (Sept. 4, 2019) (ADAMS Accession No. ML19248C915) [hereinafter ISP Letter Providing Supplemental References].

[18] Pursuant to 10 C.F.R. § 2.323(b), ISP certified with its motion that "[t]he NRC staff agrees that the documents and references provided cure the omission identified in the Board's order" and therefore "supports the proposed motion." *See* ISP Motion to Dismiss.

[19] ISP Motion to Dismiss at 1.

[20] Sierra Club's Resistance to ISP's Motion to Dismiss Sierra Club's Contention 13 at 2-5 (Sept. 12, 2019).

[21] Sierra Club Motion to Amend; *see also* Amended Contention 13 (Sept. 13, 2019) [hereinafter Amended Contention 13].

[22] Interim Storage Partners LLC's Answer Opposing Sierra Club's Motion to Amend Contention 13 (Oct. 1, 2019) [hereinafter ISP Answer]; NRC Staff Answer in Opposition to Sierra Club's Amended Contention 13 (Oct. 7, 2019) [hereinafter NRC Staff Answer]. Sierra Club replied to each answer. *See* Sierra Club's Reply to ISP's Answer to Sierra Club's Motion to Amend Contention 13 (Oct. 7, 2019) [hereinafter Sierra Club Reply to ISP]; Sierra Club's Reply to NRC Staff's Answer to Sierra Club's Motion to Amend Contention 13 (Oct. 14, 2019) [hereinafter Sierra Club Reply to NRC Staff].

[23] LBP-19-7, 90 NRC at 80.

the missing information.[24] When the missing information "is later supplied by the applicant . . . the contention is 'moot'" and should be dismissed.[25]

Because ISP made available all the studies listed in section 3.5.16 of its Environmental Report, it cured the omission. Sierra Club Contention 13, as initially admitted by the Board, is dismissed as moot.

B. Motion to Amend Contention 13

The remaining question is whether Sierra Club's motion to amend Contention 13 should be granted. Sierra Club's amended Contention 13 claims that the previously unavailable studies listed in section 3.5.16 of ISP's Environmental Report do not, in fact, adequately support the content of the Report. Specifically, the contention states:

> The [Environmental Report] states that two species of concern, the Texas horned lizard and the dune sagebrush lizard, have been seen at the ISP site or may be present. The [Environmental Report] then makes the unsupported statement that the [consolidated interim storage] project will have no impact on the species. The sources on which the discussion of the species [sic] were initially unavailable to the public. They have now been made available, but do not support the allegation in the [Environmental Report] that the [consolidated interim storage] project will have no impact on the species, and in fact, they confirm the opposite conclusion. Furthermore, the sources are 11-22 years out of date. The [Environmental Report] does not reference any current studies or surveys. Therefore, the [Environmental Report] is inadequate in describing the affected environment.[26]

1. Good Cause

Any petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so.[27] Otherwise, the NRC's rules provide, such a contention "will not be entertained."[28]

To establish good cause, a petitioner must show that (1) the information upon which the new or amended contention is based was not previously available; (2) the information upon which the contention is based is materially different from information previously available; and (3) the contention has been submitted

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[24] *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002).

[25] *See id.*; *accord USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 444 (2006).

[26] Amended Contention 13 at 1.

[27] *See* 10 C.F.R. § 2.309(c)(1).

[28] *Id.*

in a timely fashion after the new information on which it is based becomes available.[29]

It is not disputed that Sierra Club has satisfied the first and third requirements. In accordance with the Board's order,[30] Sierra Club proffered its amended contention on September 13, 2019 — well within thirty days of ISP's first making the studies available. As ISP concedes: "ISP recognizes that Sierra Club did not have access to the four reports referenced in Amended Contention 13 until September 5, 2019, and that it filed its amended contention just over a week later."[31]

Both ISP and the NRC Staff argue, however, that we should not even "entertain" Sierra Club's motion because, they claim, statements in ISP's Environmental Report are not "materially different" from information in the supporting studies that ISP has now made available.[32] Opining that "[t]he Commission does not look favorably upon amended or new environmental contentions made after the initial filing deadline,"[33] ISP cites caselaw to the effect that premising a newly proffered contention on previously available information renders the contention "impermissibly late."[34]

A majority of the Board declines to apply the NRC's screening test for late submissions to prevent our even considering the admissibility of Sierra Club's amended Contention 13. There are material differences between the unsupported assertions in ISP's Environmental Report and the recently available, more detailed studies on which those assertions were based.[35] ISP's own pleadings demonstrate as much. For example, although initially the Board was troubled by our (or anyone's) inability to know how the studies cited by ISP were conducted, ISP now points out that the 1997 "surveys were conducted by a team of five doctoral-level research scientists whose credentials are summarized in the 1997 Report."[36] Therefore, ISP now argues, "there is zero basis for Sierra Club's

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[29] *See id.* § 2.309(c)(1)(i)-(iii).

[30] Licensing Board Order (Scheduling Initial Scheduling Conference) (Sept. 5, 2019) at 1 (unpublished).

[31] ISP Answer at 7 (footnotes omitted).

[32] *Id.* at 6-15; NRC Staff Answer at 6-10.

[33] ISP Answer at 6.

[34] *Id.* at 7 (citing *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-1, 81 NRC 1, 7 (2015)).

[35] As used in 10 C.F.R. § 2.309(c)(1)(ii), "materially different" simply means significantly different from information that was previously available. *See Florida Power & Light Co.* (Turkey Point Units 6 and 7), LBP-17-6, 86 NRC 37, 48 (2017).

[36] ISP Answer at 10.

suggestion that the surveys lacked scientific validity or rigor."[37] This may not be helpful to Sierra Club, but surely it is material and new information.[38]

In the view of the Board's majority, therefore, the dispositive issue is not whether Sierra Club's amended contention was filed out of time without "good cause," as ISP and the NRC Staff would have us conclude.[39] Rather, it is whether Sierra Club has identified information in the recently available studies that raises a genuine dispute with ISP's Environmental Report. As explained below (and as ISP and the NRC Staff argue in the alternative[40]), Sierra Club has failed to do so.

2. Contention Admissibility

Although Sierra Club may have good cause for proffering its amended contention after the initial deadline, its contention must also satisfy the usual requirements for contention admissibility.[41] While we do not adjudicate disputed facts at this stage, an admissible contention must, among other things (1) show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; and (2) state the alleged facts or expert opinions that support the petitioner's position.[42]

In accordance with 10 C.F.R. § 51.45,[43] we therefore consider two separate but related questions: First, has Sierra Club raised a genuine dispute as to

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[37] *Id.*

[38] Our concurring colleague undertakes a careful analysis of Sierra Club's amended Contention 13 and concludes that, contrary to what it purports to be, the contention is not actually based on any of the recently available, materially different information. Although we ultimately reach the same result, a majority of the Board determines such an analysis to be more appropriately conducted under the contention admissibility criteria (10 C.F.R. § 2.309(f)(1)) than under 10 C.F.R. § 2.309(c)(1). As a unanimous Board cautioned in *Holtec,* we should not conflate the screening test for merely filing a contention out of time with the requirements for admitting it. *See Holtec International* (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 419-20 (2019). "We do not demand that a petitioner establish the admissibility . . . of a contention before allowing it to be filed." *Id.* at 420.

[39] However, we do agree with ISP (*see* ISP Answer at 8) that Sierra Club's amended Contention 13 is untimely to the extent it claims the studies cited in section 3.5.16 of ISP's Environmental Report are "11-22 years out of date." The dates of the studies were disclosed in section 3.5.16 from the outset, and Sierra Club failed to challenge their age in its initial petition. Moreover, we are not aware of any factual or legal requirement to necessarily use newer studies, and Sierra Club cites none.

[40] ISP Answer at 17-20; NRC Staff Answer at 10-14.

[41] *See* 10 C.F.R. § 2.309(f)(1).

[42] *Id.* § 2.309(f)(1)(v)-(vi).

[43] Section 51.45 of 10 C.F.R. requires that an applicant's environmental report contain a discussion of the affected environment and of the environmental impact of the proposed project.

whether the recently available studies adequately support the factual description of the affected environment in ISP's Environmental Report? Second, based on the same studies, has Sierra Club raised a genuine dispute as to whether ISP's characterization of the environmental impact is reasonable?[44]

Concerning the first question, amended Contention 13 alleges discrepancies between ISP's Environmental Report and four of the recently available studies.[45] On close examination, however, no significant discrepancies exist. Therefore, Sierra Club fails to raise a genuine dispute as to whether the studies adequately support ISP's description of the affected environment for the dunes sagebrush lizard and the Texas horned lizard.[46]

For example, Sierra Club claims that the 1997 Report only considered species within one mile of the core area of the existing low-level radioactive waste (LLRW) site, and that ISP's proposed facility is "beyond that one mile radius."[47] It further claims that the 1997 Report reflects only "casual observations" of reptiles and amphibians rather than a "scientific survey."[48]

But, as ISP explains in detail,[49] these statements are incorrect. Although ISP's Environmental Report does not specify the exact areal extent of the wildlife surveys described in the 1997 Report, the Environmental Report clearly shows that ISP's proposed facility would be located within a mile of the LLRW site and, therefore, within the survey area described in the 1997 Report.[50] Sierra Club's claim that the 1997 Report (and hence ISP's Environmental Report) contains

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[44] Similar to the proffered amended contention, the original Sierra Club Contention 13 challenged both the adequacy of ISP's description of the affected environment and ISP's conclusions concerning the impact of its proposed facility on the dunes sagebrush lizard and the Texas horned lizard. *See* Sierra Club Hearing Petition at 78. Although we did not initially admit these issues (pending the availability of ISP's supporting references), Sierra Club has not waived the right to address them.

[45] "Ecological Assessment of the Low Level Waste Depository, Andrew County, Texas," Final Report, Ecology Group (May 1997) [hereinafter 1997 Report]; "Habitat Characterization and Rare Species Survey for the Low Level Waste Repository, Andrews County, Texas," Final Report, Doug Reagan & Associates (Oct. 25, 2004) [hereinafter 2004 Report]; "Supplemental Survey to Ecological Assessment of the Low Level Waste Depository, Andrews County, Texas," Final Report — Revision 1, URS Corporation and Doug Reagan (Mar. 2007) [hereinafter 2007 Report]; "Environmental Assessment Report Prepared for Application for Renewal of Radioactive Material License R04971, Waste Control Specialists LLC, Andrews County, Texas," Revision 0, Waste Control Specialists ("WCS") (July 3, 2008) [hereinafter 2008 Report].

[46] *See* 10 C.F.R. § 2.309(f)(1)(vi).

[47] Amended Contention 13 at 2.

[48] *Id.*

[49] ISP Answer at 8-10.

[50] *See* WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report, Docket No. 72-1050 (rev. 2 July 2018) at 3-87 (Fig. 3.1-3) [hereinafter Environmental Report] (ADAMS Accession No. ML18221A405 (package)).

only "casual observations"[51] is refuted by a review of the 1997 Report itself. Not only were "environmental and ecological *surveys* conducted . . . to provide an unbiased assessment of the native flora and fauna immediately surrounding the core area,"[52] but five sites in the region were surveyed.[53] Moreover, as noted *supra,* the surveys were conducted by a team of five doctoral-level research scientists whose credentials were summarized,[54] and whose expertise Sierra Club does not dispute.

Likewise, Sierra Club purports to rely on statements in the 2004 Report regarding the locations of suitable habitat.[55] As ISP points out,[56] however, Sierra Club merely summarizes statements in the 2004 Report that are repeated, nearly word for word, in ISP's Environmental Report.[57] There is no conflict between the 2004 Report and ISP's Environmental Report.

Similarly, Sierra Club's claims concerning the 2007 Report demonstrate no such conflict. Sierra Club focuses on a statement in the 2007 Report that suitable habitat for the dunes sagebrush lizard does occur "in the area around the site"[58] and on the fact that the 2007 Report lists the Texas horned lizard as being observed at the LLRW site.[59]

However, ISP's Environmental Report addresses habitat in detail.[60] It concludes that, "although the area has some components of sand dune lizard habitat, various factors make it unsuitable."[61] As discussed in ISP's Environmental Report, these adverse factors include a high frequency of mesquite and grassland vegetation associations (which do not support dunes sagebrush lizard communities) and a low frequency of shinnery oak dunes and large blowouts (which provide the habitat and microhabitat necessary for the dunes sagebrush lizard's

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[51] Amended Contention 13 at 2.

[52] 1997 Report at 3 (emphasis added).

[53] *Id.* at 7.

[54] *See id.* at 4, 108-09.

[55] Amended Contention 13 at 3.

[56] ISP Answer at 10-12.

[57] *Compare* 2004 Report at 6-7, *with* Environmental Report at 3-29 to -35.

[58] Amended Contention 13 at 3.

[59] *Id.*

[60] Sierra Club challenges ISP's drawing upon (in addition to the studies of its own property) studies that were conducted at the nearby National Enrichment Facility site (NEF) in New Mexico. Sierra Club Reply to ISP at 3-4; Sierra Club Reply to NRC Staff at 4-5. Sierra Club claims that "[a]ny reference to the New Mexico survey is completely irrelevant to the ISP facility." Sierra Club Reply to ISP at 4. As ISP explains, however, due to their close geographic proximity and comparable ecological resources, the ecology of ISP's proposed site is "highly comparable to that of the URENCO NEF." Environmental Report at 4-34. Moreover, "[t]he NEF was extensively studied during [the] NRC licensing process." *Id.*

[61] Environmental Report at 4-37.

survival).[62] Thus, ISP's Environmental Report directly addresses the potential for suitable habitat conditions in the area, but explains that such habitat areas are small and isolated from each other, and that field surveys have not identified any dunes sagebrush lizards on the site of ISP's proposed storage facility.[63] In contrast (and fully consistent with the 2007 Report), ISP's Environmental Report readily acknowledges that "[t]he Texas horned lizard has been reported as present on the property" (albeit not necessarily at the specific location of the proposed facility).[64]

Lastly, Sierra Club's discussion of the 2008 Report identifies no conflict with either the earlier studies or statements in ISP's Environmental Report. As disclosed in the Environmental Report, the 2008 Report was an environmental assessment prepared to support relicensing of the LLRW facility.[65] Although Sierra Club appears to challenge the scope of the 2008 Report,[66] it was never intended as a survey itself, but rather as a summary of the surveys described in the 1997, 2004, and 2007 Reports. In sum, no significant differences exist between the description of the affected environment in ISP's Environmental Report and the picture presented by the recently available studies.

Nor has Sierra Club demonstrated a genuine dispute as to the second question: that is, whether ISP's conclusions concerning the impact of its proposed facility are reasonable.

First, it is simply not the case, as Sierra Club alleges, that ISP's Environmental Report says the proposed storage facility would have "no impact" on the dunes sagebrush lizard or the Texas horned lizard. Rather, at most ISP claims that the impact would be "small."[67] And, in other respects, ISP candidly acknowledges potential adverse consequences, such as the fact that "[t]he Texas horned lizard is vulnerable to construction activities that could result in a direct loss of breeding habitat."[68]

Second, the affected property would constitute a small percentage of ISP's holdings and a small percentage of the suitable habitat throughout the region. As ISP's Environmental Report observes, in the general region of the proposed facility "there are several thousand acres of sand dune formation that would not be impacted by the project."[69] Moreover, neither the dunes sagebrush lizard nor

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[62] *Id.* at 3-35.

[63] *Id.* at 3-34 to -37.

[64] *Id.* at 3-34. The NRC Staff reminds us that the site of the proposed storage facility comprises only 2.37 percent of the 14,000-acre WCS property. NRC Staff Answer at 12 n.67.

[65] Environmental Report at 3-40.

[66] *See* Amended Contention 13 at 3.

[67] Environmental Report at 4-38.

[68] *Id.* at 4-37.

[69] *Id.*

the Texas horned lizard is a threatened or endangered species under federal law, and only the Texas horned lizard is considered threatened under Texas state law.[70]

Finally, ISP's characterization of a "small" impact is further premised on two factual assumptions: "the Texas horned lizard and the sand dune lizard either do not occur on the [proposed facility site] or are highly adaptable."[71]

The likelihood that the dunes sagebrush lizard is not even present at the site of the proposed facility is consistent with ISP's recently available studies, as is the possibility that the Texas horned lizard is not present either. Neither species was specifically identified at the site in any survey, although the Texas horned lizard is considered widespread in the region.[72] That both species are "highly adaptable" is supported by the determination that these are "highly mobile species and may not be as susceptible to localized physical and chemical pollutants as other less mobile species such as invertebrates and aquatic species."[73] Plainly put, ISP posits that the species are "highly adaptable" because lizards have legs.

ISP's last conclusion — that, at the first sight of construction equipment, any resident lizards would likely scurry away to other nearby habitat — may find less support in any of ISP's cited studies than in common sense. But it is not unreasonable on its face. And, most importantly, Sierra Club fails to cite any facts or expert opinions — either its own or from ISP's recently available studies — to suggest that ISP's conclusion is not a reasonable one.[74] Accordingly, Sierra Club fails to raise a genuine dispute, as required by 10 C.F.R. § 2.309(f)(1)(vi).

Given unlimited time and resources, no doubt any environmental report could be improved. As directed by the Commission, however, we do not "flyspeck" applicants' environmental reports.[75] Provided its Environmental Report "comes to grips with all important considerations," ISP need do nothing more.[76]

Sierra Club's amended Contention 13 is not admissible.

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[70] *Id.* at 3-34.

[71] *Id.* at 4-38.

[72] As summarized in ISP's Environmental Report, the Texas horned lizard was reported as present on the property controlled by WCS in previous surveys, and suitable habitat is present throughout much of the area. *Id.* at 3-34. The dunes sagebrush lizard was previously reported in the area northwest of the proposed facility, and areas to the west, north, northeast, south, and southeast have the potential to be suitable habitat. One juvenile lizard, presumed to be a dunes sagebrush lizard, was captured and released approximately 2.5 miles southeast of the proposed facility. *Id.* at 3-34 to -35.

[73] *Id.* at 4-38.

[74] *See* 10 C.F.R. § 2.309(f)(1)(v).

[75] *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005).

[76] *Id.*

III. ORDER

For the foregoing reasons:

A. ISP's motion to dismiss Contention 13 as moot is *granted.* Contention 13, as admitted by the Board, is *dismissed.*

B. Sierra Club's motion for leave to amend Contention 13 is *denied.*

Any appeal of this decision to the Commission shall be filed in conformity with 10 C.F.R. § 2.311.

It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Paul S. Ryerson, Chairman
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

Rockville, Maryland
November 18, 2019

Concurring Opinion of Judge Arnold

I fully agree with the Board majority that Sierra Club's original Contention 13 is moot and that amended Contention 13 is not admissible. However, I respectfully disagree with the majority regarding one aspect of this order. The majority believes that Sierra Club's amended Contention 13 is based on new information that is materially different from previously available information. I disagree.

To establish good cause for filing a contention after the initial deadline for submitting contentions, an intervenor must, among other things, show that the new information upon which the amended contention is based is materially different from previously available information.[1] The majority does not find the information on which the amended contention is based to be both new and materially different. Rather, the majority finds that the previously available information has acquired the quality of credibility it previously did not, and that this credibility renders it materially different. That is, certain information in the Environmental Report consisted of unsupported statements, whereas the "new" (yet same) information is supported by study descriptions that were provided in the recently available documents. The majority considers this change in quality a material difference. I will not disagree. However, this difference is not identified by Sierra Club, and its amended contention does not depend on this change in information quality.

Sierra Club's motion to amend clearly discusses good cause for filing this motion after the initial contention deadline. Discussion of materially different information commences with the sentence, "(ii) [t]he information upon which the filing is based is materially different than information previously available."[2] This is followed by a two-page discussion in which Sierra Club cites the specific information it considers new and material. Specifically, this information states:

1) "The 1997 document, at page 3, states that it only considered species within one mile of the core area of the LLRW site."[3]

2) "Page 4 of [the 1997] document states that reptiles and amphibians were observed."[4]

3) "The 2004 document, at page 6, states that the sand dune lizard was observed in the area of the LLRW site."[5]

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[1] *See* 10 C.F.R. § 2.309(c)(1)(ii).

[2] Sierra Club Motion to Amend at 2.

[3] *Id.*

[4] *Id.*

[5] *Id.*

4) "[T]he [2004] document, at page 7, states that there is no suitable habitat for the sand dune lizard within 1.5 km (1 mi) of the LLRW site."[6]

5) "The [2004] document goes on to state, however, that suitable sand dune lizard habitat exists west, north, northeast, south, and southeast of the LLRW site."[7]

6) "[T]he [2004] document states, at page 7, that the study area was a 3.1 mile radius of the LLRW site and that the two lizard species occur within that area."[8]

7) "The 2007 document, at page 59, as in the previous documents, states that the sand dune lizard does not occur on the site of the LLRW project, but suitable habitat does occur in the area around the site."[9]

8) "A table on page 60 of the 2007 document lists the Texas horned lizard as being observed on the LLRW site."[10]

9) "Pages 11-12 of the [2008] document mention the horned lizard and dunes sagebrush lizard but it simply says that the horned lizard is in the area and there is no dunes sagebrush lizard habitat on the site."[11]

Sierra Club concludes the list of differences, summarizing, "[t]his is the very information that the ASLB said was missing and to which Sierra Club was entitled in order to adequately evaluate the information in the [Environmental Report]. Therefore, this is material information that was not previously available."[12]

In response, ISP's answer to this motion details how each of these statements was previously available in the Environmental Report, either in words nearly identical to the recently provided document or in a paraphrased form.[13]

The Board considers the information materially different because it is now information supported by documented surveys and does not just consist of unsupported statements in the Environmental Report. However, Sierra Club has not advanced this concept of materially different. Sierra Club simply states that

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[6] *Id.*
[7] *Id.*
[8] *Id.* at 3.
[9] *Id.*
[10] *Id.*
[11] *Id.*
[12] *Id.*
[13] ISP Answer at 10-14.

this information was provided following Board action, so it is thus new and material.

The facts concerning the lizards are the same in both the Environmental Report and the new supporting documents. The amended contention is based on information and facts that ISP has shown to be the same in the Environmental Report and the supporting survey documents. The contention is not *based* on the material difference discerned by the Board.

When ISP supplemented its Environmental Report with copies of (or ADAMS accession numbers for) the studies referenced in section 3.5.16 of the Environmental Report, new and materially different information was provided.[14] However, this new and material information consists of the description of the studies, which provides support for certain conclusory statements previously made in the Environmental Report. Further, this information did indeed alter the quality of the conclusory statements in the Environmental Report as agreed by the majority. However, it is the survey information that is new and material, not the conclusory statements. Sierra Club's argument concerning new and material information focuses on conclusory statements and neglects the real new and material information provided by the surveys. Every alleged fact used by Sierra Club to support the amended contention was available from the Environmental Report. Therefore, I cannot conclude that Sierra Club has established that its amended Contention 13 is based on new information that is materially different from previously available information. Thus, Sierra Club has not established good cause for its motion.

[14] *See* ISP Letter Providing Supplemental References.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Ho K. Nieh, Director

In the Matter of **Docket No. 50-293**
(License No. DPR-35)

HOLTEC PILGRIM, LLC
HOLTEC DECOMMISSIONING INTERNATIONAL, LLC
(Pilgrim Nuclear Power Station) **November 25, 2019**

By letter dated June 24, 2015, Mr. David Lochbaum on behalf of the Union of Concerned Scientists, along with seven co-petitioners (collectively "the petitioners"), filed a petition pursuant to 10 C.F.R. § 2.206 and requested that the NRC "take enforcement action to require that the current licensing basis for the Pilgrim Nuclear Power Station (PNPS) in Plymouth, Massachusetts explicitly includes flooding caused by local intense precipitation/probable maximum precipitation events."

The petition referenced a letter from Entergy Nuclear Operations, Inc. ("Entergy") to the NRC dated March 12, 2015, containing Pilgrim's flood hazard reevaluation report (FHRR). Entergy submitted the FHRR in response to the NRC's letter dated March 12, 2012, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident."

A petition review board (PRB) was established to review the petition. On August 5, 2015, in a public teleconference, the petitioners presented additional clarification and supplementary issues to the PRB. In a letter dated February 11, 2016, the NRC informed the petitioners that the portion of their request seeking enforcement action to require Pilgrim's current licensing basis to include flooding caused by local intense precipitation or probable maximum precipitation events met the acceptance criteria in NRC Management Directive 8.11. The

letter also informed the petitioners that the two supplementary issues raised in the August 5, 2015, teleconference did not meet the criteria for consideration under 10 C.F.R. § 2.206.

The NRC Staff reviewed the Pilgrim FHRR as part of the NRC's response to the Fukushima Dai-ichi accident as noted in the NRC's February 11, 2016, letter to the petitioners. On August 18, 2016, Entergy requested to permanently defer the remaining flooding assignments in response to the 10 C.F.R. § 50.54(f) letter of March 12, 2012, in anticipation of the planned permanent shutdown of Pilgrim no later than June 1, 2019. On April 17, 2017, the NRC Staff responded to Entergy and deferred the remaining flood assessments until December 31, 2019. The NRC noted that any meaningful further improvement to safety would not be achieved before permanent defueling of the plant consistent with Pilgrim's proposed shutdown date.

The Commission provided additional direction related to reevaluated flood mechanisms on January 24, 2019. The Commission directed that the site-specific 10 C.F.R. § 50.54(f) process remain in place for ongoing reevaluated hazard assessments and Staff should continue these efforts, utilizing existing agency processes to determine whether an operating power reactor license should be modified, suspended, or revoked in light of the reevaluated hazard.

On June 10, 2019, Entergy submitted a letter certifying permanent cessation of power operations at Pilgrim in accordance with 10 C.F.R. § 50.82(a)(1)(i) and certified that the fuel had been permanently removed from the Pilgrim reactor vessel and placed in the spent fuel pool. In light of the Pilgrim shutdown, the Staff assessed the need for any additional regulatory actions associated with the spent fuel pool in relation to the reevaluated flood hazard, as documented in its assessment dated July 5, 2019. The NRC issued a final director's decision, DD-19-2. The decision stated that the NRC evaluated the petitioners' concerns and determined that the petitioners' request is addressed through the Staff's conclusion as stated in the July 5, 2019, letter and that no further response or actions associated with the March 12, 2012, 10 C.F.R. § 50.54(f) letter are necessary for Pilgrim.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

By letter dated June 24, 2015,[1] Mr. David Lochbaum ("the petitioner"), on

[1] Agencywide Documents Access and Management System (ADAMS) Accession No. ML16029-A407.

behalf of the Union of Concerned Scientists, along with seven co-petitioners (collectively "the petitioners"), filed a petition pursuant to Title 10 of the *Code of Federal Regulations* (10 C.F.R.) Section 2.206, "Requests for Action Under This Subpart," related to the Pilgrim Nuclear Power Station (Pilgrim). The petitioners requested that the U.S. Nuclear Regulatory Commission (NRC) "take enforcement action to require that the current licensing basis for the Pilgrim Nuclear Power Station (PNPS) in Plymouth, Massachusetts explicitly includes flooding caused by local intense precipitation/probable maximum precipitation events."[2]

The petition references a letter from Entergy Nuclear Operations, Inc. ("Entergy")[3] to the NRC dated March 12, 2015,[4] containing Pilgrim's flood hazard reevaluation report (FHRR). Entergy submitted the FHRR in response to the NRC's letter dated March 12, 2012, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident."[5] The NRC sent this request for information to power reactor licensees and holders of construction permits in active or deferred status to address one of the agency's recommendations in response to the accident at the Fukushima Dai-ichi nuclear power plant in Japan in March 2011. As the basis for the request, the petitioners state that Pilgrim's reevaluations in the FHRR show that as a result of heavy rainfall events, the site could experience flood levels nearly 10 feet higher than anticipated when the plant was originally licensed. Although existing doors installed at the site protect important equipment from being submerged and damaged by heavy rainfall events and flooding, the petitioners assert that neither regulatory requirements nor enforceable commitments exist that ensure the continued reliability of those doors. The petition states, in relevant part, "the petitioners seek to rectify this safety shortcoming by revising the current licensing basis to include flooding caused by heavy rainfall events."[6]

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[2] Page 1 of the petition.

[3] The NRC approved the direct transfer of Entergy licensed authority to Holtec Decommissioning International, LLC (HDI) and the indirect transfer of control of Entergy Nuclear Generation Company's (ENGC) (to be known as Holtec Pilgrim, LLC) ownership interests in the facility licenses to Holtec International (Holtec) on August 22, 2019 (ADAMS Accession No. ML19170A265). By letter dated August 22, 2019 (ADAMS Accession No. ML19234A357), Entergy stated that following the license transfer, HDI will assume responsibility for all ongoing NRC regulatory actions and reviews under way for Pilgrim. On August 27, 2019, the NRC Staff issued a conforming amendment to HDI and Holtec Pilgrim, LLC to reflect the license transfer (ADAMS Accession No. ML19235A050).

[4] ADAMS Accession No. ML15075A082.

[5] ADAMS Accession No. ML12073A348.

[6] Page 1 of the petition.

On August 5, 2015, in a public teleconference,[7] the petitioners presented additional clarification and supplementary issues to the petition review board. The NRC Staff considered this supplementary information during its evaluation.

In a letter dated February 11, 2016,[8] the NRC informed the petitioners that the portion of their request seeking enforcement action to require Pilgrim's current licensing basis to include flooding caused by local intense precipitation (LIP) or probable maximum precipitation events meets the acceptance criteria in NRC Management Directive 8.11, "Review Process for 10 CFR 2.206 Petitions," revised October 25, 2000.[9] The letter noted that the NRC referred the petition to the Office of Nuclear Reactor Regulation (NRR) for appropriate action. This letter also informed the petitioners that the two supplementary issues raised in the August 5, 2015, teleconference do not meet the criteria for consideration under 10 C.F.R. § 2.206. The letter explained that the petitioners' concerns about the impact of precipitation events on safety-related submerged cables do not meet the criteria for review because this issue was reviewed and resolved in a previous 10 C.F.R. § 2.206 director's decision.[10] Furthermore, the letter noted that the request for an updated site plan of Pilgrim does not meet the criteria for review because it is outside the scope of the 10 C.F.R. § 2.206 process.

II. DISCUSSION

Under 10 C.F.R. § 2.206(b), the Director of the NRC office with responsibility for the subject matter shall either institute the requested proceeding to modify, suspend, or revoke a license or advise the person who made the request in writing that no proceeding will be instituted, in whole or in part, with respect to the request and give the reason for the decision. The petitioners raised concerns about safety shortcomings related to flooding hazards caused by heavy rainfall events at Pilgrim based on the FHRR information submitted by Entergy on March 12, 2015. Referring to the FHRR, the petitioners noted that heavy rainfall events constitute a significantly greater flooding hazard at Pilgrim than the design-basis flood hazard posed by an extreme storm surge.

The NRC Staff analyzed the petitioners' concerns, and the results of those analyses are discussed below. The decision of the Director of NRR is provided for each of these concerns. To provide clarity and context, this discussion provides definitions of commonly used terms in the analysis and relevant background information, followed by a response to the petitioners' concerns.

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[7] Transcript available at ADAMS Accession No. ML15230A017.

[8] ADAMS Accession No. ML15356A735.

[9] ADAMS Accession No. ML041770328.

[10] ADAMS Accession No. ML13255A191.

A. Definitions

The NRC Staff uses the terms "current licensing basis," "design-basis events," and "design bases" throughout the document. These terms have different regulatory definitions and are not interchangeable. For clarity, a short definition of each of these terms is provided below.

The NRC defines "current licensing basis" in 10 C.F.R. § 54.3, "Definitions." The current licensing basis of a plant is the "set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect." The current licensing basis includes:

- legally binding regulatory requirements on the licensee (e.g., regulations, orders, license conditions)
- mandated documents and programs developed and maintained in accordance with regulatory requirements (e.g., updated final safety analysis report)
- regulatory commitments provided by the licensee in official correspondence

The NRC defines the term "design-basis events" in 10 C.F.R. § 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants." "Design-basis events" are those events that the NRC requires licensees to consider when identifying safety-related structures, systems, and components (SSCs) needed to provide key safety functions.

"Design bases" information is an important subset of the current licensing basis and is defined in 10 C.F.R. § 50.2, "Definitions." Design bases include the specific functions and reference bounds for the design of plant SSCs. The design bases of specific SSCs can include information related to design-basis events, beyond-design-basis events, or both.[11] Safety-related SSCs typically have associated technical specification requirements in accordance with 10 C.F.R. § 50.36(c)(2)(ii)(C). SSCs that address a beyond-design-basis regulatory obligation do not necessarily have associated technical specification requirements but are nevertheless expected to be functional in order to demonstrate a licensee's compliance with the underlying obligation.

The NRC Staff also uses the term "beyond-design-basis events" throughout this document. The term "beyond-design-basis events" is not defined in NRC regulations; however in the past, the NRC has adopted regulations requiring

[11] Figure 1. Design and Licensing Basis for Nuclear Power Plants (ADAMS Accession No. ML15127A401).

licensees and applicants to address certain events and accidents without considering them to be "design-basis events." Examples include the NRC's regulations for station blackout in accordance with 10 C.F.R. § 50.63, "Loss of All Alternating Current Power," and regulations for loss of large areas of the plant because of explosions or fires in accordance with 10 C.F.R. § 50.54(hh)(2).[12] The use of the term "beyond-design-basis external events" in this document relates to the consideration of lessons learned as a result of the accident at Fukushima Dai-ichi. This accident highlighted the possibility that certain external events may simultaneously challenge the prevention, mitigation, and emergency preparedness measures that provide defense-in-depth protections for nuclear power plants.

B. Background

The NRC's assessment of the lessons learned from the experiences at Fukushima Dai-ichi led to the conclusion that additional requirements were needed to increase the capability of nuclear power plants to address certain beyond-design-basis external events. As a result, the NRC imposed new requirements to enhance safety by issuing Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012.[13] The NRC also required licensees to reevaluate seismic and flooding hazards using present-day standards and guidance and provide that information to the NRC in accordance with the March 12, 2012, 10 C.F.R. § 50.54(f) letter. Entergy submitted the Pilgrim FHRR dated March 12, 2015, in response to the March 12, 2012, 10 C.F.R. § 50.54(f) letter.

The NRC Staff reviewed the Pilgrim FHRR as part of the NRC's response to the Fukushima Dai-ichi accident, as noted in the NRC's February 11, 2016, letter to the petitioners (*supra* note 8). The letter noted, in relevant part, "the issue [raised by the petitioners] is being addressed by a 10 C.F.R. § 50.54(f) letter, dated March 12, 2012. . . ."

The March 12, 2012, 10 C.F.R. § 50.54(f) letter states, in relevant part, "[t]he current regulatory approach, and the resultant plant capabilities, gave the NTTF [Near-Term Task Force] and the NRC the confidence to conclude that an accident with consequences similar to the Fukushima accident is unlikely to occur in the United States. The NRC concluded that continued plant operation and

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[12] The requirements previously in 10 C.F.R. § 50.54(hh)(2) have been relocated to 10 C.F.R. § 50.155(b)(2) in accordance with the staff requirements memorandum (SRM) dated January 24, 2019 (ADAMS Accession No. ML19023A038).

[13] ADAMS Accession No. ML12054A735.

the continuation of licensing activities did not pose an imminent risk to public health and safety."

On September 30, 2015, the NRC completed an inspection at Pilgrim related to the interim actions Entergy provided as part of the FHRR. Entergy's interim actions included those activities that Entergy used to mitigate the reevaluated hazards at Pilgrim that exceeded Pilgrim's current licensing basis. The Staff presented the results of the inspection in Inspection Report 05000293/2015003, dated November 12, 2015.[14] Page 29 of the inspection report documents the NRC's independent verification that Entergy's assumptions used in the FHRR interim actions reflected actual plant conditions. The NRC performed visual inspection of the installed flood protection features, where appropriate. The NRC also conducted external visual inspection for indications of degradation that would prevent the performance of the credited function for each identified feature. Additionally, the NRC determined flood protection feature functionality using either visual observation or review of other documents. The NRC's inspection of interim actions supported Entergy's conclusion that Pilgrim is able to cope with the reevaluated flooding hazard until the remaining assessments were performed.

On August 4, 2016, the NRC Staff summarized[15] its assessment of reevaluated flood-causing mechanisms described in the FHRR. The Staff's assessment was consistent with Entergy's March 12, 2015, FHRR and concluded that Pilgrim has two flood-causing scenarios that are not bounded or not fully evaluated in the plant's design bases. The two scenarios are flooding caused by a LIP event and flooding caused by the combined effects of storm surge and wind-wave activity from the Atlantic Ocean.

On August 18, 2016, Entergy requested[16] to permanently defer the remaining flooding assessments in response to the 10 C.F.R. § 50.54(f) letter of March 12, 2012, in anticipation of the planned permanent shutdown of Pilgrim no later than June 1, 2019.[17] On April 17, 2017, the NRC Staff responded[18] to Entergy's request and deferred the remaining flood assessments until December 31, 2019. The NRC noted that any meaningful further improvement to safety would not be achieved before permanent defueling of the plant consistent with Pilgrim's proposed shutdown date. The April 17, 2017, letter from the NRC Staff also stated that if the plant continues to operate beyond June 1, 2019, Entergy would still be expected to submit the remaining flooding assessments including a flooding

[14] ADAMS Accession No. ML15317A030.
[15] ADAMS Accession No. ML16215A086.
[16] ADAMS Accession No. ML16250A018.
[17] ADAMS Accession No. ML15328A053.
[18] ADAMS Accession No. ML16278A313.

mitigating strategies assessment and a flooding-focused evaluation or integrated assessment (if applicable) in accordance with NRC-endorsed guidance.

The Commission provided additional direction related to reevaluated flood mechanisms in the Affirmation Notice and Staff Requirements Memorandum (SRM) dated January 24, 2019,[19] associated with SECY-16-0142, "Draft Final Rule — Mitigation of Beyond-Design-Basis Events (RIN 3150-AJ49)."[20] The SRM states the following:

> For ongoing reevaluated hazard assessments, the site-specific 10 CFR 50.54(f) process remains in place to ensure that the agency and its licensees will take the needed actions, if any, to ensure that each plant is able to withstand the effects of the reevaluated flooding and seismic hazards. The staff should continue these efforts, utilizing existing agency processes to determine whether an operating power reactor license should be modified, suspended, or revoked in light of the reevaluated hazard.

On June 10, 2019,[21] Entergy submitted a letter certifying permanent cessation of power operations at Pilgrim in accordance with 10 C.F.R. § 50.82(a)(1)(i) and certified that the fuel has been permanently removed from the Pilgrim reactor vessel and placed in the spent fuel pool in accordance with 10 C.F.R. § 50.82(a)(1)(ii). Entergy acknowledged in its letter that once these certifications are docketed, the Pilgrim license will no longer authorize operation of the reactor or placement or retention of fuel in the reactor vessel.

On June 19, 2019,[22] Entergy provided its final response to the March 12, 2012, 10 C.F.R. § 50.54(f) activities related to the reevaluated seismic and flood hazards and affirmed that Pilgrim is no longer an operating plant and is a permanently shutdown and defueled reactor. Therefore, Entergy stated that it considered the requests of the March 12, 2012, 10 C.F.R. § 50.54(f) letter to no longer be applicable to Pilgrim and informed the Staff that Entergy no longer plans to proceed with any further implementation of the requests in the March 12, 2012, 10 C.F.R. § 50.54(f) letter. In light of the Pilgrim shutdown, the Staff assessed the need for any additional regulatory actions associated with the spent fuel pool in relation to the reevaluated flood hazard, as documented in its assessment dated July 5, 2019.[23] The NRC Staff concluded in the July 5, 2019, assessment letter that no further responses or actions associated with the 10 C.F.R. § 50.54(f) letter are necessary for Pilgrim because Entergy is no longer authorized to load

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[19] ADAMS Accession No. ML19023A038.
[20] ADAMS Accession No. ML16291A186.
[21] ADAMS Accession No. ML19161A033.
[22] ADAMS Accession No. ML19170A391.
[23] ADAMS Accession No. ML19168A231.

fuel into the vessel, and potential fuel-related accident scenarios are limited to the spent fuel pool. Unlike fuel in the reactor, the safety of fuel located in the spent fuel pool is assured for an extended period through maintenance of pool structural integrity, which preserves coolant inventory and maintains margin to prevent criticality. Small changes in the flooding hazard elevation would not threaten the structural integrity of the spent fuel pool because the bottom of the spent fuel pool is over 50 feet above plant grade level. As stated above, the two reevaluated flood-causing scenarios that are not bounded or fully evaluated in the plant's design bases are flooding caused by the combined effects of storm surge and wind-wave activity from the Atlantic Ocean and flooding caused by a LIP event. The Staff evaluated these two reevaluated flood-causing scenarios and determined that the changes in flooding hazard evaluation would be small, particularly at plant grade level, and therefore, would not threaten the structural integrity of the spent fuel pool.

The NRC sent a copy of the proposed director's decision to the petitioners and to Holtec Decommissioning International, LLC and Holtec Pilgrim, LLC for comment on October 8, 2019. The NRC did not receive any comments on the proposed director's decision.

C. Response to Petitioners' Concerns

Concern 1: Pilgrim's flood hazard reevaluations indicate that as a result of heavy rainfall events, the site could experience flood levels nearly 10 feet higher than anticipated when the plant was originally licensed. Although existing doors protect important equipment from being submerged and damaged, neither regulatory requirements nor enforceable commitments exist that ensure the continued reliability of those doors. The petitioners seek to rectify this safety shortcoming by revising the current licensing basis to include flooding caused by heavy rainfall events.

The NRC Staff's assessment dated July 5, 2019, concluded that no further regulatory actions are necessary; therefore, the Staff will not revise Pilgrim's current licensing basis to include flooding caused by heavy rainfall events. Had the plant not permanently ceased operations, the Staff would have reviewed the March 12, 2012, 10 C.F.R. § 50.54(f) reevaluated flood hazard information in accordance with the Commission direction provided in the SRM dated January 24, 2019, and determined whether further regulatory action was warranted.

Concern 2: Being outside the licensing basis means there are no applicable regulatory requirements. As a direct result, there can be no associated compliance commitments. Being within the current licensing basis invokes a wide array of associated regulatory requirements. For example, 10 C.F.R.

Part 50, "Domestic Licensing of Production and Utilization Facilities," Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," requires that licensees find and fix problems with SSCs having safety functions credited within the current licensing basis.

The Staff concluded in its July 5, 2019, letter that no further response or actions associated with the March 12, 2012, 10 C.F.R. § 50.54(f) letter are necessary, and therefore, SSCs relied on to address the reevaluated flood hazard are not required to be safety-related[24] and do not need to meet the quality assurance requirements in 10 C.F.R. Part 50, Appendix B. Had the plant not permanently ceased operations, the Staff would have reviewed the March 12, 2012, 10 C.F.R. § 50.54(f) reevaluated flood hazard information in accordance with the Commission direction provided in the SRM dated January 24, 2019, and determined whether further regulatory action was warranted.

III. CONCLUSION

The NRC evaluated the petitioners' concerns and determined that the petitioners' request is addressed through the Staff's conclusion as stated in the July 5, 2019, letter and that no further response or actions associated with the March 12, 2012, 10 C.F.R. § 50.54(f) letter are necessary for Pilgrim because there is no longer an entity authorized to load fuel into the vessel, and potential fuel-related accident scenarios are limited to the spent fuel pool. Unlike fuel in the reactor, the safety of fuel located in the spent fuel pool is assured for an extended period through maintenance of pool structural integrity, which preserves coolant inventory and maintains margin to prevent criticality. The Staff concludes that the small changes in the flooding hazard elevation projected for the two reevaluated flood-causing scenarios do not threaten the structural integrity of the spent fuel pool.

As provided in 10 C.F.R. § 2.206(c), a copy of this director's decision will be filed with the Secretary of the Commission for the Commission to review. The decision will constitute the final action of the Commission 25 days after

[24] 10 C.F.R. § 50.2.

the date of the decision unless the Commission, on its own motion, institutes a review of the decision within that time.

For the Nuclear Regulatory Commission

Eric J. Benner for
Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 25th day of November 2019.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kristine L. Svinicki, Chairman
Jeff Baran
Annie Caputo
David A. Wright

In the Matter of **Docket No. 52-047-ESP**

TENNESSEE VALLEY AUTHORITY
(Clinch River Nuclear Site Early Site Permit Application) **December 17, 2019**

The purpose of an early site permit (ESP) is to provide for the early resolution of certain safety and environmental issues relating to the suitability of a proposed site; an ESP does not authorize the construction or operation of a reactor at the site, for which a separate construction permit and operating license or combined license must be obtained.

MANDATORY HEARINGS: SAFETY ISSUES

In a case involving an application for an early site permit with no limited work authorization, the Commission must determine whether (1) the applicable standards and requirements of the AEA and the Commission's regulations have been met; (2) any required notifications to other agencies or bodies have been duly made; (3) there is reasonable assurance that the site is in conformity with the provisions of the AEA and the Commission's regulations; (4) the applicant is technically qualified to engage in the activities authorized by the early site permit; (5) issuance of the permit will not be inimical to the common defense and security or to the health and safety of the public; and (6) the findings required by subpart A of 10 C.F.R. part 51 have been made.

MANDATORY HEARINGS: NATIONAL ENVIRONMENTAL POLICY ACT

To meet its obligations under the National Environmental Policy Act (NEPA) in an uncontested proceeding, the Commission must (1) determine whether the requirements of Sections 102(2)(A), (C), and (E) of NEPA and the applicable regulations in 10 C.F.R. part 51 have been met; (2) independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken; (3) determine, after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, whether the early site permit should be issued, denied, or appropriately conditioned to protect environmental values; and (4) determine whether the NEPA review conducted by the NRC Staff has been adequate.

MANDATORY HEARINGS

The Commission does not review an early site permit (ESP) application *de novo*; rather, it considers the sufficiency of the Staff's review of the application on both safety and environmental matters. The Commission will consider whether the safety and environmental record is adequate to support issuance of the ESP and whether the Staff's findings are reasonably supported in logic and fact.

EMERGENCY PLANNING ZONES

The technical criteria and quantitative methodology applied to determine emergency planning zone (EPZ) size in Appendix I of NUREG-0396/EPA-520 do not include public perception of an appropriate EPZ.

EXEMPTIONS

The Commission may grant exemptions to rules in 10 C.F.R. part 50 when (1) the exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security and (2) special circumstances are present. Special circumstances are present when application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.

NATIONAL ENVIRONMENTAL POLICY ACT

NEPA section 102(2)(A) requires agencies to use "a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts" in decision-making that may impact the environment.

NATIONAL ENVIRONMENTAL POLICY ACT

NEPA section 102(2)(E) calls for agencies to study, develop, and describe appropriate alternatives.

NATIONAL ENVIRONMENTAL POLICY ACT

NEPA section 102(2)(C) requires agencies to assess the relationship between short-term uses and long-term productivity of the environment, to consider alternatives, and to describe the unavoidable adverse environmental impacts and the irreversible and irretrievable commitments of resources associated with the proposed action.

MEMORANDUM AND ORDER

On August 14, 2019, we held a hearing on the application of the Tennessee Valley Authority (TVA) for an early site permit (ESP) for the Clinch River Nuclear site. In this uncontested proceeding, we consider whether the NRC Staff's review of the application has been adequate to support the findings set forth in 10 C.F.R. §§ 52.24(a) and 51.105(a). As discussed below, we find that the Staff's review was sufficient to support the regulatory findings. We authorize issuance of the ESP.

I. BACKGROUND

TVA filed its application for an ESP for the Clinch River site in 2016.[1] Al-

[1] *See* Letter from J.W. Shea, TVA, to NRC Document Control Desk (May 12, 2016) (ADAMS accession no. ML16139A752) (Application Transmittal Letter). TVA revised portions of the application in December 2017 and January 2019. *See generally* Exs. NRC-006 to NRC-011, NRC-013A to NRC-013D, Tennessee Valley Authority, Early Site Permit Application. Staff exhibit NRC-012 contains the non-public portion of the ESP application, and as such, it was filed on the non-public docket for this proceeding.

though three organizations sought to intervene and request a hearing, ultimately, none of the intervenors' contentions proceeded to consideration on the merits in a contested hearing.[2] In July 2018, the Atomic Safety and Licensing Board terminated the contested portion of the proceeding.[3]

A. Proposed Action

TVA seeks an ESP for the Clinch River Nuclear site in Oak Ridge, Roane County, Tennessee, on which it proposes to construct two or more light-water small modular reactors (SMRs).[4] The purpose of an ESP is to provide for the early resolution of certain safety and environmental issues relating to the suitability of a proposed site; an ESP does not authorize the construction or operation of a reactor at the site, for which a separate construction permit and operating license or combined license (COL) must be obtained.[5] The ESP for the Clinch River site would, for a duration of twenty years, approve the site as suitable for the construction and operation of two or more SMRs with a maximum combined electrical output of 800 megawatts electric (MW(e)) and could be referenced as part of a future construction permit or COL application.[6]

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[2] *See* LBP-17-8, 86 NRC 138 (2017), *rev'd in part,* CLI-18-5, 87 NRC 119 (2018); LBP-18-4, 88 NRC 55 (2018). In LBP-17-8, the Atomic Safety and Licensing Board admitted a contention of omission concerning the environmental impacts of spent fuel pool accidents and a contention alleging that TVA's environmental report contained an impermissible discussion of energy alternatives and need for power. *See* LBP-17-8, 86 NRC at 160-61, 165. On appeal, we reversed the Board's admission of the contention regarding energy alternatives and need for power. *See* CLI-18-5, 87 NRC at 127-29. Upon the Staff's issuance of its Draft Environmental Impact Statement (EIS), which contained an analysis of spent fuel pool accidents, the Board dismissed the remaining admitted contention as moot. *See* LBP-18-4, 88 NRC at 59-60, 68; "Environmental Impact Statement for an Early Site Permit (ESP) at the Clinch River Nuclear Site" (Draft Report for Comment), NUREG-2226, vols. 1-2 (Apr. 2018), at 5-85 to 5-89 (ML18100A220, ML18100A223) (Draft EIS).

[3] LBP-18-4, 88 NRC at 68.

[4] *See* Application Transmittal Letter at 1 (unnumbered).

[5] An ESP allows a future applicant for a construction permit and operating license or COL to seek early NRC review and approval of certain siting and environmental issues and to "bank" a site for up to 20 years in anticipation of its future reference in an application for a construction permit or COL. *See* 10 C.F.R. § 52.26. ESP applicants may request a limited work authorization in conjunction with an ESP. *See* 10 C.F.R. § 52.17(c). TVA did not seek a limited work authorization in this case and has not set a date for any pre-construction activities. Ex. NRC-009A, Tennessee Valley Authority, "Clinch River Nuclear Site Early Site Permit Application, Part 3, Environmental Report," rev. 2 (Jan. 2019), at 1-5 (ML19030A478 (package)) (Environmental Report); Tr. at 48 (Ms. Bradford).

[6] *See* Exs. NRC-015A & NRC-015B, "Environmental Impact Statement for an Early Site Permit (ESP) at the Clinch River Nuclear Site" (Final Report), NUREG-2226, vols. 1-2 (Apr. 2019), at 1-1 to 1-2 (ML19227A213, ML19227A215) (Final EIS); Tr. at 43-44 (Mr. Brown).

As permitted by our regulations, TVA did not reference a specific reactor design in its application.[7] Instead, TVA employed a plant parameter envelope (PPE) approach, in which technical information from various designs is used to develop a set of postulated design parameters that bound the characteristics of any reactor that may be constructed at the site.[8] In developing its PPE, TVA considered four light-water SMR designs under development in the United States at the time of the submission of the application.[9] The Staff relied on the PPE as a surrogate for the future selected reactor design when conducting its safety and environmental reviews.[10]

The Staff spent approximately 40,000 hours, with an additional 6,000 hours from outside technical experts, reviewing TVA's application to determine whether it complies with the Atomic Energy Act of 1954, as amended (AEA), the National Environmental Policy Act of 1969 (NEPA), and the NRC's regulations.[11] The Staff's review included an analysis of the environmental impacts of granting the ESP, including impacts from the construction and operation of two or more SMRs at the Clinch River site and alternate sites, in accordance with NEPA.[12] The Advisory Committee on Reactor Safeguards (ACRS), a committee of technical experts advising the Commission, provided an independent assessment of the safety aspects of the application.[13] The ACRS recommended that the ESP be issued.[14]

B. Review Standards

Section 189a. of the AEA requires that we hold a hearing on each application

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[7] *See* 10 C.F.R. § 52.17; *see also* Ex. NRC-014A, "Final Safety Evaluation Report for the Early Site Permit Application for the Clinch River Nuclear Site" (June 2019), at 1-3 to 1-4 (ML19227A216) (Final SER); Ex. NRC-015A, Final EIS, at 1-2 to 1-3.

[8] *See* Ex. NRC-014A, Final SER, at 1-3 to 1-4; Ex. NRC-015A, Final EIS, at 1-2 to 1-3. An applicant for a construction permit or COL referencing the ESP would be required to identify a specific reactor technology. The Staff's environmental and safety reviews of the application would compare "the PPE values and the ESP . . . to those of the selected technology. If the design characteristics of the selected technology exceed the bounding ESP PPE values, additional reviews would be conducted to ensure that the site remains suitable from a safety and environmental standpoint . . . ." Tr. at 45-46 (Ms. Bradford).

[9] *See* Application Transmittal Letter at 1 (unnumbered); Ex. NRC-014A, Final SER, at 1-3; Ex. NRC-015A, Final EIS, at 1-3.

[10] *See* Ex. NRC-014A, Final SER, at 1-3 to 1-4; Ex. NRC-015A, Final EIS, at 3-1.

[11] Tr. at 42 (Mr. Brown).

[12] *See* Ex. NRC-015A, Final EIS, at 4-1, 5-1, 9-2 to 9-3; Tr. at 157 (Ms. Dozier).

[13] *See* Letter from Michael L. Corradini, Chairman, ACRS, to Kristine L. Svinicki, Chairman, NRC (Jan. 9, 2019) (ML19009A286) (ACRS Letter); Tr. at 46 (Ms. Bradford).

[14] ACRS Letter at 1; Tr. at 46 (Ms. Bradford).

to construct a nuclear power plant.[15] Additionally, an ESP application is subject "to all procedural requirements in 10 C.F.R. part 2."[16] We issued a notice in the *Federal Register* that set the time and place for the mandatory hearing and outlined the standards for our review of the application.[17] These standards track the two major areas of focus for the review of a license application: the Staff's safety and environmental reviews. With respect to safety matters, we must determine whether:

(1) the applicable standards and requirements of the AEA and the Commission's regulations have been met;

(2) any required notifications to other agencies or bodies have been duly made;

(3) there is reasonable assurance that the site is in conformity with the provisions of the AEA and the Commission's regulations;

(4) the applicant is technically qualified to engage in the activities authorized by the early site permit;

(5) issuance of the permit will not be inimical to the common defense and security or to the health and safety of the public; and

(6) the findings required by subpart A of 10 C.F.R. part 51 have been made.[18]

The findings required by subpart A of 10 C.F.R. part 51 reflect our agency's obligations under NEPA, a statute that requires us to consider the impacts of NRC actions on environmental values.[19] To ensure that these obligations are fulfilled for this ESP proceeding, we must

(1) determine whether the requirements of Sections 102(2)(A), (C), and (E) of NEPA and the applicable regulations in 10 C.F.R. part 51 have been met;

(2) independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken;

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[15] *See* AEA § 189a., 42 U.S.C. § 2239(a).

[16] 10 C.F.R. § 52.21; *see id.* § 52.1(a); *see also Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5, 27-29 (2005).

[17] *See* Tennessee Valley Authority; Clinch River Nuclear Site; Early Site Permit Application; Notice of Hearing, 84 Fed. Reg. 31,358 (July 1, 2019) (Hearing Notice).

[18] Hearing Notice, 84 Fed. Reg. at 31,358 (citing 10 C.F.R. § 52.24). The findings described in 10 C.F.R. § 52.24(a)(5) and (a)(7) are not applicable to the Clinch River site because TVA did not propose inspections, tests, analyses and acceptance criteria under 10 C.F.R. § 52.17(b)(3), nor did it request a limited work authorization under 10 C.F.R. § 52.17(c). *See* Tr. at 48 (Ms. Bradford).

[19] NEPA § 102(2), 42 U.S.C. § 4332(2); 10 C.F.R. § 51.10.

(3) determine, after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, whether the early site permit should be issued, denied, or appropriately conditioned to protect environmental values; and

(4) determine whether the NEPA review conducted by the NRC staff has been adequate.[20]

We do not review TVA's application *de novo*; rather, we consider the sufficiency of the Staff's review of the application on both safety and environmental matters.[21] In other words, we consider whether the safety and environmental record is adequate to support issuance of the ESP and whether the Staff's findings are reasonably supported in logic and fact.[22] Under our regulations, we must reach our own independent determination on certain environmental findings — i.e., whether the cited NEPA requirements have been met, what is the appropriate "final balance among conflicting factors," and whether the early site permit "should be issued, denied[,] or appropriately conditioned."[23] But we will not "second guess [the Staff's] underlying technical or factual findings" unless we find the Staff's review incomplete or inadequate or its findings insufficiently explained in the record.[24]

C. The Hearing Process

The Staff completed its Final EIS in April 2019 and its Final SER on June 14, 2019. On June 21, 2019, we received the Staff's information paper regarding its work, which serves as the Staff's pre-filed testimony for the uncontested hearing.[25]

1. Pre-hearing Activities

We issued a Notice of Hearing on July 1, 2019, which set a schedule for pre-hearing filings.[26] We issued fifty-eight questions on environmental and safety-

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[20] Hearing Notice, 84 Fed. Reg. at 31,358 (citing 10 C.F.R. § 51.105). Because this is an uncontested proceeding, 10 C.F.R. § 51.105(a)(5), which concerns only contested cases, does not apply.

[21] *See Clinton ESP Site,* CLI-05-17, 62 NRC at 38-39.

[22] *See id.* at 39.

[23] *See id.* at 45 (citing 10 C.F.R. § 51.105(a)(1)-(3)).

[24] *Id.* at 45.

[25] *See* Ex. NRC-001, "Staff's Statement in Support of the Uncontested Hearing for Issuance of an Early Site Permit for Clinch River Nuclear Site," Commission Paper SECY-19-0064 (June 21, 2019) (ML19107A241) (Staff Information Paper).

[26] *See* Hearing Notice, 84 Fed. Reg. at 31,358.

related topics for the Staff and TVA to answer in writing in advance of the hearing.[27] The questions covered safety-related issues regarding emergency preparedness, seismic hazards, and geologic characteristics of the Clinch River site and environmental issues including the identification of alternative sites, the Staff's interaction with other federal agencies, the consideration of impacts to various resource areas, and the deferred issues related to the construction permit or COL stage.[28]

We also invited interested states, local government bodies, and federally-recognized Indian tribes to provide statements for us to consider as part of the uncontested proceeding.[29] In response, we received comments from the Federal Emergency Management Agency (FEMA) and the Tennessee Emergency Management Agency (TEMA).[30] The letter from FEMA provided comments on TVA's proposal to use a two-mile or site boundary plume exposure pathway (PEP) emergency planning zone (EPZ), which we discuss below.[31] The letter from TEMA expressed support for the ESP and TEMA's commitment "to be an active participant in all emergency planning and Radiological Emergency Preparedness exercises and evaluations to assure that this project meets or exceeds all standards as they are refined or developed."[32]

2. The Hearing

The scheduling note, issued to the parties before the hearing, set the topics for and the order of presentations at the hearing.[33] In the first panel, witnesses for TVA provided an overview of TVA's SMR project and the Clinch River ESP application. In the second panel, witnesses for the Staff provided an overview of the ESP review process and a summary of the Staff's review and regula-

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[27] *See* Order of the Secretary (Transmitting Pre-Hearing Questions) (July 12, 2019) (unpublished) (Pre-Hearing Questions Order).

[28] *See generally id.*

[29] *See* Hearing Notice, 84 Fed. Reg. at 31,358-59.

[30] *See* Letter from Michael S. Casey, FEMA, to the Secretary of the Commission (July 8, 2019) (ML19189A318) (FEMA Letter); Letter from Patrick C. Sheehan, TEMA, to the Secretary of the Commission (July 9, 2019) (ML19191A060) (TEMA Letter).

[31] FEMA Letter at 1-2 (unnumbered). Our regulations describe two separate EPZs: a "plume exposure pathway" EPZ of about ten miles from a power reactor site and an "ingestion pathway" EPZ of about fifty miles from a power reactor site. *See* 10 C.F.R. § 50.33(g). This case involves consideration of exemptions to our requirements for the PEP EPZ but not the ingestion pathway EPZ. *See* Ex. NRC-014A, Final SER, at 13-60. Hereinafter, when we refer to the "EPZ" or TVA's "EPZ-sizing methodology," we refer only to the PEP EPZ.

[32] TEMA Letter at 1 (unnumbered).

[33] Memorandum from Annette L. Vietti-Cook, Secretary of the Commission, to Counsel for the Applicant and Staff (Aug. 9, 2019) (ML19221B631) (Scheduling Note).

tory findings. The third panel focused on safety-related issues, and the fourth panel focused on environmental issues. The Staff made available twenty-two witnesses at the hearing.[34] Nine of these witnesses were scheduled panelists; the remainder stood by to answer questions on topics related to their areas of expertise.[35] A total of nine TVA witnesses attended the hearing, six of whom offered testimony on behalf of TVA on panels at the hearing and in pre-filed written testimony.[36]

a. Summary of the Overview Panels

Joe Shea, TVA Vice President of Regulatory Affairs and Support Services, and Dan Stout, TVA Director of Nuclear Technology Innovation, provided testimony for the TVA overview panel.[37] Mr. Shea provided background on TVA and its mission.[38] Mr. Stout described TVA's technical qualifications and objectives for the Clinch River SMR project.[39] Mr. Stout also answered questions regarding the effectiveness of TVA's interaction with the Staff during its review and the design-driven safety enhancements expected of SMR technology.[40]

Frederick Brown, Director of the Office of New Reactors (NRO), and Anna Bradford, Deputy Director of the Division of Licensing, Siting and Environmental Analyses, NRO, provided background on the Staff's review of the Clinch River ESP.[41] Mr. Brown provided an overview of the Clinch River ESP application.[42] Ms. Bradford described the Staff's safety and environmental reviews and

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[34] *See* NRC Staff Revised Witness List (Aug. 12, 2019), Attach. (ML19224C641); Tr. at 13.

[35] *See* Ex. NRC-016-R, Staff Presentation Slides — Overview (Aug. 12, 2019), at 1-2 (ML19227A247); Ex. NRC-017, Staff Presentation Slides — Safety Panel (Aug. 7, 2019) (ML19227A244), at 2 (Staff Safety Panel Presentation); Ex. NRC-018, Staff Presentation Slides — Environmental Panel (Aug. 7, 2019) (ML19227A246), at 2 (Staff Environmental Panel Presentation).

[36] *See* Tennessee Valley Authority's Amended Witness List (Aug. 2, 2019), at 1-3 (ML19214A247); Tr. at 11; Ex. TVA-001, Applicant's Pre-filed Testimony in Support of the Mandatory Hearing for the Clinch River Nuclear Site Early Site Permit (July 26, 2019) (ML19227A223); Ex. TVA-004, Tennessee Valley Authority's Presentation Slides — Overview (Aug. 7, 2019) (ML19227A237); Ex. TVA-005, Tennessee Valley Authority's Presentation Slides — Safety Panel (Aug. 7, 2019), at 1 (ML19227A238) (TVA Safety Panel Presentation); Ex. TVA-006, Tennessee Valley Authority's Presentation Slides — Environmental Panel (Aug. 7, 2019), at 1 (ML19227A239); Ex. TVA-007, Tennessee Valley Authority's Presentation Slides — Conclusion (Aug. 7, 2019) (ML19227A240).

[37] Tr. at 16-39; Scheduling Note, Encl. at 1.

[38] Tr. at 16-21.

[39] Tr. at 21-29.

[40] Tr. at 31-36.

[41] Tr. at 39-56; Scheduling Note, Encl. at 2.

[42] Tr. at 41-44.

the regulatory standards governing those reviews.[43] Ms. Bradford also provided the Staff's findings in support of issuance of the ESP.[44] Ms. Bradford answered questions relating to the applicant's decision to defer its analysis of the need for power; Mr. Brown and Ms. Bradford each addressed questions regarding lessons learned from the Staff's review of the ESP application.[45]

b. Summary of the Safety Panel

The safety panel focused on Parts 2, 5, and 6 of the ESP application and corresponding chapters of the Final SER.[46] Mr. Stout; Archie Manoharan, TVA Senior Program Manager of Site Nuclear Licensing; Alex Young, TVA Mechanical Engineer for Design; and Wally Justice, President, NAVCON Consulting Services, LLC, served as witnesses for TVA.[47] Allen Fetter, NRO Senior Project Manager; Mallecia Sutton, NRO Senior Project Manager; Bruce Musico, Senior Emergency Preparedness Specialist, Office of Nuclear Security and Incident Response (NSIR); Michelle Hart, NRO Senior Reactor Engineer; and Michael Scott, Director of the Division of Preparedness and Response, NSIR, testified for the Staff.[48]

TVA presented testimony on the ESP application's emergency preparedness approach.[49] Ms. Manoharan described the two alternative "major features" emergency plans submitted as part of the ESP application and the exemptions TVA sought from the EPZ requirements in 10 C.F.R. part 50.[50] Mr. Young discussed the EPZ-sizing methodology that TVA used in its application.[51] The Staff focused its presentation on novel issues relating to emergency preparedness that the Staff identified in its review of the application, including the Staff's evaluation of and conclusions on TVA's proposed exemptions from certain emergency planning requirements and the risk-informed, dose-based, and consequence-oriented methodology for determining the appropriate EPZ for SMRs at the Clinch River site.[52] The Staff also summarized its proposed permit conditions.[53] Mr. Scott

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[43] Tr. at 44-56.

[44] Tr. at 47-48, 53-56.

[45] Tr. at 57, 58-62.

[46] Tr. at 64-74, 80-82; Ex. TVA-005, TVA Safety Panel Presentation, at 2-11; Ex. NRC-017, Staff Safety Panel Presentation, at 11-29, 39-42.

[47] Tr. at 64-74; Scheduling Note, Encl. at 2.

[48] Tr. at 74-100; Scheduling Note, Encl. at 2.

[49] Tr. at 64-74.

[50] Tr. at 64-70.

[51] Tr. at 70-73.

[52] Tr. at 79-92; Scheduling Note, Encl. at 2-3.

[53] Tr. at 77 (Ms. Sutton).

answered questions relating to TVA's EPZ-sizing methodology, the basis for the Staff's approval of that methodology, and questions regarding the Staff's consultation with FEMA.[54]

c. Summary of the Environmental Panel

The environmental panel focused on relevant sections of TVA's environmental report and the Staff's Final EIS. Mr. Stout; Mr. Holcomb; Jeff Perry, TVA Senior Project Manager; and Ruth Horton, TVA Program Manager for Environmental Support represented TVA.[55] Tamsen Dozier, NRO Project Manager, and Kenneth Erwin, Chief of the NRO Environmental Technical Review Branch, testified on behalf of the Staff.[56] The TVA witnesses discussed the regulatory bases for the environmental report, the site selection process, characteristics of the Clinch River site, their environmental impact conclusions, and their interactions with state and federal agencies.[57] The Staff described the proposed federal action, the Clinch River project objectives, as well as the Staff's environmental review process, evaluation of alternatives to the proposed action, consultation with other agencies and Indian tribes, and consideration of and conclusions on environmental impacts.[58] Ms. Dozier answered questions relating to the Staff's consideration of the benefits of the proposed action, and Mr. Erwin addressed questions regarding the Staff's consideration of alternatives.[59]

Following the environmental panel, witnesses for TVA and the Staff each provided a short closing statement, and the Staff addressed additional questions from the Commission.[60]

3. Post-Hearing Activities

After the hearing, we issued additional questions for written answers from the Staff.[61] We also received a supplemental letter from FEMA regarding information presented by the Staff at the hearing.[62] We admitted the Staff's response

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[54] Tr. at 101-06, 120-32, 134-38.

[55] Tr. at 146; Scheduling Note, Encl. at 3.

[56] Tr. at 153; Scheduling Note, Encl. at 3.

[57] Tr. at 146-52.

[58] Tr. at 163-69.

[59] Tr. at 172-74.

[60] Tr. at 178-84, 185-87.

[61] *See* Order of the Secretary (Transmitting Post-Hearing Questions) (Aug. 21, 2019) (unpublished) (Post-Hearing Questions Order).

[62] *See* Letter from Michael S. Casey, FEMA, to the Secretary of the Commission (Aug. 24, 2019) (ML19240A938) (Supplemental FEMA Letter).

to our post-hearing questions as an exhibit, and we adopted corrections to the hearing transcript.[63] The Staff responded to FEMA's supplemental letter, we admitted that response as an exhibit, and closed the evidentiary record for the uncontested proceeding.[64]

II. DISCUSSION

The discussion that follows provides a survey of the key facts that support our findings and certain site-specific and novel issues in the Staff's safety and environmental reviews. Our review and our decision to authorize issuance of the Clinch River ESP, however, is based on the record in its entirety.[65] Further, we emphasize that our authorization of the ESP for the Clinch River site does not constitute authorization to construct or operate a reactor at the site. The construction and operation of one or more reactors at the Clinch River site would require further authorization from the NRC and the attendant consideration of any safety and environmental issues that are not resolved in this ESP proceeding.[66]

A. The Clinch River Site

The Clinch River site is located within the city limits of the City of Oak

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[63] *See* Ex. NRC-019, NRC Staff Responses to Commission Post-Hearing Questions and Request for Additional Record Corrections (Aug. 28, 2019) (ML19259A099) (Staff Post-Hearing Responses); *see also* Order of the Secretary (Adopting Proposed Transcript Corrections, Granting Motions Requesting Additional Record Corrections and Leave to Submit a Response to FEMA's Post-Hearing Letter, Admitting Post-Hearing Exhibits, and Closing the Record of the Proceeding) (Sep. 13, 2019) (unpublished) (Transcript Correction Order).

[64] Ex. NRC-020, NRC Staff Response to FEMA Post-Hearing Letter (Sept. 5, 2019) (ML19259-A100) (Staff Response to Post-Hearing Letter); Transcript Correction Order.

[65] *See Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-06-20, 64 NRC 15, 21-22 (2006) (in a mandatory hearing, a presiding officer "must narrow its inquiry to those topics or sections in Staff documents that it deems most important and should concentrate on portions of the documents that do not on their face adequately explain the logic, underlying facts, and applicable regulations and guidance.").

[66] *See System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-14, 65 NRC 216, 218-19 (2007); *see also Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 235 (2007) ("[c]ourts have permitted agencies to defer certain issues in an EIS for a multistage project when detailed useful information on a given topic is not 'meaningfully possible' to obtain, and the unavailable information is not essential to determination at the earlier stage." (quoting *Envtl. Law & Policy Ctr. v. NRC,* 470 F.3d 676, 684 (7th Cir. 2006))).

Ridge, in Roane County, Tennessee.[67] The site encompasses approximately 935 acres of land on a peninsula within a 1,200 acre parcel of land owned by the United States and administered by TVA.[68] The U.S. Department of Energy's Oak Ridge Reservation and Wildlife Management Area borders the site to the north, and the Clinch River arm of the Watts Bar Reservoir bounds the site to the east, south, and west.[69] Some basic infrastructure features, including service roads and storm water retention structures, are present on the site.[70] Two transmission lines intersect the property, and this feature would "mak[e] transmission connection relatively easy."[71] There are no residences or businesses within the Clinch River site boundary. TVA controls all activities within, and access to, the site and prohibits recreational activities and hunting on the property.[72] TVA also controls access to a small family cemetery and a single Native American burial mound on the property.[73] Although no public transportation routes cross the property, U.S. Interstate 40 (I-40) passes the site approximately 0.6 miles to the southeast, and Tennessee state Routes 58 and 95 pass within approximately 0.9 and 2.6 miles of the site, respectively.[74]

The City of Oak Ridge is the largest community within ten miles of the Clinch River site and had, as of the time of the 2010 census, a population of 29,330.[75] Other communities located near the site, all in Tennessee, include Kingston, approximately seven miles to the west; Harriman, approximately nine miles to the west-northwest; Lenoir City, approximately nine miles to the southeast; and Knoxville, approximately twenty-six miles to the east-northeast.[76]

The Clinch River site has undergone prior site characterization studies performed when it was proposed as the location for the subsequently cancelled Clinch River Breeder Reactor Project.[77] Prior studies were used (along with field studies and other current information) to characterize geotechnical and hydrogeological conditions at the site.[78] Previous site characterization also significantly

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[67] Ex. NRC-014A, Final SER, at 2-2.

[68] *Id.*; Ex. NRC-002, Draft Early Site Permit, at 1; Tr. at 24 (Mr. Stout).

[69] Ex. NRC-014A, Final SER, at 2-2; Tr. at 24 (Mr. Stout).

[70] Tr. at 25, 30-31 (Mr. Stout).

[71] Ex. NRC-014A, Final SER, at 1-3; Tr. at 24-25 (Mr. Stout).

[72] Ex. NRC-014A, Final SER, at 2-5.

[73] *Id.*

[74] *Id.* at 2-2, 2-5.

[75] *Id.* at 1-2.

[76] Ex. NRC-002, Draft Early Site Permit, at 1.

[77] Ex. NRC-014A, Final SER, at 2-135 to 2-137.

[78] *Id.* at 2-140; Tr. at 115-16 (Mr. Stout). Prior site characterization studies resulted in an unknown number of abandoned wells. The Staff found, however, that potential groundwater move-

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aided in the understanding of karst formations in the area, which include caves, cavities, and sinkholes. Karst formations are caused by dissolution of carbonate bedrock and constitute the primary geologic hazard at the Clinch River site.[79] TVA conducted detailed mapping of the Clinch River site to develop an inventory of those formations.[80] The Staff proposed permit conditions to minimize the adverse effects of karst features on the stability of subsurface materials and foundations.[81] The permit conditions would require excavations and detailed geologic mapping of excavations for safety-related structures at the Clinch River site to provide additional information before construction is authorized.[82]

The Clinch River site features non-horizontal layers of geologic strata, which the Staff found were appropriately investigated through geophysical testing and properly considered in TVA's evaluation of seismic hazards.[83] The Clinch River site is considered a dry site because it sits at an elevation higher than maximum flood levels, such that flooding would have no safety-related impact.[84]

B. Plant Parameter Envelope

In lieu of selecting a specific reactor technology for deployment at the Clinch River site, TVA used a PPE approach in its ESP application.[85] To serve as an effective surrogate for a specific reactor design, a PPE "should provide sufficient bounding parameters and characteristics of the reactor or reactors and the associated facilities so that an assessment of site suitability can be made."[86] TVA's PPE for this ESP application was informed by the designs of four light water SMRs under development in the United States — BWXT mPowerTM SMR (Generation mPower LLC), Holtec SMR-160 (Holtec SMR, LLC), NuScale SMR (NuScale Power, LLC), and Westinghouse SMR (Westinghouse Electric Company, LLC).[87] TVA's ESP application assumes the deployment and operation of two or more SMRs with "a maximum of 800 megawatts thermal for

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ment through undiscovered wells poses no safety exposure risks based on the Staff's evaluation of groundwater flow and discharge at the site. *See* Ex. NRC-014A, Final SER, at 2-140 to 2-143; Ex. NRC-005, NRC Staff Responses to Pre-Hearing Questions (July 26, 2019), Attach. at 3 (Staff Pre-Hearing Responses).

[79] Ex. NRC-014A, Final SER, at 2-200.

[80] Ex. NRC-014A, Final SER, at 2-185.

[81] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 6-7.

[82] *Id.*; Ex. NRC-014A, Final SER, at 2-304, 2-249 to 2-250.

[83] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 8-12.

[84] Ex. NRC-014A, Final SER, at 2-82, 2-84; Tr. at 108 (Mr. Giacinto).

[85] Ex. NRC-014A, Final SER, at 1-3.

[86] Ex. NRC-015A, Final EIS, at 1-2 to 1-3.

[87] *Id.* at 1-3; Tr. at 23 (Mr. Stout).

each individual reactor unit and a maximum of 2,420 megawatts thermal," with combined maximum generating capacity of 800 MW(e) for the site.[88]

C. Emergency Planning Zones

This case presents us with our first opportunity to consider how current emergency planning zone requirements, originally developed for large, light-water reactors (~1200 MW(e)) (LLWRs), should be applied to SMRs. We recently indicated our willingness to revisit the current framework in this context, and in 2015 we directed the Staff to initiate rulemaking to revise emergency planning regulations and guidance for SMRs and other new technologies.[89] We further directed that "[f]or any small modular reactor reviews conducted prior to the establishment of a rule, the staff should be prepared to adapt an approach to emergency planning zones for SMRs under existing exemption processes, in parallel with its rulemaking efforts."[90]

The Staff followed that direction in its review of TVA's requested exemptions in this case.[91] TVA requested exemptions from our regulations governing power reactor EPZ size, which generally establish a nominal ten-mile radius around a power reactor for the EPZ. TVA proposed either a two-mile or site boundary EPZ using a dose-based, consequence-oriented EPZ-sizing methodology based in part on the Environmental Protection Agency's (EPA) protective action guides (PAGs).[92] As a result, TVA submitted two distinct "major features" emergency plans as part of its application, one that assumes a 2-mile EPZ and another that assumes a site boundary EPZ.[93] The Staff concluded that TVA's methodology for establishing a two-mile and site boundary EPZ is consistent with the methodology used to establish the ten-mile EPZs reflected in our current regulations, and recommended that the exemptions be granted.[94]

The ACRS also evaluated and examined TVA's EPZ-sizing methodology through a series of briefings held between May and December 2018.[95] Those briefings provided the ACRS with the opportunity to question both TVA and

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[88] Tr. at 25 (Mr. Stout); *see* Ex. NRC-014A, Final SER, at 1-2; Tr. at 45 (Ms. Bradford).

[89] *See* Staff Requirements — SECY-15-0077 — Options for Emergency Preparedness for Small Modular Reactors and Other New Technologies (Aug. 4, 2015) (ML15216A492).

[90] *Id.*

[91] *See* Ex. NRC-014A, Final SER, at 13-31 to 13-61.

[92] *See* Ex. NRC-010, "Clinch River Nuclear Site; Early Site Permit Application; Parts 5A and 5B, Emergency Plan," rev. 1 (Dec. 2017) (ML19227A202) (Emergency Plan Application).

[93] *See id.* The Staff found each plan acceptable, subject to certain conditions set forth in the ESP. *See* Ex. NRC-014A, Final SER, at 13-126 to 13-130.

[94] Tr. at 87-88 (Ms. Hart).

[95] ACRS Letter at 1.

Staff representatives on the principles underlying TVA's proposed risk-informed, dose-based, consequence-oriented approach to determine the plume exposure pathway EPZ sizing methodology.[96] The ACRS concluded that the Staff was correct in determining that TVA's EPZ-sizing methodology is "consistent with analyses that form the technical basis of the current [ten-mile] PEP EPZ and maintains the same level of protection"[97] and that "the design characteristics within the plant parameter envelope used by TVA in developing its Clinch River Nuclear Site early site permit application can be constructed and operated without undue risk to the health and safety of the public."[98] Consequently, the ACRS recommended that TVA's exemption requests should be granted.[99]

Neither TVA nor the Staff proposes to definitively establish the EPZ for the Clinch River site now because TVA's EPZ-sizing methodology would require evaluation of design-specific accident scenarios against dose criteria. At this point, no specific reactor design has been chosen for this detailed analysis. Rather, the Staff evaluated "the reasonableness of the applicant's proposed method for determining the" EPZ, which would be used by a future COL or construction permit applicant as justification for using a two-mile or site boundary EPZ in a future application.[100] According to the Staff, a future applicant would need to "confirm that the criteria are met for the selected . . . EPZ, using the specific information related to potential accidents that result in airborne radiological releases for the plant design chosen to be constructed and operated at the [Clinch River] Site."[101] If a future applicant shows that its selected SMR design could meet the dose criteria established in TVA's EPZ-sizing methodology at either a two-mile radius or the site boundary, then one of the two "major features" emergency plans submitted by TVA in this case could be used.[102] Otherwise, a new emergency plan would need to be developed.[103]

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[96] *Id.* at 1, 4-5.

[97] *Id.* at 5.

[98] *Id.* at 1.

[99] *Id.* at 1, 5.

[100] Ex. NRC-014A, Final SER, at 13-16.

[101] *Id.* at 13-15.

[102] Although TVA has not chosen a specific SMR design to construct and operate, it used design values from the PPE to demonstrate its methodology. TVA found that a two-mile EPZ "provides reasonable assurance of public health and safety from any of the four SMR designs within the PPE," and it is possible that at least one of the SMR designs will demonstrate that the 1 rem total effective dose equivalent threshold established in the EPA PAG Manual will not be exceeded at the site boundary. *Id.* at 13-27.

[103] As TVA has acknowledged, "[i]f the dose consequences of the selected technology exceed the EPA PAG or present a substantial risk that doses at which significant early health effects may occur for the PEP EPZ boundary at a two-mile radius, then neither Emergency Plan included [in the

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FEMA largely disagreed with TVA's proposed EPZ-sizing methodology and the potential future approval of a two-mile or site boundary EPZ. Prior to the hearing, FEMA communicated several concerns with the smaller EPZs being proposed in this case, including assertions that TVA's EPZ-sizing methodology misapplies EPA's PAGs for radiological accidents.[104] FEMA also noted that "State, Local, Tribal and Territorial . . . stakeholders must play a central role in managing and mitigating the risk by determining the appropriate offsite radiological [emergency planning] requirements" because radiological emergency preparedness is "unique" and "not sufficiently addressed" in an all-hazards emergency planning framework.[105] Finally, FEMA questioned whether the emergency preparedness framework applied by the Staff included the full spectrum of threats that can give rise to a reactor accident.[106]

To evaluate FEMA's concerns and determine for ourselves the sufficiency of the Staff's review, we posed several questions to the Staff before, during, and after our hearing regarding the EPZ-sizing methodology and related exemptions proposed in this case.[107] Representatives from FEMA attended the hearing, and, as noted above, FEMA provided a supplemental letter following the hearing.[108] We considered both the FEMA supplemental letter and the Staff's response to FEMA's supplemental letter.[109]

After considering the entire record, and as explained in greater detail below, we agree with the Staff that TVA's EPZ-sizing methodology is "reasonable and consistent with the analyses that form the technical basis for the current regulatory requirement of a plume exposure pathway EPZ with about a ten-mile radius for large LWRs."[110] We also agree that the proposed methodology would result in an EPZ that "maintains the same level of protection in the environs of the [Clinch River site] as that which exists at the [ten-mile] plume exposure

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ESP application] will be incorporated by reference in the [COL application] and a new Emergency Plan will be included in the [COL application] for NRC review." Ex. NRC-008, "Clinch River Nuclear Site; Early Site Permit Application; Part 2, Site Safety Analysis Report," rev. 2 (Jan. 2019) (ML19227A256) at 13.3-13 (SSAR).

[104] *See* FEMA Letter at 1-2; *see* U.S. Environmental Protection Agency, Office of Radiation and Indoor Air, "PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents" (Jan. 2017) (2017 PAG Manual).

[105] FEMA Letter at 2.

[106] *See id.* at 1-2.

[107] *See* Pre-Hearing Questions Order at 2, 8-15; Tr. at 101-06, 111-14, 117-44; Post-Hearing Questions Order at 2-4.

[108] *See* Tr. at 7 (Chairman Svinicki); Supplemental FEMA Letter; Ex. NRC-020, Staff Response to Post-Hearing Letter.

[109] *See* Supplemental FEMA Letter; Ex. NRC-020, Staff Response to Post-Hearing Letter.

[110] Ex. NRC-001, Staff Information Paper, at 14.

pathway EPZ for large LWRs."[111] Therefore, we approve the Staff's proposal to grant TVA's requested exemptions to our ten-mile EPZ requirements and associated emergency plan regulations.

1. Methodology Used to Establish Ten-Mile EPZs

Our existing EPZs are based upon work done by a joint NRC-EPA task force, which first introduced the concept of EPZs to our regulatory framework in the late 1970s.[112] The task force's report, NUREG-0396/EPA-520, considered a number of different potential bases for LLWR emergency planning and developed a methodology for defining EPZs. The Commission endorsed the task force's report and methodology shortly after publication in 1978. The report continues to form the basis for our current ten-mile EPZ requirements.[113]

The task force was convened shortly after the Conference of Radiation Control Program Directors passed a resolution in 1976 that requested that the NRC "make a determination of the most severe accident basis for which radiological emergency response plans should be developed by offsite agencies."[114] The task force "interpreted the request as a charge to provide a clearer definition of the types of radiological accidents for which States and local governments should plan and develop preparedness programs." [115]

The task force identified three key factors to effective radiological emergency planning: (1) "[t]he distance to which planning for the initiation of predetermined protective actions is warranted"; (2) "[t]he [time-dependent] characteristics of potential releases and exposures"; and (3) "[t]he kinds of radioactive materials that can potentially be released to the environment."[116] Of these factors, "the most important guidance for planning officials is the distance from the nuclear facility which defines the area over which planning for predetermined actions should be carried out."[117]

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[111] *Id.*

[112] *See* "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," NUREG-0396/EPA-520 (Dec. 1978) (ML051390356) (NUREG-0396/EPA-520).

[113] *See* Policy Statement, Planning Basis for Emergency Responses to Nuclear Power Reactor Accidents, 44 Fed. Reg. 61,123 (Oct. 23, 1979); Emergency Planning; Final Rule, 45 Fed. Reg. 55,402 (Aug. 19, 1980).

[114] NUREG-0396/EPA-520, app. II at II-14.

[115] *Id.*

[116] NUREG-0396/EPA-520 at 8.

[117] *Id.* As NUREG-0396/EPA-520 makes clear, emergency planning for reactor accidents took place well before the establishment of EPZs. *See id.,* app. II at II-1 to II-8. Establishment of

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The task force concluded that the appropriate planning distance should be determined by consideration of a spectrum of accident consequences tempered by probability considerations and that no single reactor accident scenario should drive determination of EPZ size.[118] Rather, "the objective of emergency response plans should be to provide dose savings for a spectrum of accidents that could produce offsite doses in excess of the PAGs" published by EPA.[119] More specifically, the EPZ should be the area beyond which the projected dose from design basis accidents (DBAs) and less severe core damage accidents (i.e., accidents not involving large releases of radioactive material to the environment) would not likely exceed the EPA early-phase PAGs. Additionally, the EPZ should be of sufficient size to provide for substantial reduction in early severe health effects in the event of more severe core-melt sequence accidents (i.e., beyond-design basis accidents with release of substantial quantities of radioactive materials to the environment).[120]

The task force considered but rejected rationales other than a dose-based, consequence-oriented accident analysis for radiological emergency planning, and also considered public perception of radiation hazards.[121] The task force suggested that if one were to compare the probability of reactor accidents to other public hazards, radiological emergency planning might arguably be "a matter of

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EPZs was an attempt to improve consistency regarding reactor emergency planning by generically defining the areas within which predetermined, as opposed to *ad hoc,* emergency planning should take place.

[118] NUREG-0396/EPA-520 at 4-6, 15-17.

[119] *Id.* at 5. FEMA has commented in this case that the use of PAGs to assist in the determination of an EPZ boundary is "an incorrect application of the EPA PAG" because they "are not guides to define the need for offsite preparedness." Supplemental FEMA Letter at 1. Although we agree that the PAGs do not "define the need for offsite preparedness," we disagree that using them in combination with accident-consequence analysis to determine EPZ size is "an incorrect application." As the Staff noted in its testimony and in its response to FEMA's post-hearing letter, the 2017 revision to the EPA PAG manual explicitly states that "the size of the EPZ is based on the maximum distance at which a PAG might be exceeded." Tr. at 97 (Mr. Scott); *see also* Ex. NRC-020, Staff Response to Post-Hearing Letter, at 2 (citing 2017 PAG Manual, at 23). And as NUREG-0396/EPA-520 makes clear, our development of the ten-mile EPZ currently contained in 10 C.F.R. § 50.33(g) explicitly relied on the EPA PAGs to determine where to draw that boundary. NUREG-0396/EPA-520 at 15-17. We therefore see no basis to revisit or revise the well-established use of PAGs to guide EPZ sizing.

[120] TVA has used a methodical procedure for selecting accident scenarios from the plant-specific probabilistic risk assessment and categorizing them as "less severe" or "more severe," based on core damage frequency (CDF). Ex. NRC-014A, Final SER, at 13-7. The less severe accident category includes core-melt accidents with intact containment, beyond-design basis scenarios, and accident scenarios with mean CDFs greater than 1×10^{-6}/reactor-yr. *Id.* The more severe accident category includes core-melt accidents with postulated containment bypass or failure with potential for higher consequences with mean CDFs greater than 1×10^{-7}/reactor-yr. *Id.*

[121] *See* NUREG-0396/EPA-520, app. I at I-1 to I-4.

prudence rather than necessity" because "society tolerates much more probable non-nuclear events with similar consequence spectrums without any specific planning."[122] The task force further observed that nuclear "reactors are unique in this regard [because] radiation tends to be perceived as more dangerous than other hazards because the nature of radiation effects are less commonly understood and the public generally associates radiation effects with the fear of nuclear weapons effects," and that "[r]adiological emergency planning is not based upon probabilities, but on public perceptions of the problem and what could be done to protect health and safety. In essence, it is a matter of prudence rather than necessity."[123] Therefore, the task force rejected the idea that a comparison of the risks or probabilities of reactor accidents against the risks or probabilities of other public hazards should drive radiological emergency planning.[124] Instead, the task force conservatively determined that "the calculated consequences from a spectrum of postulated accidents," including accidents that may be less likely than other public hazards, should be used to determine the appropriate radiological emergency planning basis.[125]

The task force's accident-analysis methodology modeled the dose consequences of a range of accidents at LLWRs, compared the resulting doses to various dose thresholds — including the EPA PAGs and the dose at which significant early injuries start to occur, and defined a planning zone according to the distance at which various dose thresholds could be exceeded, tempered by probability considerations.[126] The task force determined the size of the EPZ by evaluating DBA data from licensees' Final Safety Analysis Reports (FSARs) and accident sequences, risk, and source term data from NUREG-75/014 (WASH-1400), "Reactor Safety Study: An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants," October 1975. The task force's analysis showed a ten-mile EPZ would be "of sufficient size to provide dose savings to the population in areas where the projected dose from design basis accidents could be expected to exceed the applicable PAGs under unfavorable atmospheric condi-

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[122] *Id.* at I-2.

[123] *Id.* at I-1 to I-2. FEMA cites this language from NUREG-0396/EPA-520 in its August 24, 2019, letter, stating that FEMA "supports a methodology for EPZ sizing that takes into account such 'non-technical' criteria." Supplemental FEMA Letter at 2. To the extent FEMA suggests that the task force based its determination of an appropriate EPZ size on public perception or other "non-technical" criteria, we disagree. The technical criteria and quantitative methodology applied to determine EPZ size in NUREG-0396/EPA-520 are fully described beginning on page 4 of Appendix I of that report. The criteria and methodology do not include public perception of an appropriate EPZ.

[124] NUREG-0396, app. I at I-2 to I-4.

[125] *Id.* at I-3 to I-4.

[126] *Id.* at I-4 to I-7.

tions."[127] A ten-mile EPZ would also provide for substantial reduction in early severe health effects in the event of the more severe accidents.[128]

FEMA criticized TVA's EPZ-sizing methodology, claiming that it misapplied the PAGs for radiological accidents.[129] But the Staff found TVA's proposed methodology for calculating the EPZ is consistent with the methodology used in NUREG-0396/EPA-520, which, as discussed above, explicitly uses PAGs in determining the appropriate EPZ size for LLWRs.[130] We therefore agree with the Staff that TVA's EPZ-sizing methodology appropriately applied the PAGs as a threshold for EPZ sizing.

2. TVA's Proposed EPZ-Sizing Methodology

The Staff found that TVA's proposed methodology for calculating the EPZ is consistent with the methodology used in NUREG-0396/EPA-520. The methodology includes four steps: (1) select and categorize accident scenarios; (2) develop the fission product release to the environment as a function of time (radiological release source term); (3) calculate the projected dose consequences at a distance, and compare them to dose criteria for DBAs and less severe accidents; and (4) calculate the probability of dose exceedance at a distance, and evaluate the substantial reduction in early health effects criterion for more severe accidents.[131]

Before reviewing the four-step methodology, the Staff first reviewed TVA's dose criteria. TVA's dose criteria are (1) that the EPZ should encompass the areas in which projected dose from DBAs and less severe core-melt accidents could exceed the EPA early phase PAGs, and (2) the EPZ should be of sufficient size to provide for substantial reduction in early severe health effects in the

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[127] *Id.* at 16. The phrase "same level of protection" as used by the NRC Staff refers to "dose savings" and not to overall established emergency response capabilities. As with all events, the response capabilities should be proportional to the hazard. The EPA PAGs are used for EPZ sizing to avoid the negative impacts of evacuations when they are not exceeded by the positive result of the evacuation (i.e., reduced radiation exposure and thus reduced stochastic risk). EPA's PAG Manual states that, "[w]hen dose projections are at levels less than 1 rem (10 mSv) over the first four days, evacuation is not recommended due to the associated risks of moving large numbers of people." 2017 PAG Manual at 16.

[128] NUREG-0396/EPA-520 at 17.

[129] *See* FEMA Letter at 2.

[130] *See* Ex. NRC-014A, Final SER, at 13-126.

[131] *Id.*

event of more severe core-melt accidents.[132] These dose criteria are consistent with those in NUREG-0396/EPA-520.[133]

The Staff proceeded to evaluate TVA's methodology for calculating the EPZ and first found TVA's approach to accident selection and categorization consistent with the methodology used in NUREG-0396/EPA-520.[134] Specifically, TVA proposed to evaluate design basis, less-severe, and more-severe accidents to determine the EPZ size.[135] This approach contemplates description of design basis accidents in the FSAR developed for the selected SMR design, which the Staff would review in accordance with its standard review plan.[136] TVA would develop a range of severe accident scenarios for evaluation based on design-specific probabilistic risk analysis and core damage frequencies, and the Staff would also review and verify.[137]

Second, the Staff reviewed TVA's planned approach for developing design-specific radiological source terms, to be used in accident analyses once a specific SMR design is proposed. The Staff found TVA would develop the source terms in accordance with NRC-accepted methodologies, and the Staff would review the source terms in detail once submitted.[138] With regard to the third and fourth considerations, the Staff also reviewed in detail TVA's "method for performing the consequence analyses to support the determination . . . of the PEP EPZ size" and found it "reasonable and consistent with the analyses that were described in NUREG-0396/EPA-520."[139]

In addition to reviewing each step of TVA's EPZ-sizing methodology against the methodology employed in NUREG-0396/EPA-520, the Staff reviewed two example evaluations using that methodology to determine the likelihood that it could in fact be relied upon to support TVA's exemption requests.[140] TVA performed the first example evaluation "using information about potential design basis and severe accidents for one of the SMR designs used to develop the [ESP

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[132] *See id.* at 13-16. TVA's criterion for "substantial reduction in early severe health effects" is that "the conditional probability of acute dose exceeding a 200 rem whole body dose from more severe accident scenarios is less than 1×10^{-3} per reactor-year (rx-yr)." *Id.* at 13-17. The Staff found this criterion acceptable because it is "similar to the criterion used to evaluate consequences of very severe accidents (e.g., less probable core damage accidents that release very large quantities of radioactive material to the atmosphere) in NUREG–0396," and "based upon the same reasoning that was used as the technical basis for the PEP EPZ distance, as codified in NRC regulations." *Id.*

[133] *See id.* at 13-16 to 13-17.

[134] *See id.* at 13-17 to 13-18.

[135] *Id.*; Ex. NRC-008, SSAR, at 13.3-8.

[136] Ex. NRC-014A, Final SER, at 13-17 to 13-18.

[137] *Id.*

[138] *Id.* at 13-18.

[139] *Id.* at 13-18 to 13-19.

[140] *Id.* at 13-19 to 13-24.

application] PPE."[141] That evaluation showed that doses from design basis and severe accidents would be "much less" than the pertinent EPA PAGs at the site boundary.[142] The Staff's audit of TVA's calculations "determined that the DBA and severe accident scenarios, as well as isotopic release values in the example calculation, are consistent with the information that the SMR vendor supplied in its design certification application FSAR," and that "the SMR vendor used reasonable assumptions and acceptable computer codes to develop the accident source terms."[143] Therefore, the Staff found the "example calculation accident source terms to be not unreasonable for use in evaluation of the likelihood that a [future applicant] would be able to justify an EPZ size of less than a [ten-mile] radius, with an analysis using SMR design-specific information."[144]

The Staff also requested that TVA develop "non-design-specific plant parameters (i.e., accident atmospheric release source term) for the EPZ exemption requests," because TVA stated that it "does not intend the exemption requests to be applicable only to a specific design as in the example calculation" initially evaluated.[145] In response, TVA developed a "non-design-specific 4-day total atmospheric release source term . . . based on vendor information about accident source terms from a spectrum of accidents and SMR vendors."[146] To account for design uncertainty given that no SMR designs have currently been certified, "TVA increased the isotopic releases by a discretionary margin of 25 percent" and then used the non-design-specific source term as an input to its EPZ-sizing methodology.[147] The resulting analysis, which the Staff independently audited, "confirmed that the radiological consequences of accidents would not exceed the methodology dose criteria."[148] The analysis provided assurance that, "if the releases from the specific plant chosen for a [COL application] are bounded by those in the non-design-specific plant parameter accident atmospheric release source term, it is likely that the [COL application] evaluation of EPZ size would support the use of [the requested] EP exemptions."[149]

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[141] *Id.* at 13-19.

[142] *Id.* at 13-19 to 13-20.

[143] *Id.* at 13-20.

[144] *Id.*

[145] *Id.*

[146] *Id.* at 13-21.

[147] *Id.*

[148] *Id.*

[149] *Id.* To ensure that the proposed exemptions in this case are limited to a future application that accords with the Staff's detailed safety evaluation of TVA's proposed EPZ-sizing methodology, the Staff proposed Permit Condition 5. *See id.* at 13-23. Permit Condition 5 would require a future applicant to demonstrate that the accident release source term information used to determine the EPZ size is bounded by the non-design-specific plant parameter source term evaluated in the Final SER. *See* Tr. at 89-90 (Ms. Hart).

In summary, the Staff found that "the basis for the establishment of a site boundary and [two-mile] PEP EPZ in the [ESP application] maintains the same level of protection (i.e., dose savings) in the environs of the [Clinch River site], as that which exists at the [ten-mile] PEP EPZ for LLWRs" because "the methodology that is, or would be, used to determine the acceptability of all three distances (i.e., site boundary, [two-mile], and [ten-mile] PEP EPZs) uses the same radiation exposure bounding criteria/limits, which ensure that any radiation exposures beyond the PEP EPZ would be highly unlikely to exceed the EPA early phase PAGs."[150] Therefore, "the basis for the site boundary and [two-mile] PEP EPZs for the [Clinch River site] is acceptable because it meets the same radiation protection criteria . . . that are required for LLWRs."[151]

3. Exemption Requests

We may grant exemptions to our rules in 10 C.F.R. part 50 when (1) the exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security and (2) special circumstances are present.[152] Special circumstances are present when application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.[153]

The Staff found that granting exemptions to our requirements for a nominal ten-mile EPZ is authorized by law because the standards of 10 C.F.R. § 50.12 are met and the exemptions would not result in a violation of any of our regulations or the AEA.[154] The Staff found that granting the exemptions would not affect the common defense and security because the change would be unrelated to security issues.[155] The Staff also found that a smaller EPZ would present no undue risk to the public health or safety because, as discussed at length above, application of the EPZ-sizing methodology and dose criteria approved in this case would result in an EPZ for the Clinch River site that would still be "required to meet the same EPA early phase PAGs as the [ten-mile] EPZs for LLWRs," such that there is "no change in risk to public health and safety."[156]

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[150] Ex. NRC-014A, Final SER, at 13-40.

[151] *Id.*

[152] 10 C.F.R. § 50.12.

[153] 10 C.F.R. § 50.12(a)(2)(ii).

[154] Ex. NRC-014A, Final SER, at 13-31, 13-35.

[155] *Id.* at 13-32, 13-35.

[156] *Id.* at 13-31 to 13-32, 13-35. The Staff also found that granting an exemption to our ten-mile EPZ requirements would not increase the probability of postulated accidents or result in any new

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The Staff found special circumstances were present per 10 C.F.R. § 50.12(a)(2)(ii) because the underlying purpose of the regulations would be met under the terms of the proposed exemption. The Staff stated that the underlying purpose of the ten-mile EPZ in 10 C.F.R. § 50.33(g), 10 C.F.R. § 50.47(b) and (c)(2), and Appendix E to 10 C.F.R. Part 50 "is to ensure that the . . . EPZ size is sufficient to provide dose savings to the population in areas where the projected dose from DBAs could be expected to exceed the applicable EPA early phase PAGs . . . under unfavorable atmospheric conditions."[157] The Staff concluded that, because the site boundary EPZ would be subject to the same EPA early phase PAGs, the underlying purpose of the above regulations would be met under the terms of the proposed exemptions, pursuant to meeting Permit Condition 5.[158] Accordingly, the Staff found special circumstances were present, which justified granting the exemption.

The Staff also proposed to grant additional exemptions from several requirements for formal offsite emergency planning, notifications, and exercises. These proposed exemptions would apply only in the event a site boundary EPZ is later approved.[159] As the Staff explained during the hearing, "[a] site boundary EPZ, in such circumstances, is analogous to the approach to emergency planning for other facilities posing very small offsite risk, including non-power reactors," for which formal offsite emergency plans are not required.[160]

One of FEMA's concerns with exemptions from offsite planning requirements is that offsite planning for radiological emergencies "is not sufficiently addressed within the [All Hazards] framework."[161] FEMA also expressed concern that the Staff "may be assuming a massive, immediate coordinated federal response should the need arise for offsite response."[162] On the contrary, the Staff

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accident precursors and summarized the characteristics of SMR designs that offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences. *Id.* at 13-31 to 13-32, 13-35, 13-36 to 13-38.

[157] *Id.* at 13-32.

[158] *Id.*

[159] The additional exemptions associated with an emergency plan based on a site boundary EPZ were not requested for the emergency plan based on a two-mile EPZ because "[t]he major features emergency plan associated with the [two-mile] PEP EPZ contains the same features as a traditional [ten-mile] EPZ Emergency Plan." *See id.* at 13-27; *see also* Tr. at 81 (Mr. Musico) (noting that for an emergency plan based on a two-mile EPZ, "TVA requested only two exemptions from the requirements in 10 CFR [§] 50.33(g) and 10 CFR [§] 50.47(c)(2), that the plume exposure pathway EPZ, for nuclear power plants, consist of an area about ten-miles in radius" because "the remaining EP requirements for a nuclear reactor site would still apply to it."); Transcript Correction Order, app. A at 2.

[160] Tr. at 97 (Mr. Scott).

[161] FEMA Letter at 2.

[162] *Id.*

did not make any assumptions about the adequacy of "all hazards" planning to support its evaluation, nor does it assume a massive, immediate response would be needed.[163] The Staff determined that "it would be highly unlikely that such a response would be needed for the slowly developing and relatively low-level hazard posed by the type of facility that could demonstrate the PAGs would not be exceeded offsite."[164]

FEMA stated in its July 8, 2019, letter that it does not support a two-mile or site boundary EPZ "absent the integration of the full spectrum of threats" into the Staff's evaluation, including insider, cyber, and nation-state and other threats as potential accident-initiators.[165] The Staff responded to this concern in response to prehearing questions 15 and 21. As the Staff explained, "[a]fter September 11, 2001, the NRC conducted vulnerability studies that revealed that the timing and magnitude of releases related to hostile action would be no more severe than in the other accident sequences considered in the EP basis."[166] The Staff determined that "[f]or credible accident sequences, the initiating event may change how an accident starts (e.g., terrorist attack, insider threat, cyber, etc.), but it does not change the source term, how fast fuel melts, or potential offsite consequences."[167] Thus, "the timing and magnitude of releases related to hostile action events are no more severe than the shortest timing or largest magnitude sequences considered in the EP basis," which "accounts for the shortest timing and largest magnitude from a spectrum of accidents."[168]

The Staff testified that its approach is based on a "wide spectrum of initiating scenarios" that "suits the protection to the risk," and, as discussed above, "is consistent with the approach taken when the [current] EPZ regulations were developed."[169] The Staff also testified that if the exemptions are granted, it would "not object to licensees working with state and local authorities to develop capabilities beyond those that we require."[170] Thus, the Staff found that each exemption is authorized by law, presents no undue risk to the public health and

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[163] Tr. at 97, 104 (Mr. Scott).

[164] Tr. at 97 (Mr. Scott).

[165] FEMA Letter at 1.

[166] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 14.

[167] *Id.*

[168] *Id.,* Attach. at 21.

[169] Tr. at 95-96 (Mr. Scott).

[170] Tr. at 96 (Mr. Scott). TVA's Director of Nuclear Technology Innovation also testified that regardless of whether the EPZ for the Clinch River site could qualify for a site boundary or two-mile EPZ, "there would be offsite coordination on the appropriate emergency plant preparedness response for any type of application going forward." Tr. at 113 (Mr. Stout).

safety, consistent with the common defense and security, and justified by special circumstances.[171]

The Dissent suggests that our approval of a site boundary EPZ is unprecedented because "the size of an EPZ has never been exclusively based on the likelihood of an accident occurring."[172] But TVA's approach is not "exclusively based" on accident likelihood, rather, as described above, TVA's methodology is consistent with the approach for determining EPZ size in NUREG-0396/EPA-520.[173] That approach, which considers both likelihood and consequences, forms the basis for our current requirement that operating LLWRs maintain a ten-mile EPZ.[174] We view TVA's application of a consistent EPZ-sizing methodology to a different technology as a logical extension of existing agency practice.

TVA's approach may result in a site boundary EPZ depending on the characteristics of the design TVA ultimately selects. In light of this potential, the Dissent notes that in that case, "there would be no dedicated offsite radiological emergency planning. That element of defense-in-depth would be dropped completely."[175] However, the Staff explained at the hearing that even if there is no NRC requirement for predetermined offsite radiological emergency plans, offsite emergency planning would still exist within the All Hazards emergency response framework.[176] Consequently, we do not view TVA's proposal as eliminating an element of defense in depth; rather, emergency planning activities would be appropriately scaled to reflect the potential hazards posed by the facility.[177]

Finally, the Dissent states, "We should place great weight on FEMA's views."[178] FEMA opposed the potential establishment of either a two-mile or site boundary EPZ. The Staff addressed FEMA's opposition by explaining in detail, both in the FSAR and at the hearing, the single EPZ-sizing methodology that would be used to reach either result.[179] The Staff convincingly showed that methodology to be consistent with the one used to establish our current EPZ requirements. Nevertheless, the Dissent would reject a site boundary EPZ

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[171] Ex. NRC-014A, Final SER, at 13-41 to 13-61; Tr. at 90-92 (Mr. Musico).

[172] Partial Dissent of Commissioner Baran at p. 254 (Partial Dissent).

[173] *See supra* at pp. 226-29.

[174] *See supra* at p. 229. Of particular note, our current requirements also allow for a determination of EPZ size on a case-by-case basis for gas-cooled reactors and reactors with an authorized power level less than 250 MW thermal. 10 C.F.R. § 50.47(c)(2).

[175] Partial Dissent at p. 255.

[176] *See supra* pp. 233-34; Tr. at 97 (Mr. Scott).

[177] As noted above, other NRC facilities, such as research and test reactors, also have smaller sized or no EPZs. 10 C.F.R. § 50.47(c)(2).

[178] Partial Dissent at p. 256.

[179] *See supra* at p. 229.

established by the methodology yet accept a two-mile EPZ over FEMA's objections.[180] We see no basis for such a result.

Nevertheless, we observe that as a generic matter, establishing the EPZ size for an SMR raises important policy considerations. Thus, concurrent with our order today, we have also approved a proposed rule on this topic, which the Staff will soon publish in the *Federal Register.* We look forward to receiving and considering public comments as we continue to evaluate this issue generically.

Based on our independent review of the entire record, we find the Staff has carefully considered the perspectives of FEMA, the technical and regulatory bases for current EPZ and associated emergency-plan requirements, and our prior direction to consider exemptions to those requirements in licensing proceedings for SMRs, if appropriate. We determine that the Staff's findings regarding the requested exemptions are adequately supported by the record. We encourage the Staff to continue working with FEMA and other counterparts as it considers how best to update existing emergency planning regulations to reflect the safety improvements expected from SMRs and other new technologies.

D. The Staff's Environmental Review

1. Review Process

As required by our regulations, the Staff prepared an EIS for the Clinch River ESP application.[181] The Staff based its environmental review on construction and operation of two or more SMRs with design characteristics bounded by the PPE.[182] The purpose and need for the proposed federal action — the issuance of an ESP for the Clinch River site approving the site as suitable for these purposes — is "to provide for early resolution of site safety and environmental issues, which provides stability in the licensing process."[183]

After publishing a notice of its intent to prepare an EIS, the Staff held a scoping meeting in Oak Ridge, Tennessee, to gather input on issues to consider in its environmental review.[184] The Staff responded to scoping comments

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[180] *See* Partial Dissent at p. 254; *supra* p. 225.

[181] 10 C.F.R. §§ 51.20(b)(1), 52.18.

[182] Ex. NRC-015A, Final EIS, at 1-9; Ex. NRC-002, Draft Early Site Permit, app. D.

[183] Ex. NRC-015A, Final EIS, at 1-9; *see* Tr. at 49 (Ms. Bradford). The purpose and need for the proposed action was informed by TVA's "objective to use the power generated by SMRs to address critical energy security issues for TVA Federal direct-served customers (which included only DoD or DOE facilities)." Ex. NRC-015A, Final EIS, at 1-9; *see* Tr. at 160 (Mr. Erwin) (NRC's purpose and need is informed by TVA's purpose and need, "specifically TVA's objective to demonstrate the capability of SMR technology to provide reliable power on or near a mission critical facility").

[184] Tennessee Valley Authority; Clinch River Nuclear Site; Early Site Permit Application, 82 Fed. Reg. 17,885 (Apr. 13, 2017); Ex. NRC-001, Staff Information Paper, at 5; Tr. at 50 (Ms. Bradford).

from the public in the Draft EIS, issued for public comment in April 2018.[185] In addition, the Staff held two public meetings in Roane County, Tennessee following the release of the Draft EIS.[186] The Staff received comments on a variety of topics, including the need for the proposed project and its cost; the NRC's regulatory process allowing deferral of cost-benefit and energy alternatives analyses; TVA's requested exemptions from certain emergency planning requirements; and the Draft EIS's evaluation of alternative sites, legacy contaminants, and impacts to cultural resources, water, and wetlands.[187] The Staff responded to these comments in the Final EIS, published in April 2019.[188] As part of its environmental review of TVA's application, the Staff performed a full scope environmental audit, which included a review of the data and information underlying TVA's environmental report, tours of the Clinch River site and two nearby alternative sites, and meetings with TVA and federal, state, and local officials.[189]

The Staff worked with the U.S. Army Corps of Engineers (USACE) as a cooperating agency under an existing Memorandum of Understanding with the agency.[190] Together, the Staff and the USACE formed the environmental review team for the EIS.[191] The Staff also consulted with federal, state, tribal, and local authorities, including but not limited to the U.S. Fish and Wildlife Service (FWS), the Tennessee Department of Environment and Conservation, the Tennessee Wildlife Resource Agency, the Alabama Department of Conservation and Natural Resources, the Tennessee Historical Commission (THC), and the Advisory Council on Historic Preservation (ACHP).[192]

The Staff fulfilled its responsibilities under section 106 of the National His-

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[185] Ex. NRC-015A, Final EIS, at 1-6; Ex. NRC-018, Staff Environmental Panel Presentation, at 7.

[186] Ex. NRC-015A, Final EIS, at 1-6; Ex. NRC-001, Staff Information Paper, at 5.

[187] *See* Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 30-31.

[188] Tr. at 40 (Mr. Brown); *see* Ex. NRC-015B, Final EIS, app. E.

[189] Ex. NRC-015A, Final EIS, at xxix, 1-6; "Clinch River Nuclear Site Early Site Permit Application Environmental Audit Summary Report" (Jan. 11, 2018), Encl. at 2-16 (ML17226A020 (package)) (Environmental Audit Summary Report). Members of the environmental review team responsible for the socioeconomics and environmental justice resource evaluations in the EIS also toured an alternative site at the Redstone Arsenal in Alabama. Environmental Audit Summary Report at 3-4, 8-9.

[190] Tr. at 49-50 (Ms. Bradford). Pursuant to its agreement with the USACE, the NRC was designated as the lead agency with the primary role of preparing the EIS, and the USACE provided assistance as the cooperating agency.

[191] Ex. NRC-015A, Final EIS, at 1-7 to 1-8.

[192] *See, e.g.,* Ex. NRC-001, Staff Information Paper, at 6; Ex. NRC-015A, Final EIS, at xxix; Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 32; Tr. at 50 (Ms. Bradford).

toric Preservation Act of 1966 (NHPA) using the NEPA process.[193] The NRC's NHPA section 106 undertaking is the issuance of an ESP resolving the suitability of the Clinch River site for the future construction and operation of two or more SMRs.[194] As a federal land management agency, TVA also has an independent obligation to comply with the NHPA. TVA defined its NHPA undertaking as building and operating two or more SMRs at the Clinch River site, including upgrades to offsite areas.[195]

The Staff contacted twenty federally recognized tribes, the THC, and the ACHP to initiate consultation under the NHPA.[196] In the Final EIS, the Staff stated that it received comments from the tribes generally related to TVA's undertaking of building and operating SMRs on the Clinch River site rather than to the Staff's undertaking, issuance of an ESP for the site.[197] Three tribes and the THC provided specific comments on the Draft EIS. The Staff held teleconferences and engaged in further correspondence with each tribe regarding the undertaking.[198] One tribe, the Thlopthlocco Tribal Town, disagreed with the Staff's assessment of impacts to historic and cultural resources and evaluation of alternative sites and expressed concerns about the number of historic properties and cultural resources that may be adversely affected at the Clinch River site as compared to the alternative candidate sites.[199] The Staff revised the Final EIS in

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[193] Ex. NRC-015A, Final EIS, at 2-139; Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 39; *see* 36 C.F.R. § 800.8(a)(1) ("Federal agencies are encouraged to coordinate compliance with section 106 and the procedures in this part with any steps taken to meet the requirements of the National Environmental Policy Act.").

[194] Ex. NRC-015A, Final EIS, at 2-139. The construction and operation of SMRs on the Clinch River site would not be authorized by the ESP; the NRC's separate action on a future construction permit or COL application referencing the Clinch River ESP would constitute a new undertaking under NHPA section 106. *See* 36 C.F.R. § 800.16(y) (stating that an undertaking includes a project, activity, or program requiring a federal license, permit, or approval).

[195] Ex. NRC-015A, Final EIS, at 2-139; *see* Tennessee Valley Authority and Tennessee State Historic Preservation Office, "Programmatic Agreement Between the Tennessee Valley Authority and the Tennessee State Historic Preservation Office Regarding the Management of Historic Properties Affected by the Clinch River SMR Project" (May 12, 2016), at 1 (ML17296A399) ("TVA considers . . . the Early Site Permit Application . . . , the Combined License Application . . . , and construction of two or more SMRs . . . as sequential parts of a single, complex undertaking . . . as 'undertaking' is defined at 36 [C.F.R.] § 800.16(y).").

[196] Ex. NRC-015A, Final EIS, at 2-156 to 2-157; Tr. at 170-71 (Mr. Erwin).

[197] Ex. NRC-015A, Final EIS, at 2-158, 2-161. The Staff conveyed the tribes' concerns relevant to TVA's undertaking to TVA for consideration in its independent NHPA section 106 review. *Id.* at 2-158.

[198] *Id.* at 2-159 to 2-161.

[199] *Id.* at 2-161; *see* Letter from Jennivine Rankin, NRC, to Terry Clouthier, Tribal Historic Preservation Office, Thlopthlocco Tribal Town (Nov. 13, 2018) (ML18267A316) (summarizing an

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response to the Thlopthlocco Tribal Town's comments and conveyed the Tribe's concerns about the alternative sites analysis to TVA.[200] To satisfy its own NHPA section 106 obligations, TVA executed a programmatic agreement with the THC that prescribes the process that TVA will follow to ensure compliance with the NHPA for its undertaking "as plans are finalized and specific onsite and offsite project areas associated with these plans are identified."[201]

In light of a letter from the THC stating that issuance of the ESP may adversely affect historic properties at the Clinch River site, as well as statements in the Final EIS that tribal consultation remained "ongoing," we asked the Staff whether it had satisfied the requirements of NHPA section 106.[202] The Staff explained that the general concern regarding impacts expressed in the THC's letter was consistent with the Staff's finding in the Final EIS that pre-construction and construction activities at the Clinch River site could impact historic and cultural resources.[203] The Staff confirmed that it had completed consultation with the tribes and satisfied its obligations under the NHPA by submitting the Final EIS to the tribes, the THC, and the ACHP.[204] In response to a pre-hearing question, TVA also provided additional information on the status of its ongoing efforts to develop an integrated cultural resources database and a comprehensive agreement with the tribes for managing the inadvertent discovery of cultural items under the Native American Graves Protection and Repatriation Act of 1990.[205]

Pursuant to the Endangered Species Act of 1973 (ESA), the Staff prepared a biological assessment and initiated informal consultation with the FWS.[206] The

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October 10, 2018, teleconference between the Staff and Mr. Clouthier and providing the Staff's response to the Thlopthlocco Tribal Town's concerns).

[200] Ex. NRC-015A, Final EIS, at 2-161.

[201] *Id.* at 2-139; *see also id.* at 2-154.

[202] Pre-Hearing Questions Order at 20.

[203] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 38-39; *see* Ex. NRC-015A, Final EIS, at 4-69 (concluding that the combined impacts from pre-construction and construction on historic and cultural resources would be moderate to large). The Staff stated that the THC did not raise any other specific concerns about possible effects to historic properties at the Clinch River site. Ex. NRC-005, Staff Pre-Hearing Responses, at 38-39.

[204] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 32, 39. The Staff stated that the characterization of tribal consultation as "ongoing" in sections 4.6.3 and 5.6.3 of the Final EIS was in error, and that the completion of consultation was documented in a November 2018 letter to the THC. *Id.* at 32 (citing Letter from Jennivine Rankin, NRC, to E. Patrick McIntyre, Jr., THC (Nov. 13, 2018) (ML18267A315)).

[205] *See* Pre-Hearing Questions Order at 19-20; Ex. TVA-003, Tennessee Valley Authority's Responses to Pre-Hearing Questions (July 26, 2019), at 29-30 (ML19227A235) (TVA Pre-Hearing Responses).

[206] Ex. NRC-015A, Final EIS, at 4-30; *see* Ex. NRC-015B, Final EIS, app. M. Section 7 of the ESA requires an "agency, in consultation with and with the assistance of the Secretary [of the

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FWS informed the Staff that formal consultation under section 7 of the ESA was not required for this federal action because the Clinch River ESP would not authorize activities that may affect listed species.[207] The Final EIS documents the Staff's commitment to consult with the FWS under section 7 of the ESA should the NRC receive a construction permit or COL application referencing the Clinch River ESP.[208] In the Final EIS, the Staff considered the federally listed, proposed, and candidate species identified during informal consultation with the FWS, as well as the important state-listed species identified through the Staff's consultation with the Tennessee Natural Heritage Program.[209]

2. Evaluation of Impacts

In its environmental review, the Staff evaluated "the direct, indirect, and cumulative impacts of the construction activities that would be authorized if the holder of an ESP applied for and was issued a [construction permit] or a [COL] for the site."[210] These impacts are evaluated for the following resource areas: land use, water use and quality, terrestrial and wetland resources, aquatic resources, socioeconomics, environmental justice, historic and cultural resources, air quality, non-radiological health impacts, radiological health impacts from normal operations, non-radioactive waste impacts, and postulated accidents.[211] For each of the resource areas analyzed, the Staff determined whether the potential impacts of the proposed action would be expected to be small, moderate, or

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Interior or the Secretary of Commerce (as appropriate)], insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat of such species." ESA § 7(a)(2), 16 U.S.C. § 1536(a)(2). The Fish and Wildlife Service (under the Department of the Interior) and the National Marine Fisheries Service (under the Department of Commerce) jointly administer the ESA.

[207] Ex. NRC-015A, Final EIS, at 4-30. The FWS recommended that the Staff re-engage the agency once the NRC receives an application for a construction permit or COL referencing the Clinch River ESP. *Id.*

[208] *Id.* at 4-30, 5-18; Ex. NRC-015B, Final EIS, at M-14.

[209] Ex. NRC-015A, Final EIS, at 2-64.

[210] *Id.* at 4-1. The Staff evaluates the "environmental effects of preconstruction activities (e.g., clearing and grading, excavation, and erection of support buildings)," which are outside the NRC's jurisdictional authority, in its evaluation of cumulative impacts. *Id.*

[211] *See generally* Ex. NRC-015A, Final EIS, chs. 4, 5 & 7. Additionally, the Staff considered potential impacts of the uranium fuel cycle, radioactive waste transportation, and decommissioning of SMRs at the Clinch River site. *Id.* ch. 6. The Final EIS incorporates by reference the impacts of continued storage of spent nuclear fuel assessed in the "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel," NUREG-2157, vols. 1-2 (Sept. 2014) (ML14196A105, ML14196A107). Ex. NRC-015A, Final EIS, at 6-15 to 6-16.

large.[212] The Staff found that impacts would be small, moderate, or range from small to moderate, for all resource areas except traffic and historic and cultural resources, where the combined impacts from pre-construction and construction activities would range from moderate to large.[213]

Before the hearing, we asked TVA and the Staff to address several questions related to the potential impacts of the project on various resource areas. We obtained clarification from the Staff regarding the scope of its evaluation of impacts to air quality from traffic exhaust emissions and the basis for its determination that traffic impacts would be moderate to large.[214] At our request, the Staff also expanded on information underlying its conclusions in several areas. The Staff described the measures it considered to limit public risk from a hypothetical release of radioactive material to an aquatic food pathway in a severe accident scenario. The Staff also explained the reasons for its conclusion that decommissioning impacts would be bounded by the generic determinations in the Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities.[215]

Because TVA intends to draw most of its intake water for the project from the Clinch River arm of the Watts Bar Reservoir, we asked the parties to explain the process for acquiring any necessary water rights and authorizations.[216] We also asked the parties to discuss the impact on construction and operation of low water flow velocity from the Melton Hill Dam located up-river of the site.[217] TVA explained that it expected to draw water for its operations consistent with

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[212] Ex. NRC-015A, Final EIS, at 1-5, 4-3, 5-1. In making its findings on pre-construction and construction impacts, the Staff delineated between the impacts attributable to all pre-construction and construction activities combined, and the more limited category of construction activities requiring NRC authorization under a construction permit or COL. *See id.* at 3-12 to 3-13, 4-86 to 4-90.

[213] Ex. NRC-015A, Final EIS, tbls.4-14 & 5-20; Ex. NRC-018, Staff Environmental Panel Presentation, at 15-18. With regard to historic and cultural resources, the Staff found that the impacts attributable only to NRC-authorized activities would be small. Ex. NRC-015A, Final EIS, tbl.4-14.

[214] Pre-Hearing Questions Order at 20; Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 32-33.

[215] Pre-Hearing Questions Order at 21 (citing "Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities: Supplement 1, Regarding the Decommissioning of Nuclear Power Reactors" (Final Report), NUREG-0586, Supplement 1, vols. 1-2 (Nov. 2002) (ML02347-0327, ML023500228)); Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 34. The Staff also clarified that the mitigation measures outlined in Table 4-13 of the Final EIS are not enforceable by the NRC because they are not under NRC jurisdiction, but that "many of these measures are expected to be required by other Federal, state or local permits or authorizations that would be required in order for TVA to perform those building activities that are outlined in the [environmental report]." Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 33; *accord* Ex. TVA-003, TVA Pre-Hearing Responses, at 31.

[216] Pre-Hearing Questions Order at 20.

[217] *Id.* at 19.

state law and that TVA would further provide voluntary registration reports to the state to assist its tracking of water use for withdrawals associated with the operation of SMRs at the Clinch River site.[218] Prior to construction, TVA would also obtain any necessary permits and certifications from the state and USACE under the Tennessee Water Quality Control Act and sections 401 and 404 of the Clean Water Act for the construction and use of its water intake structure.[219] TVA stated that the future design of the water intake structure would account for low water levels in the Reservoir and that no adverse impacts to water intake were expected due to low water flow velocities through the Melton Hill Dam.[220] In its response, the Staff noted that the water surface elevations at the intake location are primarily controlled by releases from the Watts Bar Dam and would not be significantly affected by reductions in flow velocity downstream of the Melton Hill Dam.[221]

3. Alternative Sites and System Designs

The Staff's review of alternatives to the proposed action included consideration of the no-action alternative, alternative sites, and system design alternatives.[222] For the no-action alternative — denial of the ESP for the Clinch River site — the Staff found that no environmental impacts would occur, but this alternative would not accomplish the benefits intended by the ESP process, such as early resolution of siting and environmental issues prior to the outlay of large investments in new plant design and construction, the ability to bank sites on which nuclear plants might be located, and the facilitation of future decisions regarding the construction of new nuclear power-generating facilities.[223]

The Staff independently reviewed and verified TVA's process for identifying the proposed Clinch River site and alternative candidate sites.[224] The region of interest considered for the identification of alternative sites was TVA's power service area, which "includes most of Tennessee and portions of six adjacent states (Alabama, Kentucky, Georgia, Mississippi, North Carolina, and Virginia) . . . [and] the Tennessee River watershed, the Cumberland River watershed, and areas surrounding these watersheds."[225] The site selection process was informed by (a) seismology considerations, (b) population density, (c) cooling-

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[218] Ex. TVA-003, TVA Pre-Hearing Responses, at 30.

[219] *Id.* at 30-31; *see* Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 32.

[220] Ex. TVA-003, TVA Pre-Hearing Responses, at 29-31.

[221] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 31.

[222] Ex. NRC-015A, Final EIS, ch. 9.

[223] *Id.* at 9-1.

[224] *Id.* at 9-6 to 9-12; Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 35-36.

[225] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 36.

water availability, (d) proximity to targeted customers, (e) the requirement for a contiguous 120-ac[re] site, (f) the percent of the forest cover, and (g) the amount of undeveloped versus previously disturbed land.[226] In its ranking of candidate sites, TVA also considered sensitive land features such as important plant and wildlife habitats, wetlands, land use and land rights, flooding, and topography.[227] In its independent review, the Staff found that TVA's site selection process was reasonable and provided an adequate basis for comparing the proposed and alternative sites.[228]

In the Final EIS, the Staff conducted a detailed qualitative evaluation of three alternative sites: two sites on the Oak Ridge Reservation in Roane County, Tennessee, and one site on the Redstone Arsenal in Madison County, Alabama.[229] All three alternative sites, like the Clinch River site, are undeveloped and federally managed.[230] The Staff compared the environmental impacts of pre-construction, construction, and operation of SMRs at the Clinch River site and at the alternative sites. For each of these sites, the Staff evaluated impacts associated with land use, water use and quality, terrestrial and wetland resources, aquatic resources, socioeconomics, environmental justice, historic and cultural resources, air quality, non-radiological health impacts, radiological health impacts from normal operations, and postulated accidents.[231]

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[226] *Id.*; *see also* Tr. at 173-74 (Mr. Erwin). In the Final EIS, the Staff stated that it expected the actual footprint of disturbance for any site that TVA may select to be "substantially greater than the 120 ac[res] that TVA used for identifying potential sites." Ex. NRC-015A, Final EIS, at 9-20. In response to a pre-hearing question concerning TVA's choice of footprint in the site selection process, TVA stated that the decision to use 120 acres for the site selection process was "the minimum reasonable area needed to site an SMR . . . based on information from potential SMR vendor designs" and that it "did not want to rule out any obviously superior sites by using a larger acre requirement as screening criteria." Ex. TVA-003, TVA Pre-Hearing Responses, at 33.

[227] Ex. TVA-003, TVA Pre-Hearing Responses, at 32.

[228] Ex. NRC-015A, Final EIS, at 9-10.

[229] *Id.* at 9-10 to 9-12. Although the Redstone Arsenal site had lower overall environmental scores than any of the Oak Ridge Reservation sites considered in the site selection process, the Staff included this site in its detailed evaluation as a geographically diverse alternative, consistent with guidance in its Environmental Standard Review Plan. Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 36.

[230] Ex. NRC-015A, Final EIS, at 9-20.

[231] *Id.* at 9-19 to 9-70. With regard to the evaluation of ecological resources, we asked the Staff to explain whether the absence of field survey data impacted its ability to analyze the alternative sites. Pre-Hearing Questions Order at 23. The Staff explained that the absence of these data "did not compromise [its] ability to evaluate and compare ecological impacts and reach impact level conclusions for the alternative sites" because its analysis relied on state databases of published information on important species at each site, which provided a more consistent and meaningful basis for its comparative analysis of the alternative sites. Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 37.

For the two alternative sites located on the Oak Ridge Reservation, the Staff found that environmental impacts would be comparable to those at the proposed site for all resource areas except for terrestrial resources, which would be moderate at the Clinch River site but large at the Oak Ridge Reservation alternative sites.[232] The Staff found that the environmental impacts at the Redstone Arsenal site would also be comparable to those at the proposed site for most resource areas, but that impacts to groundwater at the Redstone Arsenal site would be greater than those at the Clinch River site due to consumptive use from dewatering during plant construction.[233] Because the impacts would be comparable and in some resource areas potentially would be greater at the alternative sites, the Staff concluded that none of the alternative sites was environmentally preferable or obviously superior to the Clinch River site.[234]

The Staff also considered system design alternatives.[235] As alternatives to the mechanical draft cooling towers evaluated as part of the proposed action, the Staff considered a once-through cooling system and closed-cycle cooling systems such as spray ponds and natural draft, dry, and wet/dry cooling towers.[236] The Staff also evaluated alternatives to the proposed action's circulating water system, including alternative intake designs, discharge systems, and water supply sources.[237] The Staff concluded that each of these alternative system designs was either obviously unsuitable or not environmentally preferable to the proposed plant system designs.[238] Because the environmental report did not include a water treatment plan as part of the proposed cooling water system, the Staff did not consider water treatment alternatives in its analysis of alternative design systems.[239]

We asked the Staff whether alternative transmission line corridors were con-

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[232] Ex. NRC-015A, Final EIS, at 9-74. The Staff's conclusion on impacts to terrestrial resources at these sites "accounted for possible loss and fragmentation of additional forest cover" from the clearing of offsite corridors for intake and discharge pipelines, transmission lines, and roads. Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 37. For its analysis of these areas, the Staff used sketches provided with the application to estimate the acreage affected; the Staff was able to conclude that the impacts would be large without a more precise quantification of the total acreage affected. *Id.*

[233] Ex. NRC-015A, Final EIS, at 9-74.

[234] *Id.* at 9-73 to 9-74.

[235] *Id.* at 9-74.

[236] *Id.* at 9-74 to 9-79.

[237] *Id.* at 9-79 to 9-83.

[238] *Id.* at 9-83.

[239] *Id.* As the Staff notes in the Final EIS, because the water treatment needs for the proposed cooling water system were not described in TVA's ESP application or evaluated in the Staff's environmental review, any application for a combined license or construction permit referencing the ESP must address this aspect of the proposed system design. *See id.*

sidered as a potential system design alternative.[240] The Staff explained that although it had not specifically evaluated alternative transmission line corridors as a system design alternative, the Staff considered the impacts related to transmission lines as a cumulative impact related to each alternative site. The Staff stated that it considered TVA's proposed transmission line routes "reasonable, appearing to minimize length and impacts to sensitive geographic features while taking advantage of existing transmission line corridors," and it therefore "[did] not see a potential for reasonable routing alternatives that might substantially reduce adverse environmental impacts."[241]

4. Deferred Issues

The Staff's Final EIS addressed most of the environmental issues related to the Clinch River site, but TVA and the Staff deferred some issues for consideration as part of a future construction permit or COL application. As permitted by our regulations, TVA chose not to include in its application an assessment of the costs and benefits of the proposed action, including need for power, or an evaluation of alternative energy sources.[242] Because these analyses were not provided in the application, the Staff did not address them in the EIS.[243] Any construction permit or COL application referencing the Clinch River ESP will be required to perform these analyses, and the Staff's environmental review for such an application will likewise consider these issues.

Additionally, the Staff deferred consideration of two issues given insufficient information regarding a reactor design: severe accident mitigation alternatives and water treatment alternatives.[244] With respect to the severe accident mitigation alternatives analysis, the Staff explained that the inputs required for this evaluation must be based on a selected reactor design.[245] Because TVA's application uses a PPE approach, a reactor design will not be selected until the construction permit or COL stage of the project.[246] Likewise, neither the environmental report nor the Final EIS evaluated water treatment alternatives because such an evaluation requires design information that will not be defined until a final reactor

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[240] Pre-Hearing Questions Order at 24.

[241] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 38.

[242] Ex. NRC-009B, Environmental Report, at 8-1, 10-11; Ex. NRC-015A, Final EIS, at xxxiii.

[243] Tr. at 52, 55 (Ms. Bradford); Ex. NRC-015A, Final EIS, at 1-4, 8-1, 9-2, 10-22. *See* 10 C.F.R. § 51.75(b) (precluding assessment in an EIS "of the economic, technical, or other benefits (for example, need for power) and costs of the proposed action or an evaluation of alternative energy sources" if such issues are not addressed in the ESP environmental report).

[244] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 38.

[245] *Id.*; *see* Ex. NRC-015A, Final EIS, at 5-85, 5-89.

[246] Ex. NRC-015A, Final EIS, at 1-2 to 1-3.

design is selected at a future stage of the project.[247] Because these issues were not resolved in this ESP proceeding, they must be addressed at the construction permit or COL stage of the project.

For the remaining issues resolved in the environmental review for the ESP, we asked TVA and the Staff to describe the process they intend to use to account for new and significant information that may arise between issuance of the ESP and the future submission of a construction permit or COL application.[248] TVA stated that it intends to "use a methodical, comprehensive review process to catalog any new and significant information that it would include" in any supplemental environmental report associated with a construction permit or COL application. In support of that process, TVA "is developing project procedures and a database to identify and document any such new and significant information," and plans to update such information with every revision of its construction permit or COL application.[249] For its part, the Staff will verify the effectiveness of TVA's procedures for identifying new and significant information, and it will use the public scoping process to assist it in its independent obligation to ensure that the EIS for a construction permit or COL application referencing the Clinch River ESP appropriately identifies and evaluates any new and significant information.[250]

E. Findings

We now turn to the findings necessary for issuance of the ESP. We have conducted an independent review of the sufficiency of the Staff's safety and environmental findings. Although our decision today highlights the topics discussed above, our findings are based on the entire record.

1. Safety Findings

Based on our independent review, we find that the requirements of the AEA and NRC regulations have been met. The required notifications to other agencies or bodies have been duly made.[251] There is reasonable assurance that the site is

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[247] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 38; *see* Ex. NRC-015A, Final EIS, at 9-83.

[248] Pre-Hearing Questions Order at 19.

[249] Ex. TVA-003, TVA Pre-Hearing Responses, at 28.

[250] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 29-30.

[251] The Staff notes that "TVA is the regulatory agency that has jurisdiction over the rates and service incident to the proposed activities as noted in 10 [C.F.R. §] 50.43(a)(1)." Ex. NRC-001, Staff Information Paper, at 15. In addition, the Staff published notices of the application in the *Oak*

(Continued)

in conformity with the provisions of the AEA and issuance of the permit will not be inimical to the common defense and security or to the health and safety of the public. We find TVA is technically qualified to engage in the activities authorized. In addition, we find that the proposed regulatory exemptions meet the standards in 10 C.F.R. § 50.12. And finally, we find that the proposed permit conditions are appropriately drawn and sufficient to provide reasonable assurance of adequate protection of public health and safety.

2. Environmental Findings

We have also conducted an independent review of the Staff's environmental analysis in the Final EIS and took into account NEPA's requirements. NEPA section 102(2)(A) requires agencies to use "a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts" in decision-making that may impact the environment.[252] We find that the Staff's environmental review employed the systematic, interdisciplinary approach that NEPA requires.[253]

NEPA section 102(2)(E) calls for agencies to study, develop, and describe appropriate alternatives.[254] The alternatives analysis is the "heart of the environmental impact statement."[255] The Staff's discussion of alternatives is in Chapter 9 of the Final EIS. Based on the discussion in the Final EIS, the Staff's testimony at the hearing, and its responses to our pre-hearing questions, we find that the Staff identified an appropriate range of alternatives, including the no-action alternative, alternative sites, and alternative system designs, and adequately described the environmental impacts of each alternative.[256] Since no alternative site was environmentally preferable to the Clinch River site, the Staff concluded that none of the alternative sites would be "obviously superior" to the Clinch River

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Ridger, Roane County News, and *Knoxville Sentinel. Id.* The Staff also published notices of the application in the *Federal Register* on May 17, 2019, May 24, 2019, May 31, 2019, and June 7, 2019 (at 84 Fed. Reg. 22,523; 84 Fed. Reg. 24,185; 84 Fed. Reg. 25,310; 84 Fed. Reg. 26,707, respectively). *See* 10 C.F.R. § 50.43(a).

[252] NEPA § 102(2)(A), 42 U.S.C. § 4332(2)(A).

[253] *See, e.g.,* Tr. at 48-56 (Ms. Bradford) (providing an overview of the Staff's environmental review methodology and findings). The environmental review team consisted of individuals with expertise in disciplines including ecology, hydrology, meteorology, radiological health, socioeconomics, and cultural resources. Ex. NRC-015B, Final EIS, app. A. The team consisted of individuals from the NRC, the USACE, and the Pacific Northwest National Laboratory, the NRC's contractor. *Id.*

[254] NEPA § 102(2)(E), 42 U.S.C. § 4332(2)(E).

[255] 10 C.F.R. pt. 51, app. A, § 5.

[256] *See, e.g.,* Tr. at 159-62 (Mr. Erwin); Ex. NRC-015A, Final EIS, ch. 9.

site.[257] We find reasonable the Staff's conclusion that none of the alternatives considered is environmentally preferable or obviously superior to the proposed action.

Distinct from the deferred assessment of costs and benefits of the proposed action, NEPA section 102(2)(C) requires us to assess the relationship between short-term uses and long-term productivity of the environment, to consider alternatives, and to describe the unavoidable adverse environmental impacts and the irreversible and irretrievable commitments of resources associated with the proposed action.[258] As noted above, the Staff's discussion of alternatives is in Chapter 9 of the Final EIS. The Staff discussed the remaining items throughout the Final EIS and summarized its findings in Chapter 10 of the Final EIS.

The Staff described the project's principal short-term benefit as the production of electricity, and its long-term benefit as a corresponding increase in regional productivity.[259] The Staff determined that the economic productivity of the Clinch River site resulting from its use for the production of electricity would be substantially greater than the productivity of the site from other probable uses, such as agriculture.[260] With regard to long-term impacts on productivity at the Clinch River site, the Staff noted that the maximum impact would occur if two or more SMRs were not immediately dismantled at the end of their period of operation, but the Staff found that "the enhancement of regional productivity resulting from the electrical energy produced by two or more SMRs would lead to a correspondingly large increase in regional long-term productivity that would not be equaled by any other long-term use of the site."[261] The Staff concluded that "the negative impacts of plant construction and operation as they affect the human environment would be outweighed by the positive long-term enhancement of regional productivity through the generation of electrical energy."[262]

In our questions for the Staff during and after the hearing, we probed the Staff on the basis for its conclusion given TVA's decision to defer its analysis of the costs and benefits of the project, including need for power, to the construction permit or COL stage.[263] Further, we found aspects of the Staff's discussion unclear with regard to the assumptions underpinning the "positive long-term enhancement of regional productivity" expected from "the generation

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[257] *See* Tr. at 51-52, 54-55 (Ms. Bradford).

[258] NEPA § 102(2)(C)(ii)-(v), 42 U.S.C. § 4332(2)(C)(ii)-(v).

[259] Ex. NRC-015A, Final EIS, at 10-19.

[260] *Id.*

[261] *Id.* The Staff also noted that "most long-term impacts resulting from land-use preemption by plant structures could be eliminated by removing these structures or by converting them to other productive uses at the end of operations." *Id.*

[262] *Id.*

[263] *See* Tr. at 172-73 (Chairman Svinicki); Post-Hearing Questions Order at 4-5.

of electrical energy" at the site.[264] In our post-hearing questions, we asked the Staff to address the amount of electrical output and the regional area assumed for the projected increase in "regional productivity."[265] We also sought to better understand the relationship, if any, between the projected long-term benefit of increased regional productivity and the sole project objective considered in the Staff's review — TVA's "objective to use the power generated by SMRs to address critical energy security issues" for two direct-served federal customers, the U.S. Department of Defense and the U.S. Department of Energy.[266]

In response, the Staff clarified that the "projected increase in productivity described in Section 10.2 of the Final EIS is based on the maximum electrical output stated in the PPE of 800 MW(e)."[267] This total electrical output includes, but is not limited by, "the portion . . . that could be used to address critical energy security issues for TVA['s] [f]ederal direct-served customers."[268] The Staff anticipated that TVA "could include additional customers and a broader service area in a need for power analysis" in a future construction permit or COL application.[269] The Staff also clarified that the "region" considered in this analysis is the region defined in section 2.2.3 of the Final EIS — the area within a fifty-mile radius of the site.[270]

In addition, the Staff clarified that its analysis assumed that SMRs would be constructed and operated at the site, but it "did not assume that there was a need for power."[271] The need for power analysis and cost-benefit discussion provided at the construction permit or COL stage "would define the region where the benefits would be expected to be provided and this would be included in the updated Section 10.2 for the supplemental EIS and the new NEPA findings for [the construction permit or COL] agency action."[272] For the purpose of the current analysis, the Staff relied on TVA's statement in its environmental report that "[t]he production of power throughout the operational life of the SMRs would enhance regional development and economic activity," which the Staff found reasonable as supported by "TVA's objective to demonstrate that

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[264] *See* Ex. NRC-019, Staff Post-Hearing Responses, Attach. at 7-8; Ex. NRC-015A, Final EIS, at 10-19.

[265] Post-Hearing Questions Order at 5.

[266] *Id.*; *see* Ex. NRC-015A, Final EIS, at 1-10; Tr. at 160 (Mr. Erwin).

[267] Ex. NRC-019, Staff Post-Hearing Responses, Attach. at 8.

[268] *Id.*

[269] *Id.*

[270] *Id.*

[271] *Id.* at 2. The Staff requested that we admit this statement into the record of this proceeding to correct its testimony on this matter in the uncontested hearing; we granted this request. *See* Transcript Corrections Order at 1.

[272] Ex. NRC-019, Staff Post-Hearing Responses, Attach. at 8.

SMR technology allows reactors to be brought into operation incrementally to achieve a capacity of up to 800 MW(e), along with other discussions in the application."[273]

On balance, we find that the Staff's conclusion is adequately supported by the information in the Final EIS and in the Staff's testimony in this proceeding.[274] We agree with the Staff that its analysis and conclusion on this NEPA requirement may be updated in a supplement to the Final EIS if and when it receives an application for a construction permit or COL referencing the ESP that contains cost benefit and need for power information.[275]

With regard to unavoidable adverse environmental impacts, the Staff found that the unavoidable impacts during pre-construction and construction would be small for the following resource areas: water use, water quality, aquatic resources, demography, tax and economic impacts on the region (a small beneficial impact), air quality, radiological health, and non-radiological wastes.[276] The pre-construction and construction impacts for socioeconomic impacts associated with increased physical impacts and non-radiological health impacts related to noise would be small to moderate, and the impacts for land use and terrestrial and wetland resources would be moderate.[277] The pre-construction and construction impacts to infrastructure and community services would be moderate to large for traffic impacts; all other infrastructure and community services impacts would be small.[278] The pre-construction and construction impacts to historic and cultural resources would also be moderate to large.[279] For operation, the Staff found that the unavoidable adverse impacts would be small for all resource areas except for non-radiological health and socioeconomic impacts to aesthetics and recreation; impacts to those resource areas would be small to moderate.[280] For each resource area considered in the Final EIS, the Staff described the specific unavoidable adverse impacts, if any, anticipated from pre-construction, construction, and operation, along with actions to mitigate those impacts.[281] We find that the Staff

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[273] *Id.* at 8 (quoting Ex. NRC-009B, Environmental Report, at 10-11).

[274] *See, e.g.,* Ex. NRC-015A, Final EIS, at 10-19; Tr. at 172-73 (Ms. Dozier); Staff Post-Hearing Responses, at 1-2 & Attach. at 8.

[275] *See* Ex. NRC-019, Staff Post-Hearing Responses, Attach. at 8; *System Energy Resources, Inc.,* CLI-07-14, 65 NRC at 218-19.

[276] Ex. NRC-015A, Final EIS, tbl.10-1. In its environmental justice analysis, the Staff found that the project would not have unavoidable adverse impacts on any minority or low-income populations in any disproportionate manner, relative to the general population. *Id.*

[277] *Id.*

[278] *Id.*

[279] *Id.*

[280] *Id.* tbl.10-2.

[281] Ex. NRC-015A, Final EIS, tbls.10-1 & 10-2.

adequately considered the range of unavoidable adverse environmental impacts from the pre-construction, construction, and operation of the project.

Finally, with regard to irreversible and irretrievable commitments of resources, the Staff concluded that disposal of radioactive and nonradioactive wastes would require an irreversible commitment of land but that the land used for the constructed SMRs, with the exception of any permanently filled wetlands, can be returned to other uses in the future after the units cease operation and are decommissioned.[282] De-watering for construction of the power block would commit a small amount of groundwater, but these impacts would be localized and limited in duration. Operation of the SMRs would consume 12,808 gallons of water per minute from the Clinch River that would not be available to downstream users.[283] Construction and pre-construction of the SMRs would permanently commit some portions of terrestrial, wetland, and aquatic habitats and would "permanently damage an unknown number of historic and cultural resources," including the possible permanent loss of deeply buried archaeological deposits and an unknown number of the seventeen identified historic properties on the Clinch River site.[284] The Staff found that construction of the project would irretrievably consume construction materials (for example, concrete, steel, and other building materials) but the quantity consumed would be of small consequence compared to the availability of such resources.[285] The Staff also determined that operation would irretrievably commit uranium but the amount consumed would be negligible compared to the availability of uranium ore and existing stockpiles of highly enriched uranium.[286] We find reasonable the Staff's assessment of the irreversible and irretrievable commitments of resources associated with the construction and operation of the project.

In sum, within the limitations imposed by TVA's decision to defer its assessment of certain issues, most notably its analysis of the benefits of the project, including need for power, we find that the Staff's review was reasonably supported in logic and fact and sufficient to support the Staff's conclusions in the Final EIS. In accordance with the Notice of Hearing for this uncontested pro-

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[282] *Id.* at 10-20.

[283] *Id.*

[284] *Id.* at 10-20 to 10-21. Should an applicant choose to proceed with the project, it would need to apply for, and receive, a separate authorization (such as a COL) from the NRC in order to construct and operate a nuclear power plant at the Clinch River site. This authorization would require the NRC to prepare a supplemental EIS and complete a separate NHPA Section 106 review and consultation.

[285] *Id.* at 10-21. The Staff based its estimate on a study by the U.S. Department of Energy on new reactor construction but noted that the estimate could be significantly lower given the comparatively small generating capacity (800 MW(e)) of the project; further, the actual amount of construction resources consumed will depend on the final reactor design selected by TVA at the construction permit or COL stage. *Id.*

[286] Ex. NRC-015A, Final EIS, at 10-21.

ceeding, we have independently considered the relevant requirements of NEPA sections 102(2)(A), (C), and (E), and the applicable regulations in 10 C.F.R. part 51, and we find that these requirements have been satisfied with respect to the ESP application. In this regard, we consider the Staff's analysis of the "relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity" in the Final EIS sufficient, but we agree that this determination may be updated at the construction permit or COL stage.[287]

In our review of the Final EIS and hearing record, and our questioning of the parties in this uncontested proceeding, we have independently considered, probed and weighed these factors within the ambit of this ESP proceeding. In doing so, we have considered the benefits of issuing an ESP for the Clinch River site, such as providing stability in the licensing process through early resolution of siting and environmental issues, as well as the costs described in the Staff's environmental review.[288] We have considered the reasonable alternatives, and we find that the deferred and unresolved environmental issues in this proceeding have not affected the Staff's determination that there is no obviously superior alternative to the Clinch River site.[289] Therefore, based on our review of the Final EIS and the record in this proceeding, we find that the ESP should be issued.

III. CONCLUSION

We find that, with respect to the safety and environmental issues before us, the Staff's review of the Clinch River ESP application was sufficient to support issuance of the ESP. We *authorize* the Director of the Office of Nuclear

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[287] *Cf.* NEPA § 102(2)(C)(iv), 42 U.S.C. § 4332(2)(C)(iv).

[288] *See, e.g.,* Ex. NRC-015A, Final EIS, at 1-9, 9-1; Ex. NRC-004, Draft Summary Record of Decision, at 4-5; *see also* Licenses, Certifications, and Approvals for Nuclear Power Plants; Final Rule, 72 Fed. Reg. 49,352, 49,434 (Aug. 28, 2007) (when applicant has not addressed all the costs and benefits of construction and operation in the ESP application, benefits of issuing an ESP include "early resolution of siting issues, early resolution of issues on the environmental impacts of construction and operation of a reactor(s) that fall within the site characteristics, and ability of potential nuclear power plant licensees to 'bank' sites on which nuclear power plants could be located without obtaining a full construction permit or combined license"); *see* 10 C.F.R. § 51.75(b).

[289] *Cf.* 10 C.F.R. § 51.75(b) (EIS must evaluate environmental effects of construction and operation of reactors "only to the extent addressed in the [ESP environmental report] or otherwise necessary to determine whether there is any obviously superior alternative to the site proposed"); *North Anna ESP,* CLI-07-27, 66 NRC at 237 (lack of resolution on such issues as need for power, alternative energy sources, and severe accident mitigation alternatives, did not prevent issuance of ESP).

Reactor Regulation to issue the ESP for the Clinch River site.[290] Additionally, we *authorize* the Staff to issue the record of decision, subject to its revision as necessary to reflect the findings in this decision.

IT IS SO ORDERED.

For the Commission

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 17th day of December 2019.

[290] On October 15, 2019, the Office of New Reactors merged into the Office of Nuclear Reactor Regulation.

Commissioner Baran, Dissenting in Part

I agree with most of the Commission's decision, including the overall conclusion that the NRC Staff's review of the Clinch River early site permit (ESP) application was sufficient to support issuance of the ESP. However, I dissent in part on the issuance of exemptions from NRC's regulatory requirement that nuclear power plants have an emergency planning zone (EPZ) that extends about 10 miles out from the site.[1] Although I agree that the standards of 10 C.F.R. § 50.12 are met for the requested exemptions for a potential 2-mile EPZ, I find that those standards are not met for exemptions for a potential site boundary EPZ.

Since 1978, when the concept of an EPZ was first developed, the size of an EPZ has never been exclusively based on the likelihood of an accident occurring. The joint NRC-EPA task force that introduced the EPZ concept specifically stated: "Emergency planning is not based upon quantified probabilities of incidents or accidents."[2] NRC and EPA understood that beyond-design-basis accidents were unlikely, but they also knew that EPZs should be in place to provide defense-in-depth because "the probability of an accident involving a significant release of radioactive material, although small, is not zero."[3]

NRC's recognition of the important role emergency planning plays in providing defense-in-depth has endured over the years. In the 1986 Safety Goals Policy Statement, even as the Commission focused on the quantitative risk of nuclear reactor accidents, the Commission recognized "emergency planning as [an] integral part[ ] of the defense-in-depth concept associated with its accident prevention and mitigation philosophy."[4] The Commission stated that "emergency response capabilities are mandated to provide additional defense-in-depth protection to the surrounding populations."[5] And again in 1993, when the agency was working through non-light-water reactor issues, the NRC Staff proposed "no changes to the existing regulations governing EP for non-light-water reactor licensees," explaining that it "views the inclusion of emergency preparedness by advanced reactor licensees as an essential element in NRC's 'defense-in-depth' philosophy."[6] Four years later, the Staff emphasized the importance of getting

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[1] *See* 10 C.F.R. § 50.33(g).

[2] NUREG-0396/EPA-520, app. I at I-2.

[3] *Id.,* app. II at II-1.

[4] Safety Goals for the Operations of Nuclear Power Plants; Policy Statement, 51 Fed. Reg. 28,044, 28,045 (Aug. 4, 1986).

[5] *Id.* at 28,047.

[6] "Issues Pertaining to the Advanced Reactor (PRISM, MHTGR, and PIUS) and CANDU 3 Designs and their Relationship to Current Regulatory Requirements," Commission Paper SECY-93-092 (April 8, 1993), at 13 (ML040210725).

the buy-in of federal, state, and local emergency response agencies for any emergency response changes relating to new, potentially safer reactor designs.[7]

But under the proposed application of the EPZ-sizing methodology, the quantitative dose formula exclusively determines the size of the EPZ. It is a purely quantitative, risk-based determination rather than a risk-informed decision that accounts for expert judgment, defense-in-depth, and public confidence. Instead of risk being one important factor considered in setting emergency planning requirements, it is the only factor that matters. For one or more small modular reactors (SMRs) that met the dose criteria for a site boundary EPZ, there would be no dedicated offsite radiological emergency planning. That element of defense-in-depth would be dropped completely.

The Federal Emergency Management Agency (FEMA) has expressed major concerns about this approach. It disagrees that quantitative dose criteria should completely determine the size of an EPZ. Consistent with the 1978 joint task force report, FEMA has expressed its support for "a methodology for EPZ sizing that takes into account such 'non-technical' criteria" as public confidence.[8]

Moreover, "FEMA has consistently raised concerns about a methodology that allows for a site boundary EPZ for a commercial nuclear power plant."[9] In the absence of an EPZ and dedicated offsite radiological emergency planning, emergency responders would be left with all-hazards planning. FEMA does not believe that all-hazards planning would be adequate in the event of an actual nuclear power plant accident. According to FEMA, "Radiological [emergency planning] is not sufficiently addressed within the All Hazards framework — radiological [emergency planning] is unique. In a Worst-Case Scenario, our [offsite response organizations] could be challenged to effectively protect the health and safety of the public using an ad hoc [emergency planning] construct."[10] FEMA explains that "[a]dvanced planning — such as provided by an EPZ — reduces the complexity of the decision-making process during an incident."[11] And FEMA "stress[es] that the proven best way to ensure offsite readiness is to develop, exercise, and assess [offsite response organization] radiological capabilities, as is now done throughout the offsite EPZ."[12] While a radiological emergency plan could be "scaled up" to address a more severe accident than what was planned for, FEMA notes that it is "unrealistic" to scale up "non-existent plans" and that

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[7] *See* "Results of Evaluation of Emergency Planning for Evolutionary and Advanced Reactors," Commission Paper SECY-97-020 (Jan. 27, 1997) (ML051640616).

[8] Supplemental FEMA Letter at 2.

[9] *Id.*

[10] FEMA Letter at 2.

[11] *Id.*

[12] *Id.*

the resulting "lack of necessary equipment, and shortage of trained emergency personnel could have unfortunate consequences."[13]

In short, all-hazards planning would not be as effective as dedicated radiological emergency planning in an actual radiological emergency. As a result, a site boundary EPZ with all-hazards planning would not provide the same level of protection for a community located near a reactor site as an offsite EPZ with dedicated radiological emergency planning. FEMA, therefore, "believes that the NRC staff conclusion that the proposed methodology of offsite emergency preparedness maintains the same level of protection as a ten-mile EPZ is unsupported."[14]

We should place great weight on FEMA's views. FEMA has a key role in determining whether the emergency planning for a nuclear power plant site is adequate. Under our regulations, an early site permit cannot be issued unless NRC makes a finding that the major features of the emergency plan meet the regulatory requirements.[15] And NRC is supposed to base its finding on FEMA's determinations as to whether the offsite emergency plans are adequate and whether there is reasonable assurance that they can be implemented. In fact, under our regulations, "in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability."[16] FEMA has this prominent role in our licensing process because of its well-known expertise in this area. Yet, FEMA would have no role in assessing the adequacy of offsite emergency plans and capabilities for any reactor with a site boundary EPZ.

A potential 2-mile EPZ recognizes that SMRs could be safer than large-light-water reactors while still ensuring that there will be dedicated offsite radiological emergency planning to provide defense-in-depth in the unlikely event of a severe accident. A site boundary EPZ, on the other hand, would not provide the same level of protection afforded by dedicated offsite radiological emergency planning.

For these reasons, I disagree with the Staff that the exemptions related to a potential site boundary EPZ meet the requirements of 10 C.F.R. § 50.12. Specifically, I cannot conclude that these exemptions "will not present an undue risk to the public health and safety." Therefore, I would deny the request for these exemptions.

With respect to the exemptions for a potential 2-mile EPZ, the Staff stated that "depending on the plant design, multiple reactor accidents for multi-module designs may or may not be included in the spectrum of accidents used for

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[13] Supplemental FEMA Letter at 4.

[14] *Id.* at 2.

[15] 10 C.F.R. § 50.47(a)(1)(iv).

[16] 10 C.F.R. § 50.47(a)(2).

the plume exposure pathway EPZ size determination."[17] A key lesson of the Fukushima accident is that severe natural disasters can simultaneously threaten multiple reactors at a site. It is important that the EPZ sizing methodology account for the possibility of accidents affecting more than one SMR module when several modules are on site, rather than evaluate only one module in isolation. Two or more SMRs with a maximum combined electrical output of 800 MW(e) could create a larger source term than some operating LLWRs. In granting the exemptions for a potential 2-mile EPZ, the Commission should require the Staff to ensure that possible accidents affecting more than one SMR module are included in the spectrum of accidents used for the EPZ size determination in any future request for a 2-mile EPZ at the Clinch River site.

[17] Ex. NRC-005, Staff Pre-Hearing Responses, Attach. at 18.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kristine L. Svinicki, Chairman
Jeff Baran
Annie Caputo
David A. Wright

In the Matter of **Docket Nos. 50-293-LT**
72-1044-LT

ENTERGY NUCLEAR OPERATIONS, INC., ENTERGY NUCLEAR GENERATION COMPANY, HOLTEC INTERNATIONAL, and HOLTEC DECOMMISSIONING INTERNATIONAL, LLC
(Pilgrim Nuclear Power Station) **December 17, 2019**

The Commission denies two separate applications for a stay of the immediate effectiveness of an NRC Staff order approving a license transfer and of an issued exemption.

LICENSE TRANSFERS

When there is no hearing request on a license transfer application, the Staff alone conducts a review of the application. But if the NRC receives a hearing request on a license transfer application, the Commission will review the intervention petition to determine if it satisfies the threshold standard for adjudicatory review. The Staff's technical review and the Commission's adjudicatory review may overlap, but they are separate reviews, each of which must be completed and satisfied before a license transfer approval can be considered final.

LICENSE TRANSFERS

NRC regulations anticipate that the Staff may complete its review of a license transfer application before the adjudication has concluded. The regulations specify that despite a pending adjudicatory proceeding, the Staff is expected to promptly issue approval or denial of the application, consistent with its findings in its Safety Evaluation Report. But a license transfer application will lack the agency's final approval until and unless the Commission concludes the adjudication in the applicant's favor.

LICENSE TRANSFERS

The license transfer regulations generically establish that a license amendment that does no more than conform the license to reflect the transfer action involves "no significant hazards consideration" and therefore may be issued any time after the Staff has reviewed and approved a proposed license transfer. The no significant hazards determination affects only the timing of a potential hearing. The Staff's conclusion on the no significant hazards consideration is final, subject only to the Commission's discretion, on its own initiative, to review the determination.

STAY OF EFFECTIVENESS

The NRC regulation found in 10 C.F.R. § 2.1327 governs applications to stay the effectiveness of a Staff order on a license transfer application. In determining whether to grant or deny a stay, the Commission considers the following four factors: (1) whether the requestor will be irreparably injured unless a stay is granted; (2) whether the requestor has made a strong showing that it is likely to prevail on the merits; (3) whether the granting of a stay would harm other participants; and (4) where the public interest lies.

STAY OF EFFECTIVENESS

In determining whether to grant or deny a stay, the Commission has long considered the most important factor to be whether denying a stay will cause irreparable harm to the party requesting the stay. The entity seeking a stay must show that it faces imminent, irreparable harm that is both certain and great. Irreparable injury must be actual and not theoretical. The injury must be of such imminence that there is a clear and present need for equitable relief to prevent irreparable harm from occurring pending a decision on the merits.

STAY OF EFFECTIVENESS

In the absence of a showing of irreparable injury, movants for a stay must make an overwhelming showing of likely success on the merits. They must demonstrate that success on the merits is a virtual certainty.

LICENSE TRANSFERS

Except for cases involving special circumstances, the NRC by rule has categorically excluded license transfer actions from the need to perform an environmental analysis.

MEMORANDUM AND ORDER

I. INTRODUCTION

On August 22, 2019, the NRC Staff issued an order approving the direct and indirect transfers of the renewed facility operating license for the Pilgrim Nuclear Power Station and the general license for the Pilgrim Independent Spent Fuel Storage Installation (ISFSI) (collectively, the facility).[1] The Staff also issued on the same day a related regulatory exemption allowing Holtec Pilgrim, LLC, as the licensed owner of the facility, and Holtec Decommissioning International, LLC (HDI), as the licensed operator for decommissioning the facility, to use a portion of the funds in the Pilgrim decommissioning trust fund to pay for spent fuel management and site restoration activities.[2] The Staff subsequently informed us and the litigants that the proposed license transfer transaction closed on August 26, 2019, and that on August 27, 2019, the Staff issued a conforming license amendment to Holtec Pilgrim and HDI to reflect the license transfer and an associated name change (from Entergy Nuclear Generation Company to Holtec Pilgrim).[3]

The Commonwealth of Massachusetts (Commonwealth) and Pilgrim Watch

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[1] Order Approving Direct and Indirect Transfer of License and Conforming Amendment (Aug. 22, 2019) (ADAMS accession no. ML19170A265) (Order Approving Transfers).

[2] *See* Exemption (Aug. 22, 2019) (ML19192A086) (Exemption); Exemption; Issuance, 84 Fed. Reg. 45,178 (Aug. 28, 2019); *see also* Environmental Assessment and Finding of No Significant Impact; Issuance, 84 Fed. Reg. 43,186 (Aug. 20, 2019) (Exemption EA).

[3] *See* Amendment No. 249 to DPR-35, attached as Encl. 1 to Letter from Scott Wall, NRC, to Pierre Paul Oneid, Holtec International, and Pamela Cowan, HDI (Aug. 27, 2019) (ML19235A050) (License Amendment); *see also* Notification of Issuance of Conforming Amendment (Aug. 27, 2019) (ML19239A410).

seek a stay of the effectiveness of both the Staff's order approving the license transfer and of the issued exemption.[4] The applicants oppose the requests.[5] For the reasons outlined below, we deny the requests for a stay. As we emphasize below, however, the Staff's order is not the agency's final action on the license transfer application and exemption request. This adjudicatory proceeding continues separate from the Staff's review. The Staff's order therefore remains subject to our authority to modify, condition, or rescind, depending on this proceeding's outcome. Our decision today speaks only to timing — whether the Staff's order should be stayed pending the resolution of this adjudicatory proceeding. We conclude that the immediate effectiveness of the Staff's order will not limit our ability through this proceeding to address and, if warranted, to remedy the asserted deficiencies that the Commonwealth and Pilgrim Watch have raised regarding the license transfer.

II. BACKGROUND

This proceeding concerns a license transfer application filed by Entergy Nuclear Operations, Inc. (ENOI), on behalf of itself and Entergy Nuclear Generation Company (ENGC), Holtec International (Holtec), and HDI (together, the Applicants). As outlined in the application, the license transfer would be effectuated pursuant to the terms of an Equity Purchase and Sale Agreement, under which the equity interests in ENGC would transfer from ENGC's parent companies to Holtec; ENGC's name would be changed to Holtec Pilgrim (as the licensed owner); and the operating authority to conduct licensed activities at Pilgrim would transfer from ENOI to HDI.[6]

The NRC published a notice of the license transfer application and provided

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[4] *See* Application of the Commonwealth of Massachusetts for a Stay of the Effectiveness of the Nuclear Regulatory Commission Staff's Actions Approving the License Transfer Application and Request for an Exemption to Use the Decommissioning Trust Fund for Non-Decommissioning Purposes (Sept. 3, 2019) (Commonwealth's Stay Application); Pilgrim Watch Motion under 10 C.F.R. § 2.1327 to Stay Staff Order of August 22, 2019 (Sept. 3, 2019) (PW's Motion to Stay Order); Pilgrim Watch Motion under 10 C.F.R. § 2.323 to Stay Staff Order of August 22, 2019 Granting Exemption (Sept. 3, 2019) (PW's Motion to Stay Exemption).

[5] *See* Applicants' Answer Opposing the Application of the Commonwealth of Massachusetts for a Stay (Sept. 13, 2019) (Applicants' Answer to Commonwealth); Applicants' Answer Opposing Pilgrim Watch's Stay Motions (Sept. 13, 2019) (Applicants' Answer to PW).

[6] In addition, Entergy states that "Holtec (through its subsidiary HDI) has formed Comprehensive Decommissioning International, LLC (CDI), a jointly-owned company with SNC-Lavalin Group's subsidiary, Kentz USA Inc. CDI is majority-owned by HDI." Letter from A. Christopher Bakken III, ENOI, to NRC Document Control Desk (Nov. 16, 2018) (ML18320A031) (Bakken Letter).

an opportunity for comment and to request a hearing.[7] The Commonwealth and Pilgrim Watch each filed a request for hearing and petition to intervene challenging the application.[8] We are reviewing the intervention petitions.

When there is no hearing request on a license transfer application, the Staff alone will conduct a review of the application (unless we were to review the application on our own initiative, an unusual step). But if the NRC receives a hearing request on a license transfer application, we will review the intervention petition to determine if it satisfies the threshold standards for granting a hearing. The Staff's technical review and the Commission's adjudicatory review may overlap, but they are separate reviews, each of which must be completed and satisfied before a license transfer approval can be considered final.

NRC regulations anticipate that the Staff may complete its review of a license transfer application before the adjudication has concluded. The regulations specify that despite a pending adjudicatory proceeding, the Staff is "expected to promptly issue approval or denial" of the application, consistent with the findings in its Safety Evaluation Report (SER).[9] The Staff, therefore, generally issues an immediately effective order approving a license transfer although a hearing on the application, or a Commission decision on petitions for hearing, remains pending.[10] But a license transfer application "will lack the agency's final approval until and unless the Commission concludes the adjudication in the Applicant's favor."[11] While license transfer applicants may act in reliance on a Staff order approving an application, we have emphasized that both the transferor and transferee do so at their own risk "in the event that the Commission later determines that intervenors have raised valid objections to the license

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[7] Pilgrim Nuclear Power Station; Consideration of Approval of Transfer of License and Conforming Amendment, 84 Fed. Reg. 816 (Jan. 31, 2019) (Hearing Opportunity Notice).

[8] *See* Commonwealth of Massachusetts' Petition for Leave to Intervene and Hearing Request (Feb. 20, 2019); Pilgrim Watch Petition for Leave to Intervene and Hearing Request (Feb. 20, 2019) (PW Petition to Intervene).

[9] *See* 10 C.F.R. § 2.1316(a).

[10] *See, e.g., Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 286 & n.1 (2000) (granting hearing requests although the Staff had issued orders approving both license transfers and the companies had closed on the sale of the two nuclear reactor plants); *Power Authority of the State of New York* (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-01-14, 53 NRC 488 (2001) (declining, following a hearing on the merits, to disturb the Staff's approval of the license transfers); *Vermont Yankee Nuclear Power Corp. and AmerGen Vermont, LLC* (Vermont Yankee Nuclear Power Station), CLI-00-17, 52 NRC 79, 83 (2000) (intervention petitions were pending before the Commission although the Staff had issued order approving the transfer); *Entergy Nuclear Operations, Inc. and Entergy Nuclear Palisades, LLC* (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 257 n.8 (2008) (decision on intervention petitions issued after Staff had issued order approving transfer).

[11] *See Vermont Yankee,* CLI-00-17, 52 NRC at 83.

transfer application."[12] Because this adjudicatory proceeding remains pending, the Staff's order approving the license transfer includes the following condition:

> The NRC Staff's approval of this license transfer is subject to the Commission's authority to rescind, modify, or condition the approved transfer based on the outcome of any post-effectiveness hearing on the license transfer application. For example, if the Commission overturns the NRC staff's approval of this license transfer, this Order and any conforming amendments reflecting this transfer, will be rescinded, and the Applicants must return the plant ownership to the status quo ante and revert to the conditions existing before the transfer.[13]

The NRC's procedural regulations for license transfers are based on the presumption — rooted in agency historical experience — that license transfers in general do not result in a significant impact on public health, safety, or the environment.[14] While ensuring that an applicant demonstrates financial qualifications is a key part of the Staff's review, the applicant's financial capabilities ultimately are "important over the long term, but have no direct or immediate impact" on the day-to-day activities at a facility.[15]

Accordingly, the license transfer regulations also generically establish that a license amendment that does no more than conform the license to reflect the transfer action involves "no significant hazards consideration" and therefore may be issued any time after the Staff has reviewed and approved a proposed license transfer.[16] The NRC's no significant hazards consideration determination affects only the timing of a potential hearing. Pursuant to section 2.1316, the Staff issued its order approving the Pilgrim license transfer despite this pending proceeding. To reflect the transfer, it also issued the related license amendment after concluding that the amendment involves no significant hazards consideration.[17] The Staff's conclusion on the no significant hazards consideration is final,

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[12] *See id.*; *see also FitzPatrick/Indian Point,* CLI-00-22, 52 NRC at 286 n.1 (noting that notwithstanding the Staff's orders approving the license transfers, the Commission could modify the license or "require the Applicants to return the plant ownership to the *status quo ante*").

[13] *See* Order Approving Transfers at 6, Condition (2).

[14] *See* Streamlined Hearing Process for NRC Approval of License Transfers, Final Rule, 63 Fed. Reg. 66,721, 66,728 (Dec. 3, 1998) ("Safety Evaluation Reports (SERs) prepared in connection with previous license transfers confirm that such transfers do not, as a general matter, have significant impacts on the public health and safety") (Streamlined Process); *see also, e.g.,* 10 C.F.R. § 51.22(c)(21) (rule generically finding that absent special circumstances, approvals of direct and indirect license transfers and any associated amendments required to reflect the approvals, do not individually or cumulatively have a significant effect on the environment).

[15] *See* Streamlined Process, 63 Fed. Reg. at 66,722.

[16] *See* 10 C.F.R. § 2.1315; Streamlined Process, 63 Fed. Reg. at 66,728.

[17] *See* Safety Evaluation by the Office of Nuclear Reactor Regulation Related to the Request for *(Continued)*

"subject only to the Commission's discretion, on its own initiative, to review the determination."[18] We have inherent supervisory authority to stay the Staff's action or to rescind a license amendment. We decline to review the Staff's finding here.[19]

III. DISCUSSION

Although we can take corrective action if intervenors prevail in challenging a license transfer application, NRC regulations also provide the opportunity to seek a stay of a Staff order. Section 2.1327 governs applications to stay the effectiveness of the Staff's order on a license transfer application. In determining whether to grant or deny a stay, we consider the following four factors: (1) whether the requestor will be irreparably injured unless a stay is granted; (2) whether the requestor has made a strong showing that it is likely to prevail on the merits; (3) whether the granting of a stay would harm other participants; and (4) where the public interest lies.[20]

We long have considered the "most crucial" factor to be whether denying a stay will cause irreparable harm to the party requesting the stay.[21] The entity seeking a stay must show that it "faces imminent, irreparable harm that is both 'certain and great.'"[22] Irreparable injury "must be actual and not theoretical."[23] It

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Direct and Indirect Transfers (Aug. 22, 2019) (ML19170A250) (SER), at 25; *see also* Hearing Opportunity Notice, 84 Fed. Reg. at 817; License Amendment.

[18] *See* 10 C.F.R. § 50.58(b)(6); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-7, 53 NRC 113, 118 (2001).

[19] As we discuss later in this decision, the license amendment involved the deletion of specific license conditions of a financial nature. The deletion of the financial conditions does not involve any safety concerns that would render the license amendment unsuitable for a no significant hazards consideration determination. *See* 10 C.F.R. § 50.92 (outlining the factors considered in making a no significant hazards consideration finding); *see also infra* pp. 274-75, 281 (addressing why the deletion of License Condition J (4) poses neither an immediate nor irreparable harm).

[20] *See* 10 C.F.R. § 2.1327(d). The same four-part test is considered in ruling on a request for a stay of the effectiveness of a presiding officer decision. *See* 10 C.F.R. § 2.342(e). The standard restates the principles of equity commonly considered by courts when ruling on stay requests or similar forms of temporary injunctive relief.

[21] *See, e.g., Vermont Yankee,* CLI-00-17, 52 NRC at 83; *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-3, 31 NRC 219, 258 (1990).

[22] *Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237 (2006) (quoting *Wisconsin Gas Co. v. FERC,* 758 F.2d 669, 674 (D.C. Cir. 1985)); *see also Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 529 (2012); *Cuomo v. NRC,* 772 F.2d 972, 976 (D.C. Cir. 1985).

[23] *See Wisconsin Gas,* 758 F.2d at 674.

is not merely injury that is "feared as liable to occur at some indefinite time."[24] Similarly, the possibility of some irreparable injury occurring in the "remote future" does not constitute the imminent likely harm that justifies granting a stay.[25] The injury must be of such "*imminence*" that there is a "clear and present need" for equitable relief to prevent irreparable harm from occurring pending a decision on the merits.[26] Here, neither the Commonwealth nor Pilgrim Watch has established that they are likely to suffer imminent, irreparable harm pending the outcome of this proceeding.

A. Irreparable Harm

1. The Commonwealth

a. Drawdown of Decommissioning Trust Funds

In addressing irreparable harm, the Commonwealth makes three claims. It first argues that without a stay, the license transfer order will likely make it "impossible" to complete decommissioning or will lead to irreversible consequences if regulatory or financial concerns require a change from HDI's intended prompt decommissioning under the DECON decommissioning option to a different, longer-term approach such as the SAFSTOR decommissioning option.[27]

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[24] *Id.* (internal quotation and citation omitted).

[25] *See Winter v. Nat. Res. Def. Council, Inc.,* 555 U.S. 7, 22 (2008).

[26] *See Wisconsin Gas,* 758 F.2d at 674 (internal quotation omitted).

[27] *See* Commonwealth's Stay Application at 7; Second Declaration of Warren K. Brewer (Sept. 3, 2019), ¶ 15 (Brewer Decl.). Holtec Pilgrim and HDI intend to implement the DECON method of decommissioning. Under the DECON approach, the structures, equipment, and portions of the facility that contain radioactive contaminants are removed or decontaminated to a level that permits termination of the license shortly after cessation of operations. HDI's goal is to complete decommissioning and site restoration and to release the non-ISFSI portions of the site for unrestricted use within eight years after license transfer. *See* Application for Order Consenting to Direct and Indirect Transfers of Control of Licenses and Approving Conforming License Amendment; and Request for Exemption from 10 CFR 50.82(a)(8)(i)(A) (License Transfer Application), at 4. The license transfer application is attached as Encl. 1 to the Bakken Letter; the cover letter and application are available together under ADAMS accession number ML18320A031.

If this license transfer is not approved, ENOI plans (as had been its intention prior to the proposed transfer) to implement the SAFSTOR decommissioning approach, under which it intends to dismantle and decontaminate the facility during the years 2074 to 2078, terminate the license in 2079, and complete site restoration by 2080. *See* Pilgrim Post-Shutdown Decommissioning Activities Report (Entergy PSDAR), at 7, attached to Letter from Mandy Halter, ENOI, to NRC Document Control Desk (Nov. 16, 2018) (ML18320A034). Under SAFSTOR, after reactor fuel and radioactive fluids are removed, the facility is left intact for a long-term dormant period that allows for radioactivity levels to be significantly reduced; after this dormant period, the facility is dismantled and decontaminated to levels that permit license termination.

The Commonwealth rests its claim on a cashflow analysis prepared by HDI, which depicts HDI's projected year-by-year withdrawals from the decommissioning trust fund to pay for decommissioning, spent fuel management, and site restoration activities at Pilgrim. The Commonwealth focuses on HDI's projected trust fund withdrawals over the next seventeen months. Specifically, the Commonwealth states that Holtec projects that it will spend over $138 million in 2019 and about $164 million in 2020. Therefore Holtec will "draw over $303 million from the Trust Fund during the first [seventeen] months of the decommissioning, site restoration, and spent fuel management work" — an amount reflecting twenty-nine percent of the value of the trust fund at license transfer.[28] The Commonwealth goes on to claim that this drawdown of funds in the first seventeen months of HDI's work at Pilgrim will likely mean that "if Holtec falters" or "if regulatory or financial concerns . . . require a modified decommissioning approach," there will not be sufficient funds remaining in the decommissioning trust fund for another entity to complete the decommissioning work, nor sufficient funds left in the trust fund to change from HDI's intended accelerated decommissioning under DECON to a decommissioning approach involving a longer timetable, such as SAFSTOR or a delayed DECON approach.[29]

More specifically, the Commonwealth argues that HDI's decommissioning efforts implementing DECON "may leave the facility in such a state as to preclude a transition to SAFSTOR, rendering meaningless the NRC's ability" to alter the decommissioning approach in the event of a shortfall in decommissioning funds or of an NRC "determination that . . . Holtec is technically unsuited to perform the work as planned."[30] Relatedly, the Commonwealth contends that if the "DECON process is halted and a switch made to SAFSTOR after gaps or holes have been made in the containment but not all of the material has been removed from within the containment, the containment would not serve as a long-term weather-tight barrier to the spread of contamination and remedial work would be required to return the containment to a condition consistent with SAFSTOR."[31] The Commonwealth goes on to explain that if decommissioning begins under DECON but "in the future" a decision is made to change to

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[28] *See* Commonwealth's Stay Application at 7-8; Brewer Decl. ¶¶ 5, 15. Specifically, for 2019 HDI projects to spend approximately $85 million for license termination (radiological decommissioning) activities, $54 million for spent fuel management activities, and $18,000 for site restoration activities. For 2020, HDI projects to spend approximately $79 million for license termination activities, $85 million for spent fuel management activities, and $28,000 for site restoration activities. *See* SER, Attach. 1, Closing Balance Calculations.

[29] *See* Commonwealth's Stay Application at 7-8; Brewer Decl. ¶ 15.

[30] Commonwealth's Stay Application at 7-8.

[31] Brewer Decl. ¶ 15. The Commonwealth similarly claims that "once holes or openings have been created in other structures" (other than the containment) additional work would be required to restore the structures to "an acceptable state for long-term storage." *See id.*

SAFSTOR, "there may not be sufficient time for the depleted decommissioning fund to earn enough interest to cover the decommissioning costs associated with the switch."[32] The Commonwealth claims that as a result "local Massachusetts residents will be exposed to increased safety and health hazards."[33]

We find these claims insufficient to establish irreparable harm. First, pursuant to the condition imposed in the Staff's order, we can require the Applicants to "return the plant ownership to the status quo ante and revert to the conditions existing before the transfer."[34] If warranted, therefore, the NRC can require the Applicants to return the ownership of the plant to ENGC and ENOI and can further require the Applicants (which include ENGC and ENOI) to restore the trust fund to the amount existing at the time of the transfer.

As we earlier stated, while the Applicants are free to rely on the Staff's order approving a license transfer, they do so at their own risk if an adjudicatory proceeding remains pending. Based on the results of this proceeding, we can condition the license and/or the exemption, require additional financial assurance, or take other appropriate action including requiring a return to the original conditions existing before the transfer.

Second, the Commonwealth has not shown that HDI's projected trust fund withdrawals in the short term would render the fund either insufficient to allow another entity to take over and complete the decommissioning or insufficient to permit a change to a longer-term decommissioning method. In effect, the Commonwealth suggests that HDI will spend the next seventeen months focused only on performing decommissioning tasks specific to DECON, such as dismantling large facility components. Essentially, the Commonwealth's argument implies that if either another entity must take over the decommissioning, or a change to a longer-term decommissioning method must be implemented, the tasks performed during the initial seventeen-month period will not have advanced the decommissioning effort.

But much of the work that HDI intends to do in the next year and a half centers on spent fuel management, and it is the same kind of work that ENOI planned to do during this time. Of the $164 million in Holtec's projected expenses for 2020 that the Commonwealth references, for example, over half of the expenses — $85 million — are projected for spent fuel management activities, not decommissioning activities; and in 2019 over a third of Holtec's projected expenses — $54 million — are for spent fuel management activities. Entergy, similarly, expected during this same initial period to spend significant

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[32] *See id.*

[33] Commonwealth's Stay Application at 8.

[34] *See* Order Approving Transfers at 6, Condition (2).

amounts from the trust fund on spent fuel management activities.[35] In short, both under HDI's DECON-based decommissioning approach and under ENOI's SAFSTOR-based approach, a significant part of the work to be performed at Pilgrim beginning in 2019 and extending into 2021 is for spent fuel management.

Consequently, a large portion of the projected withdrawals from the decommissioning trust fund over the next seventeen months will go towards work that would have been done regardless of the decommissioning method chosen or the licensee performing the work. Specifically, out of the referenced $303 million that HDI intends to withdraw during the initial seventeen months, close to half ($149 million) will be for spent fuel management. This work, which includes transferring the spent fuel from the wet storage pool to dry storage and expanding the facility's dry storage capacity, would be done whether HDI or ENOI is the licensed operator of Pilgrim.

Third, HDI affirms that between now and mid-2021 at the earliest, during which time it will be engaged in a campaign to transfer the spent fuel to the ISFSI, there will be "no activity which would prevent the plant from returning to SAFSTOR, or require significant additional expenditure to do so."[36] If HDI undertakes any decommissioning action inconsistent with that representation pending this proceeding, it and the other Applicants would bear the risk of the consequences if we were to disapprove the license transfer.

Fourth, the Commonwealth has not shown that the projected withdrawals in the short term from the trust fund would leave the fund with less than the amount necessary to change to a longer-term decommissioning approach. Based on HDI's projected $303 million drawdown from the trust fund over the first seventeen months after the license transfer, the amount left in the fund at the end of 2020 ($742 million) is comparable to the amount that ENOI estimated would remain in the fund at the end of 2020 ($776 million). And yet ENOI still projected the trust fund to have over $150 million remaining, unspent, in 2080 at license termination — following SAFSTOR-based decommissioning, the ISFSI decommissioning, and site restoration.[37] The Commonwealth has not shown that HDI's trust fund withdrawals — pending the outcome of this adjudication — will cause irreparable harm.

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[35] *See* Entergy PSDAR, Attach. 1, Site-Specific Decommissioning Cost Estimate for the Pilgrim Nuclear Power Station, § 3, at 26 (projecting to spend for spent fuel management work approximately $60 million in 2019 and approximately $55 million in 2020).

[36] *See* Declaration of Pamela B. Cowan ¶ 3 (Cowan Decl.), attached to Applicants' Answer to Commonwealth.

[37] *See* Pilgrim Nuclear Power Station Updated Spent Fuel Management Plan, Table 5, Annual Cashflow Analysis, at 13, attached as Attach. 1 to Letter from Mandy Halter, ENOI, to NRC Document Desk (Nov. 16, 2018) (ML18320A036).

Fifth, the Commonwealth's claims regarding a potential need to alter the decommissioning approach or to change the licensee are in turn premised on uncertain events occurring in the next year and a half — e.g., "if Holtec falters"; "if regulatory or financial concerns . . . require a modified decommissioning approach."[38] These claims underscore the uncertain nature of the Commonwealth's asserted injury. For example, the Commonwealth claims that HDI's intended decommissioning approach may need to be changed because of an NRC "determination that . . . Holtec is technically unsuited to perform the work as planned."[39] As the Commonwealth notes, the Staff requested that the Applicants provide additional information to demonstrate that HDI's management and technical support organization would have sufficient resources to conduct licensed activities concurrently at the Oyster Creek and Pilgrim facilities.[40] The Commonwealth does not specifically contest HDI's response to the NRC regarding its ability to conduct decommissioning activities concurrently at both the Pilgrim and Oyster Creek facilities, but it questions HDI's ability to conduct activities concurrently at six different reactors.

More specifically, following the NRC's request for additional information, Entergy announced its intention to sell the Indian Point Units 1, 2, and 3 to Holtec.[41] Additionally, Holtec has stated that it intends also to acquire the Palisades Nuclear Generating Station. The Commonwealth therefore questions whether Holtec's resources or capabilities ultimately will be over-extended if it becomes "responsible for decommissioning as many as six reactors at four nuclear power stations."[42] The Commonwealth argues that Holtec has not provided "specific information for the NRC to evaluate its ability to act as owner, licensee, and decommissioning agent for six commercial nuclear reactors on schedule and within budget."[43]

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[38] *See* Commonwealth's Stay Application at 7; *see also* Brewer Decl. ¶ 15 (if HDI is not able to manage and execute six decommissioning projects, then "it is possible that sufficient funding will not remain in the decommissioning trust funds to permit another vendor to complete the decommissioning work or to change the decommissioning approach").

[39] *See* Commonwealth Stay Application at 8. The Commonwealth's argument that Holtec is "technically unsuited" to perform the decommissioning work is based on its claim that Holtec's acquisition of additional plants to decommission may over-extend technical capabilities and resources. The Commonwealth otherwise has not challenged HDI's technical qualifications; the Commonwealth did not, for example, challenge any aspect of the technical qualifications discussion in the license transfer application.

[40] *See* E-mail from Scott Wall, NRC, to Philip Couture III, ENOI, Re: Request for Additional Information (Mar. 21, 2019) (ML19086A349); *see also* SER at 20-21. The Staff in its SER found HDI's response acceptable. *See id.* at 20-23.

[41] *See* Brewer Decl. ¶ 11 & n.8.

[42] *See id.* ¶ 11.

[43] *See id.* ¶ 12.

But these concerns do not pose an imminent irreparable injury to the Commonwealth. First, the Applicants state that there is no "imminent overlap in the decommissioning of the six reactors" because Holtec's planned acquisitions of the Indian Point and Palisades plants will not occur before those plants cease operation, in April 2021 and spring 2022, respectively.[44] Further, Holtec's potential future purchase of Indian Point and Palisades would require separate, additional NRC license transfer reviews. These reviews would encompass Holtec's technical qualifications to carry out licensed activities at the additional respective plants. Just as the Staff specifically examined HDI's technical capability to conduct decommissioning activities concurrently at the Pilgrim and Oyster Creek facilities, the NRC would need to ensure that HDI has the technical capabilities and related resources to conduct licensed activities at each facility before approving future license transfer applications. In any event, the Commonwealth has not shown how it will be irreparably harmed during this proceeding by Holtec's potential future acquisition of these additional plants.

In short, the Commonwealth has not shown that the projected trust fund withdrawals during the 2019-20 period would make a potential change to another licensee or another decommissioning approach either financially or technically infeasible, or would otherwise make it impossible to decommission the Pilgrim facility. It has not shown that HDI's trust fund withdrawals during this adjudication will cause the Commonwealth certain, great, and irreparable harm. And most critically, the Pilgrim license is expressly conditioned. Based on the results of this proceeding, the Commission may modify the license or the issued exemption or may disapprove the license and order a return to the conditions existing prior to the license transfer.

b. Truck Shipments of Waste

The Commonwealth next claims that it will suffer irreparable health, safety, and infrastructure harm from frequent waste shipments over local roads, which the Commonwealth claims will increase the risks of accidents, affect traffic flow, damage infrastructure, and cause noise, dust, and air pollution.[45] The Commonwealth bases its claim on HDI's estimated radioactive waste volume of 1.4 million cubic feet. While noting that this amount is bound by the 1.5 million cubic feet of radioactive waste considered in the NRC's generic environmental impact statement for decommissioning (Decommissioning GEIS), the Commonwealth's affiant states generally that "waste volume is often underestimated."[46]

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[44] *See* Applicants' Answer to Commonwealth at 3, 5; *see also* Cowan Decl. ¶ 5.

[45] Commonwealth's Stay Application at 8.

[46] *See* Brewer Decl. ¶ 16 n.13.

He also claims that the estimated 1.4 million cubic feet of waste "[i]f shipped by truck, . . . could easily require more than 1,400 separate truck shipments just for radioactive waste alone."[47] He goes on to state that his estimate of 1,400 truck shipments for the radioactive waste reflects more than double the 671 truck shipments that the NRC's Decommissioning GEIS examined. He argues that there has been no environmental analysis performed to "evaluate this significantly greater number of truck shipments of radioactive waste."[48]

The Commonwealth's affiant also claims that neither Entergy nor Holtec provided information on the amount of non-radioactive waste that would need to be removed and shipped for disposal offsite. Based on information on the decommissioning experience at the Maine Yankee facility, which he states involved 150 million pounds of non-radioactive waste, the Commonwealth's expert claims that the number of truck shipments of non-radioactive waste over the roads near Pilgrim "could be two to three times" his estimate of 1,400 truck shipments of radioactive waste; the Commonwealth states this would mean "2,400 to 3,400 total trips" by truck.[49]

The Commonwealth's affiant adds that legacy waste — waste that was generated during operations and has been stored on site — typically is removed and shipped within sixty days of the beginning of decommissioning under DECON to clear space on the site. He states that these shipments of legacy waste therefore will begin immediately. Based on these various claims, the Commonwealth argues that absent a stay, waste shipments by truck will begin immediately and will cause irreparable harm to local and state infrastructure, local health, safety, and the environment.[50]

At the outset, we note that the Commonwealth raises in its stay application its concern about the environmental impacts of truck shipments of waste for the first time. The Commonwealth did not include these truck transportation arguments in its request for hearing. Under NRC caselaw, "[t]o qualify as 'irreparable harm' justifying a stay, the asserted harm must be related to the underlying" contention(s) before the NRC.[51] The purpose of a stay would be to prevent an irreparable harm from occurring before we have had the opportunity

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[47] *See id.* ¶ 16; *see also* Commonwealth's Stay Application at 8. The Commonwealth's affiant derived his estimate of the number of truck shipments of radioactive waste by assuming that 1.4 million cubic feet of waste at 60 pounds per cubic foot results in 84 million pounds of waste; based on legal weight trucks carrying 60,000 pounds of waste per truck, he calculated that there would be 1,400 truck shipments of waste.

[48] *See* Brewer Decl. ¶ 16.

[49] *See id.* ¶ 16; Commonwealth's Stay Application at 8.

[50] *See* Commonwealth's Stay Application at 8.

[51] *See Vogtle,* CLI-12-11, 75 NRC at 530-31 (2012) (internal quotation omitted).

to resolve the claim. But here these truck-related environmental impacts claims are not pending before us as part of the Commonwealth's hearing request.

Moreover, we are not persuaded that the Commonwealth faces imminent irreparable harm from truck shipments of waste. First, as to the *imminence* of the truck shipments of waste (radioactive and non-radioactive) associated with the decommissioning process, the Applicants state that they will not start shipping any significant volumes of decommissioning-related waste until they begin the removal of the large components, which they only intend to undertake after they have concluded transferring the spent fuel to the ISFSI — at the earliest in mid-2021.[52]

The Applicants also state that shipments of legacy wastes — wastes removed during early stages of plant shutdown and prior to the removal of large components — would occur regardless of the license transfer (that is, regardless of whether the decommissioning approach chosen is DECON or SAFSTOR) and therefore would not be affected by a stay of the Staff's order. In addition, they state that such legacy waste shipments would not be "materially different from regular shipments of waste from Pilgrim which have occurred over the life of the plant," and which must comply with applicable packaging, labeling, and transportation requirements to protect public health and safety.[53]

The Commonwealth has not shown that shipments of legacy waste would be excessive, unusual, or otherwise would cause the Commonwealth an irreparable harm.[54] Nor did the Commonwealth link shipments of legacy waste to the transfer of the Pilgrim license.

We note, moreover, that the Commonwealth's arguments do not acknowledge relevant representations that HDI made about its plans for waste transportation. HDI stated, for example, that it may also construct a barge slip and remove a portion of the waste by barge to reduce the number of shipments over local roadways and that in addition to trucks, it may also use railcars to transport the waste to a disposal facility. Similarly, the Applicants' affiant states that Holtec "plans to use a combination of approaches" to transport the waste, including road, rail, and barge.[55]

HDI also stated that truck shipments of waste would occur over an extended period of time and therefore would not result in a significant change to traffic

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[52] *See* Cowan Decl. ¶ 4; *see also id.* ¶ 3 (spent fuel campaign to end mid-2021 at the earliest).

[53] *See id.* ¶ 4.

[54] To the extent that the Commonwealth may claim that truck shipments of legacy waste while this proceeding is pending will damage infrastructure or interfere with "local quality of life and enjoyment," it provided no support for these claims. *See id.*

[55] *See* DECON Post-Shutdown Decommissioning Activities Report, at 34-35, attached to Letter from Pamela Cowan, HDI, to NRC Document Control Desk (Nov. 16, 2018) (ML18320A040) (HDI PSDAR); Cowan Decl. ¶ 4.

density or patterns or to worker or public dose.[56] The Decommissioning GEIS notes, for example, that the decommissioning experience has been that the number of low-level waste shipments from a decommissioning site averages "much less than [one] per day," which the GEIS concludes is "not nearly enough to have a detectable . . . effect on traffic flow or road wear."[57] And decommissioning waste shipments generally take place over a period of years during the course of decontamination and dismantlement.[58] Therefore, the Commonwealth has not demonstrated that it faces certain, great, and irreparable harm from truck shipments of waste during this adjudication.

Moreover, this license transfer proceeding is focused squarely on the license transfer itself — whether Holtec Pilgrim and HDI have shown that they are qualified to be the Pilgrim licensees. This proceeding does not encompass an examination of the environmental impacts of HDI's planned decommissioning activities. A licensee in decommissioning must describe in its PSDAR the reasons why it has concluded that the environmental impacts associated with site-specific decommissioning "will be bounded" by appropriate previously issued environmental impact statements.[59] If the licensee cannot so conclude, it must prepare and provide the necessary additional environmental analysis, "describing and evaluating the additional environmental impacts."[60]

c. Failure to Prepare an Environmental Impact Statement

The Commonwealth argues that it has suffered an immediate, irreparable

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[56] *See* HDI PSDAR at 34.

[57] *See* "Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities" (Final Report), NUREG-0586, Supplement 1, vol. 1 (Nov. 2002), at 4-79 (ML023470304, ML023470323) (Decommissioning GEIS). The Commonwealth does not suggest, for example, how the asserted increase in potential truck shipments (e.g., 1,400 instead of 671) would, if occurring over an extended period, be likely to cause significantly greater impacts (whether radiological or not) than those evaluated in the GEIS. The Decommissioning GEIS found both the radiological and non-radiological effects of transporting waste to be neither detectable nor destabilizing. *See id.* at 4-78 to 4-81; *see also id.,* app. K. We do not find that the asserted increased numbers of truck shipments will certainly and imminently occur.

[58] *See* Decommissioning GEIS, app. K at K-2.

[59] *See* 10 C.F.R. § 50.82(a)(4)(i).

[60] *See Entergy Nuclear Vermont Yankee and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-16-17, 84 NRC 99, 124 (2000); Decommissioning Rule, 61 Fed. Reg. at 39,286. The PSDAR's purpose is to provide a general overview for the public and the NRC of the planned decommissioning activities and the licensee's schedule for those activities. *See* Decommissioning Rule, 61 Fed. Reg. at 39,281. It does not require NRC approval given that it does not permit a licensee to conduct any activity that is not already authorized under the existing license. Accordingly, a licensee that has submitted certifications of permanent cessation of operations and permanent removal of fuel may begin major decommissioning activities ninety days after the NRC has received its PSDAR. *See* 10 C.F.R. § 50.82(a)(5).

harm because the NRC did not prepare an environmental impact statement for the Staff's "now-approved actions."[61] Specifically, the Commonwealth argues that when a decision requiring a NEPA impacts analysis is made "'without the informed environmental consideration that NEPA requires, the harm that NEPA intends to prevent" already has been suffered.[62]

In ruling on stay motions the Commission does not presume that a statutory violation without more "equates to a showing of irreparable injury."[63] The Commonwealth has not made such a showing here.

Moreover, the Staff concluded that the license transfer action and the associated license amendment meet the criteria of the NRC's categorical exclusion rule in 10 C.F.R. § 51.21.[64] The rule identifies specific categories of NRC licensing actions that have been found not to have a significant effect on the environment. A categorial exclusion indicates that the NRC has "established a sufficient administrative record to show that the subject actions do not, either individually or collectively, have a significant effect on the environment."[65]

(1) DELETION OF LICENSE CONDITION DOES NOT POSE IMMINENT IRREPARABLE HARM

The Commonwealth acknowledges the NRC's categorical exclusion of license transfer actions but argues that the categorical exclusion should not have been applied to the license amendment issued as part of this license transfer action. More specifically, the license amendment deleted several license conditions, including License Condition J (4), which required ENGC to have access to contingency funding in an amount up to $50 million dollars.[66] The Commonwealth claims that the license amendment is not encompassed by the NRC's categorical exclusion for license transfer actions because deleting License Con-

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[61] *See* Commonwealth's Stay Application at 8.

[62] *See id.* at 8 (quoting *Massachusetts v. Watt,* 716 F.2d 946, 952 (1st Cir. 1983)).

[63] *See Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-98-8, 47 NRC 314, 322-23 (1998) (referencing *Amoco Prod. Co. v. Vill. of Gambell,* 480 U.S. 531, 545 (1987) (presumption of irreparable damage is contrary to traditional equitable principles)); *see also Nevada v. United States,* 364 F. Supp. 3d 1146, 1151 (D. Nev. 2019) (court will not "presume irreparable harm; there must be a satisfactory showing"). And the First Circuit by its decision in *Massachusetts v. Watt* "did not mean" that a NEPA violation necessarily calls for an injunction. *See Conservation Law Found., Inc. v. Busey,* 79 F.3d 1250, 1272 (1996).

[64] *See* SER at 33. In addition, the Staff prepared an EA for the exemption. *See* Exemption EA, 84 Fed. Reg. 43,186.

[65] *See* Categorical Exclusions from Environmental Review, Final Rule, 75 Fed. Reg. 20,248, 20,251 (Apr. 19, 2010) (Categorical Exclusions).

[66] *See* License Transfer Application, Attach. A, Renewed Facility Operating License (Changes), at 4, Condition J (4) (License Condition J (4)).

dition J (4) was not "required to reflect approval" of the license transfer.[67] The Commonwealth therefore claims that the Staff needed to perform an environmental analysis for the license amendment that deleted this license condition.

However, the deletion of the contingency funding license condition does not present any risk of an imminent irreparable harm. By its own terms, the license condition involved *contingency* funding, to be made available only if necessary, and here the decommissioning trust fund at license transfer contained approximately $1 billion.[68] Contingency funding to pay for decommissioning activities would not be necessary unless all of the $1 billion is drained from the decommissioning trust fund during this proceeding, which is highly unlikely given the proposed expenditures over the next seventeen months.

Consequently, whether the categorical exclusion rule applies to the license amendment that deleted the license condition is not a question involving an imminent or irreparable harm. There is no imminent need of the contingency funding license condition. If, based on the results of this proceeding, we conclude that additional financial assurance is necessary, we can modify or condition the license. Similarly, if we were to ultimately conclude that the categorical exclusion does not apply to the license amendment and that there is a need for further environmental analysis, we can direct that a supplemental analysis be performed. Either way, NEPA's goal of ensuring that an agency's final decision accounts for the consequences of agency action will be preserved.

(2) SUBSTANTIVE ENVIRONMENTAL CONCERNS DO NOT POSE IMMINENT IRREPARABLE INJURY

In addition, the Commonwealth's asserted underlying environmental concerns also do not present a potential to cause imminent, irreparable environmental harm that would occur during this adjudication. The specific substantive harms that the Commonwealth claims flow immediately from the Staff's approvals and will be irreparable either do not present an imminent harm or can be fully remedied through this proceeding.[69] These substantive harms include claims we already addressed and found unpersuasive: (1) the Commonwealth's argument that HDI's trust fund withdrawals will make it impossible for decommissioning to be completed, and (2) its argument on estimated truck shipments for waste transportation.

The Commonwealth also claims that it will suffer immediate, irreparable, environmental harm from withdrawals from the trust fund for site restoration — non-radiological and other restoration activities that go beyond NRC require-

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[67] *See* Commonwealth Stay Application at 5-6.

[68] *See* License Condition J (4).

[69] *See* Commonwealth's Stay Application at 8 (citing Brewer Decl. ¶¶ 5, 15-16, 19).

ments for decommissioning the site and terminating the license.[70] Specifically, the Commonwealth argues that if, to "satisfy non-NRC requirements," HDI spends five percent more than it projected on site restoration activities, then there could be insufficient funds left in the trust fund to complete the NRC required license termination work.[71]

This claim poses no potential of imminent harm during the adjudication. Essentially, the Commonwealth objects to the approval of an exemption that places no express conditions on the amount that Holtec Pilgrim and HDI can withdraw from the trust fund for site restoration activities. But if the Commonwealth prevails in its arguments on this claim, the Commission can impose conditions on the exemption or take other appropriate action to limit trust fund withdrawals. The Commonwealth has not shown that during this proceeding it will suffer an imminent, irreparable harm from trust fund withdrawals for site restoration. We note, moreover, that through 2020 HDI's projected withdrawals from the trust fund for site restoration are minimal.[72]

In short, the Commonwealth has not demonstrated that it faces an imminent irreparable harm relating to NEPA that stems from the timing of the transfer. Here the Staff found the NRC's categorical exclusion rule applicable to its approval of the Pilgrim license transfer and the associated license amendment. The Commonwealth argues that the license amendment is not encompassed by the categorical exclusion rule, but this question does not raise an imminent or irreparable environmental injury.

2. Pilgrim Watch

Pilgrim Watch also has not satisfied its burden to demonstrate that, pending completion of this proceeding, it has or will suffer imminent harm that would be irreparable. Initially, we note that Pilgrim Watch does not appear to acknowledge that there are two separate aspects of the NRC's consideration of the requested license transfer — the Staff's review and this adjudication. Pilgrim Watch states that there is no indication that the Staff considered its various claims raised in contentions. But Pilgrim Watch's claims are pending in this adjudicatory proceeding, separate from the Staff's review.

Pilgrim Watch first argues that absent a stay both it and the public will be irreparably harmed because of "significant remaining radiological and hazardous contamination in portions of the Pilgrim site that Holtec thinks it has already

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[70] *See* 10 C.F.R. § 50.2 (definition of decommissioning).

[71] *See* Brewer Decl. ¶ 19 (referenced in Commonwealth's Stay Application at 8).

[72] *See* SER, Attach. 1, Closing Balance Calculations, at 1 (during the years 2019 and 2020, HDI projects that it will spend $18,000 and $28,000, respectively, on site restoration activities).

decommissioned and remediated."[73] HDI, however, has not stated that it has already decommissioned and remediated any portion of the Pilgrim site. Nor has it represented that it will not perform radiological surveys of the site as it conducts decommissioning activities.

HDI's release of the site is not imminent. Under HDI's projected schedule, release of the non-ISFSI portions of the Pilgrim site is projected to occur around 2026.[74] HDI must submit to the NRC a License Termination Plan at least two years before the termination of the non-ISFSI portion of the license. That plan must include a site characterization, plans for site remediation, an updated decommissioning cost estimate, and detailed plans for the final radiation survey.[75]

NRC approval of the License Termination Plan requires a license amendment and will involve an opportunity to request a hearing. And HDI will need to perform final status surveys to show that the site can be released for unrestricted use.[76] Further, the NRC will conduct its own radiological surveys of the site before permitting release of any portion of the site for unrestricted use and before allowing the termination of the non-ISFSI portion of the license. Pilgrim Watch's claim that portions of the Pilgrim site will be left with contamination does not present an imminent, irreparable injury that is traceable to the decision to maintain the transfer in place during the pendency of this adjudication.

Pilgrim Watch also argues that there will be "leakage, resulting from lack of knowledge and poor and incomplete work, of contaminants into Cape Cod Bay," and therefore a "potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected."[77] Pilgrim Watch further states that this asserted future leakage cannot be remediated. These claims do not raise an imminent, irreparable injury posed by the license transfer order.

Pilgrim Watch appears to rely on the NRC Staff's Liquid Radioactive Release Lessons Learned Task Force Report, issued in 2006.[78] But that report led to significant enhanced environmental monitoring and reporting at nuclear power plant facilities, including at Pilgrim. The current Groundwater Protection Initiative Program and Radiological Environmental Monitoring Program at Pilgrim will continue during the decommissioning process, regardless of whether the license transfer is made effective during the pendency of this proceeding. The

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[73] PW's Motion to Stay Order at 7.

[74] *See* HDI PSDAR at 35.

[75] *See* 10 C.F.R. § 50.82(a)(9).

[76] The NRC's criteria for site release are defined by the Multi-Agency Radiation Survey and Site Investigation Manual, known as MARSIMM. *See* "Multi-Agency Radiation Survey and Site Investigation Manual (MARSIMM)," NUREG-1575, Rev. 1 (Aug. 2000) (ML003761445).

[77] *See* PW's Motion to Stay Order at 8.

[78] *See id.* (citing PW Petition to Intervene at 103-04).

results of the periodic groundwater and environmental monitoring are publicly available. Pilgrim Watch does not identify any current deficiency with respect to groundwater or environmental monitoring programs. Significantly, Pilgrim Watch also did not address the discussion in the license transfer application of HDI's technical qualifications to perform decommissioning activities. In sum, Pilgrim Watch has not shown that Holtec will cause imminent "unmonitored releases" or leaks of contaminants to occur, and it has not shown that any leaks that might occur would remain undetected and uncorrected despite ongoing monitoring activities at the site.

Pilgrim Watch likewise does not support its claim that there is or will be imminent or irreparable harm from airborne contamination affecting both workers onsite and the public offsite "because no site analysis was conducted" and therefore "Holtec did not know" that there is contamination.[79] HDI has stated that it will, during the decommissioning planning and preparation period, conduct surveys and site characterization activities to establish contamination and radiation levels throughout the plant.[80] HDI stated that the information acquired from the surveys and site characterization activities will be used to develop procedures to ensure that contaminated areas are remediated and worker exposure is controlled.[81] HDI also must comply with NRC regulations on worker and public dose limits and applicable federal and state regulations pertaining to air quality.[82] Environmental monitoring will continue during the decommissioning process, which remains subject to NRC oversight and inspection. Therefore, Pilgrim Watch has not demonstrated that the public or workers at Pilgrim will suffer imminent irreparable harm from airborne contamination during this proceeding.

Pilgrim Watch additionally claims that HDI will drain the decommissioning trust fund, leaving insufficient funds in the trust to properly complete the decommissioning. As a result, the public will have to pay for the decommissioning. More specifically, Pilgrim Watch argues that the actual cost to decommission Pilgrim, "even over the next six years, will be $100 million more than Holtec estimates."[83] Pilgrim Watch claims that once the money in the trust fund is spent, no additional money can be obtained because "Holtec will not provide more money, and the NRC cannot force it to do so."[84]

Pilgrim Watch's claim of higher-than-expected decommissioning costs spread out over the next several years does not identify an "imminent" injury. Pilgrim

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[79] *See id.* at 8.

[80] *See, e.g.,* HDI PSDAR at 10; *see also* Applicants' Answer to PW at 5.

[81] *See* HDI PSDAR at 10.

[82] *See generally* 10 C.F.R. Part 20 (establishing standards for worker and public dose limits).

[83] *See* PW's Motion to Stay Order at 8.

[84] *See id.*

Watch raised the argument of potential escalating decommissioning costs in its request for hearing, and we will address the claim in ruling on the hearing requests.[85] Pilgrim Watch has not shown that it or the public will suffer irreparable harm from trust fund withdrawals that may be made pending a final decision in this proceeding.

In this proceeding we will address the Commonwealth's and Pilgrim Watch's contentions, which include claims that HDI has underestimated particular decommissioning and other costs and that HDI therefore has neither demonstrated adequate financial qualifications for the license transfer nor justified the related exemption. As we have emphasized, depending on the result of this proceeding, we can require Holtec Pilgrim and HDI to provide additional financial assurance, and we can modify or condition the license and/or the exemption. Pursuant to the condition imposed in the Staff's order, were we to overturn the transfer, we can require the Applicants to restore the decommissioning trust fund, to the extent warranted.

Further, through required annual status reports, the NRC will monitor the status of the decommissioning funding and the spent fuel management funding.[86] If, for example, through the end of 2020 HDI's withdrawals from the trust fund prove to be significantly higher than HDI projected and HDI does not remedy a projected shortfall, the NRC can revoke the exemption, preventing HDI from making any further withdrawal for any purpose other than for radiological decommissioning expenses. In addition, if the financial assurance status report projects a shortfall in funding to pay the estimated remaining decommissioning costs, HDI must promptly provide additional financial assurance to make up the projected shortfall.[87]

The trust fund at the time of license transfer contained approximately $1 billion, over $400 million more than HDI's estimated decommissioning cost. The Commonwealth and Pilgrim Watch have not shown that withdrawals that may be made from the trust in the short-term — during this adjudication — are likely to irreparably threaten the ability to safely decommission the Pilgrim facility.

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[85] *See* PW Petition to Intervene at 25.

[86] *See* 10 C.F.R. § 50.82(a)(8)(v), (vii).

[87] More specifically, if the decommissioning funds remaining in the trust (plus calculated earnings at no greater than a 2% annual real rate of return) do "not cover the cost to complete the decommissioning, the financial assurance status report *must include additional financial assurance* to cover the estimated cost of completion." *See* 10 C.F.R. § 50.82(a)(8)(vi) (emphasis added). The NRC can enforce this regulation, contrary to Pilgrim Watch's claim that "no one is legally required . . . to supply more money." *See* Pilgrim Watch's Stay Order at 2. Under the AEA, the NRC may "prescribe such regulations or order as it may deem necessary . . . to ensure that sufficient funds will be available for the decommissioning of any production or utilization facility." *See* AEA § 161i.(4), 42 U.S.C. § 2201.

In a separate filing, Pilgrim Watch also seeks a stay of the exemption granted to Holtec Pilgrim and HDI.[88] But Pilgrim Watch does not address the four factors that we consider in ruling on stay motions. It repeats many claims that it made in its contentions or that the Commonwealth made in its hearing request. Essentially, Pilgrim Watch reiterates that HDI has underestimated the costs of decommissioning, site restoration, and spent fuel management, and therefore Pilgrim Watch concludes there is no reasonable assurance that the trust fund will be sufficient to cover the costs of all three activities. To the extent that Pilgrim Watch raised these claims in its earlier-filed contentions, we will address the claims in this proceeding. Pilgrim Watch has not demonstrated irreparable harm from the current effectiveness of the exemption, nor otherwise demonstrated that a stay of the exemption is warranted. Given the intertwined nature of the license transfer and the exemption, if the petitioners prevail in this proceeding regarding their challenges to Holtec Pilgrim's and HDI's financial qualifications, we can through this proceeding correct any deficiency found that relates to the granting of the exemption.

B. Likelihood of Success on the Merits

In the absence of a showing of irreparable injury, as is the case here, movants must make "an overwhelming showing" of likely success on the merits.[89] They must demonstrate that success on the merits is a "virtual certainty."[90] This is a high standard that the petitioners have not met at this threshold stage of the proceeding.

1. NEPA Claims

With respect to NEPA, the petitioners' arguments do not overwhelmingly demonstrate that this license transfer action required an environmental assessment or environmental impact statement.[91] First, except for cases involving special circumstances, the NRC has categorically excluded license transfer actions from the need to perform an environmental analysis.[92] To the extent, therefore,

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[88] *See generally* PW's Motion to Stay Exemption.

[89] *See, e.g., Vogtle,* CLI-12-11, 75 NRC at 529; *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-13, 67 NRC 396, 399 (2008).

[90] *See Shieldalloy Metallurgical Corp.* (Decommissioning of the Newfield, New Jersey Site), CLI-10-8, 71 NRC 142, 154 (2010); *Oyster Creek,* CLI-08-13, 67 NRC at 400; *David Geisen,* CLI-09-23, 70 NRC 935, 937 (2009); *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-9, 40 NRC 1, 7 (1999).

[91] *See* Commonwealth's Stay Application at 5-6; PW's Motion to Stay Order at 4-5.

[92] *See* Streamlined Process, 63 Fed. Reg. at 66,728.

that the petitioners claim that the Staff's order approving the license transfer required an EIS, they would appear to impermissibly challenge the categorical exclusion provision in section 51.21(c)(21).

Second, to the extent that the petitioners argue that the categorical exclusion rule does not apply to the license amendment issued to Holtec Pilgrim and HDI, the petitioners also have not overwhelmingly demonstrated a likelihood of success on the merits. The petitioners highlight that the license amendment deleted a license condition that required ENGC to have access to up to $50 million in contingency funding — a license condition that the NRC added to the Pilgrim license in 1999, as part of the previous license transfer transaction in which ENGC and ENOI became the Pilgrim licensees. In particular, the petitioners argue that the deletion of License Condition J (4) was not "required to reflect the approval" of the license transfer and therefore that the license amendment is not covered by the categorical exclusion.[93]

License Condition J (4), which the Commonwealth seeks to have retained in the Pilgrim license, involved a different license transfer application and different circumstances. The NRC imposed the contingency funding license condition when it approved the transfer of the Pilgrim operating license from the Boston Edison Company to ENGC. The license condition involved an inter-company credit agreement by which the company Entergy International Ltd., LLC, agreed to provide its affiliate Entergy Nuclear Generation Company up to $50 million, if needed, and as outlined in the inter-company agreement.[94] No such inter-company contingency funding agreement was part of the Applicants' license transfer application here. At this stage of the proceeding, the petitioners have not overwhelmingly demonstrated that the deletion of the funding provision from the license was not necessary to reflect the actual terms of the license transfer as it was approved by the Staff.

The history of the license transfer rules makes clear that those amendments "that would *directly affect* the actual operation of a facility" do not fall within the scope of the categorical exclusion.[95] But, the deletion of the contingency funding provision here has no direct effect, much less any imminent effect, on

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[93] *See* 10 C.F.R. § 51.22(c)(21); Commonwealth's Stay Application at 5-6; PW's Motion to Stay Application at 5.

[94] *See* Safety Evaluation by the Office of Nuclear Reactor Regulation for the Proposed Transfer of Operating License and Materials License for Pilgrim Nuclear Power Station to Entergy Nuclear Generation Co., at 2, 4-5, 9 (Apr. 29, 1999) (SER for 1999 License Transfer); Order Approving the Transfer of Facility Operating License and Materials License for Pilgrim Nuclear Power Station, from Boston Edison Co. to Entergy Nuclear Generation Co., and Approving Conforming Amendments (Apr. 29, 1999), at 5. Both the SER and the Order relating to the license transfer to ENGC are attached (as encl. 3 and encl. 1, respectively), to Letter from Alan Wang, NRC, to Theodore Sullivan, Boston Edison Co., and Jerry Yelverton, ENGC (Apr. 29, 2019) (ML011910099).

[95] *See* Streamlined Process, 63 Fed. Reg. at 66,728.

the current day-to-day activities at Pilgrim. At this stage, the Commonwealth has not shown why a license amendment that now removes the condition, based on a different demonstration of financial qualifications, would not likewise be a conforming amendment necessary to reflect the transfer and therefore fall within the scope of the categorical exclusion.

Both petitioners also seek to litigate in this proceeding the environmental impacts of decommissioning activities. However, this license transfer proceeding focuses on the qualifications of Holtec Pilgrim and HDI, not on the environmental impacts of decommissioning activities. Accordingly, in its SER the Staff states that it reviewed HDI's PSDAR "only to determine whether Holtec Pilgrim and HDI are financially and technically qualified to hold the license for Pilgrim and the general license for the Pilgrim ISFSI."[96] The Staff did not conduct a review of the environmental impacts of the planned decommissioning activities. Just as ENOI was free to begin major decommissioning activities ninety days after submitting its PSDAR to the NRC — without need of NRC approval of its PSDAR — HDI also did not need NRC approval of its PSDAR to begin major decommissioning activities. HDI stated in its PSDAR that the environmental impacts associated with its planned decommissioning activities are less than and bounded by previously issued environmental impact statements.[97] If HDI plans to conduct any decommissioning activity that may result in significant environmental impacts not previously reviewed, it would need to provide a supplemental environmental analysis and would need to request a license amendment.[98] NRC regulations prohibit HDI from performing any decommissioning activities that result in significant environmental impacts not previously reviewed.[99] Given that petitioners' arguments concerning the environmental impacts of decommissioning appear to be beyond the scope of this proceeding, we find they have not demonstrated the requisite likelihood of success on the merits sufficient to warrant a stay.

2. Financial Qualifications Claims

Both petitioners separately raise numerous arguments challenging the Applicants' financial qualifications for the license transfer and similarly challenging the Applicants' justification for the exemption. Several of these claims raise novel issues that we have not yet addressed in a license transfer proceeding and that may warrant further inquiry. Even assuming, however, that a hearing

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[96] *See* SER at 3.

[97] *See* HDI PSDAR at 20.

[98] *See* 10 C.F.R. § 50.82(a)(6)(ii); *supra* p. 273.

[99] *See* 10 C.F.R. § 50.82(a)(6)(ii).

is granted on specific challenges to the Applicants' financial qualifications, a final Commission decision on the merits of the financial claims would depend on further information developed in the hearing record. For example, some of the claims pending before us in the intervention petitions challenge particular cost estimates by questioning whether they have been adequately explained or supported. Whether any such claim, if admitted for hearing, would prevail on the merits would ultimately depend on additional information, explanations, or argument provided in the record. In other words, to the extent that we may conclude that one or more challenges to the financial qualifications discussion in the application raise an admissible dispute for hearing, to resolve the dispute we likely would require additional focused information or answers from the litigants.

But in the absence of irreparable harm, all we need decide now is whether the petitioners have carried their burden of showing an overwhelming likelihood of prevailing. Overall, given the limited information and arguments before us, at this stage the petitioners have not shown a virtual certainty of success on the merits.[100]

C. Harm to Other Participants

Absent a showing of irreparable harm or likelihood of success on the merits, we need not make a determination on the remaining two stay factors.[101] Nonetheless, the remaining factors do not tilt in the movants' favor.

The Applicants argue that a stay would "raise numerous commercial, administrative and logistical concerns."[102] They note that they have taken employment-related actions involving incumbent Entergy employees, amended contracts with vendors, replaced insurance, and performed other administrative modifications based on the license transfer order.[103] While we find that a stay would result in some harm to the Applicants, we do not find the potential administrative or commercial harms identified to present significant or insurmountable harm.

The Applicants also claim that staying the license transfer would create uncertainty for Pilgrim site employees regarding the likelihood that HDI and CDI will be allowed to proceed with the DECON method of decommissioning Pil-

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[100] We also have before us a Pilgrim Watch motion to file a new and third contention for hearing, which raises claims regarding licensee character and integrity. *See* Pilgrim Watch Motion to File New Contention (July 16, 2019) (ML19197A330). We have not yet resolved the timeliness and admissibility of the claims, but if any such claims were admitted for hearing, success on the merits similarly would depend on additional information developed in a hearing.

[101] *See Shieldalloy,* CLI-10-8, 67 NRC at 163; *Oyster Creek,* CLI-08-13, 67 NRC at 400.

[102] *See* Applicants' Answer to Commonwealth at 9.

[103] *See* Cowan Decl. at 4.

grim and with their long-term employment. The extent of this asserted harm is not obvious to us, particularly given that until we terminate this proceeding the license transfer action is not final agency action. We find that a stay would cause some limited harm to the Applicants. This factor therefore tilts modestly against the granting of a stay.

D. Where the Public Interest Lies

The license transfer regulations expressly instruct the Staff, consistent with its conclusions in the SER, to promptly issue approval or denial of a license transfer request despite a pending adjudicatory proceeding. The intent behind the regulations was to expedite the Staff's decisions on license transfer requests given potentially time-sensitive license transfer transactions and an increase in the numbers of transfer requests. The regulations balance the interest in prompt Staff action with the interest in affording petitioners the opportunity to participate meaningfully in the adjudicatory proceeding.

These longstanding regulations have provided a predictable, reliable framework, allowing for both expeditious agency action and meaningful public participation. The Staff's approval of a license transfer therefore generally is expected to be made immediately effective, while we retain the authority to condition the license transfer or overturn it, based on the result of an adjudicatory proceeding. As a policy matter, the default rule sets the balance at an optimal point. To deviate from the established regulatory approach for license transfers, where no irreparable harm has been shown, would introduce uncertainty and render less reliable the established framework for license transfers. The petitioners have not provided a sufficient basis to depart from the usual practice.

The NRC recognized at the time that it issued the license transfer regulations that some adjudicatory proceedings could involve unusual or complex questions. It stated, for example, that while the license transfer regulations outline a streamlined adjudicatory process, the adjudicatory process is not intended be a "hurried" one.[104] Here, the petitioners have each submitted multiple claims in lengthy intervention petitions and in supplemental filings. We are carefully considering the numerous claims raised and will issue a decision on the hearing requests. The public's strong interest in the NRC providing a meaningful opportunity to challenge the proposed licensing action will be satisfied in this proceeding without a stay of the effectiveness of the Staff's license transfer order and of the issued exemption.

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[104] *See* Streamlined Process, 63 Fed. Reg. at 66,723.

IV. CONCLUSION

The Commonwealth and Pilgrim Watch have not shown that absent a stay they are likely to suffer irreparable harm, and the balance of equities tilts against them. We therefore *deny* their requests for a stay of the immediate effectiveness of the Staff's actions.

IT IS SO ORDERED.

For the Commission

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 17th day of December 2019.

Additional Views of Commissioner Baran

I concur in the Commission's decision to deny the requests for a stay. However, my agreement with this legal outcome should not be read as an endorsement of the NRC regulation that permits the Staff to approve a license transfer before an adjudicatory challenge to the transfer has been resolved. In fact, I have serious doubts about the wisdom of this practice and disagree with the assertion that "the default rule sets the balance at an optimal point."

As a practical matter, once the Staff takes the step of issuing an approval while an adjudicatory challenge is pending, a motion for a stay is subject to the demanding irreparable harm standard. It is difficult for the Commonwealth and Pilgrim Watch to meet this standard because the Commission has the authority to void or further condition the license transfer if the Petitioners are successful on the merits. In that situation, the options available to the Commission would also include an order to restore the decommissioning trust fund to the balance existing at the time of the transfer.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

William J. Froehlich, Chairman
Dr. Mark O. Barnett
G. Paul Bollwerk, III

In the Matter of **Docket No. 40-9075-MLA**
(ASLBP No. 10-898-02-MLA-BD01)

POWERTECH (USA) INC.
(Dewey-Burdock In Situ Uranium Recovery Facility) **December 12, 2019**

This Final Initial Decision concerns Contention 1A, the sole remaining contention before this Licensing Board. Contention 1A is a challenge by the Oglala Sioux Tribe and the Consolidated Intervenors to the NRC Staff's National Environmental Policy Act (NEPA) analysis of the impacts of licensee Powertech (USA), Inc.'s (Powertech) Dewey-Burdock in situ mining operation upon tribal cultural resources. Based on the evidentiary record, the Board finds that the NRC Staff has satisfied its NEPA obligation to take a reasonable hard look at potential impacts on tribal cultural resources. Contention 1A is thus resolved on the merits in favor of the NRC Staff and the proceeding is concluded before the Board.

RULES OF PRACTICE: MIGRATION TENET

A contention "migrates" when a licensing board construes an admitted contention challenging an applicant's environmental review document as a challenge to a subsequently-issued NRC Staff environmental review document without the

petitioner amending the contention. *See Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015).

LICENSING BOARD(S): AUTHORITY TO ESTABLISH PROCEDURES

A licensing board generally is not permitted to direct the work of the NRC Staff or to require it to adopt a specific approach to resolve an admitted contention. *See, e.g., Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), — CLI-04-6, 59 NRC 62, 74 (2004); *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514, 516 (1980).

ATOMIC ENERGY ACT (AEA): MATERIAL LICENSES

The AEA and the Uranium Mill Tailings Radiation Control Act of 1978 authorize the NRC to issue licenses for the possession and use of source material and AEA section 11e(2) byproduct material, both of which are involved in the operation of an in-situ uranium recovery facility. AEA, 42 U.S.C. §§ 2011 *et seq.*; Uranium Mill Tailings Radiation Control Act of 1978, 42 U.S.C. §§ 2022 *et seq.*; *id.* §§ 7901 *et seq.* These statutes require the NRC to license in-situ uranium recovery facilities that meet NRC regulatory requirements developed to protect public health and safety from radiological hazards. In order to operate, in-situ uranium recovery facilities must meet NRC regulatory requirements and obtain a source materials license.

NEPA: PURPOSE OF INQUIRY

Congress enacted NEPA to protect and promote environmental quality, as well as to "preserve important historic, cultural, and natural aspects of our national heritage." 42 U.S.C. § 4331. These goals are "realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences," and disseminate that information to the public. *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 350 (1989) (quoting *Kleppe v. Sierra Club,* 427 U.S. 390, 409 n.18 (1976)).

NEPA: EIS; ADVERSE EFFECTS

Any proposed agency action "significantly affecting the quality of the human environment" requires a detailed environmental impact statement (EIS). 42 U.S.C. § 4332(C). Adverse effects include "ecological . . . , aesthetic, historic,

cultural, economic, social, or health" effects. 40 C.F.R. § 1508.8. The Supreme Court has recognized that "one important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences." *Robertson,* 490 U.S. at 351 (referencing Council on Environmental Quality regulation's definition of "mitigation"). Such a discussion is important to show that the agency has taken a "hard look." *Id.* at 352.

NEPA: EIS; MITIGATION

The Council on Environmental Quality (CEQ) implementing regulations for NEPA indicate that an agency should discuss possible mitigation measures in defining the scope of the EIS, in discussing alternatives to the proposed action, and consequences of that action, and in explaining its ultimate decision. 40 C.F.R. §§ 1502.2(c), 1502.14(f), 1502.16(h), 1508.25(b). Additionally, the Commission's regulations require the NRC Staff's EIS to include "an analysis of significant problems and objections raised by . . . any affected Indian tribes and by other interested persons." 40 C.F.R. § 51.71(b).

NEPA: RULE OF REASON

NEPA does not "mandate particular results," *Robertson,* 490 U.S. at 350, or require agencies to analyze every conceivable aspect of a proposed project. *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002). NEPA thus gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries. *Ground Zero Ctr. for Non-Violent Action v. U.S. Navy,* 383 F.3d 1083, 1089-90 (9th Cir. 2004) (citing *No Gwen Alliance of Lane Cty., Inc. v. Aldridge,* 855 F.2d 1380, 1385 (9th Cir. 1988)); *see also Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 631 (2009).

NEPA: RULE OF REASON; METHODOLOGY

In assessing impacts, agencies are free to "select their own methodology so long as that methodology is reasonable." *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 316 (2010) (citing *Town of Winthrop v. FAA,* 535 F.3d 1, 11-13 (1st Cir. 2008)).

NEPA: ADMINISTRATIVE RECORD REVIEW

The NRC's case law establishes that a licensing board may look beyond the

face of the NRC Staff's NEPA document and examine the entire administrative record to determine whether "the Staff's underlying review *was* sufficiently detailed to qualify as 'reasonable' and a 'hard look' under NEPA — even if the Staff's description of that review in the [NEPA document] was not." *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 230 (2007).

NEPA: ADMINISTRATIVE RECORD REVIEW

Even if an EIS prepared by the Staff is found to be inadequate in certain respects, the Board's findings, as well as the adjudicatory record, become, in effect, part of the EIS. *Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC 65, 82 (2015), *aff'd,* CLI-16-13, 83 NRC 566 (2016) (citations omitted), *petition for review denied sub nom. Nat. Res. Def. Council v. NRC,* 879 F.3d 1202 (D.C. Cir. 2018); *see also Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 (2008).

NEPA: INCOMPLETE INFORMATION

While a federal agency must analyze environmental consequences in its environmental review where it is reasonably possible to do so, NEPA's rule of reason acknowledges that in certain cases an agency may be unable to obtain information to support a complete analysis. National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,621 (Apr. 25, 1986); *cf. Robertson,* 490 U.S. at 333, 352-53.

NEPA: INCOMPLETE INFORMATION

The Council on Environmental Quality (CEQ) regulations outline a mechanism for instances when an agency is unable to obtain complete information to fully assess foreseeable significant adverse effects on the human environment. When the required information "is incomplete or unavailable . . . the agency shall always make clear that such information is lacking." 40 C.F.R. § 1502.22. Furthermore, if the incomplete information is "essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant," the agency shall obtain the information and include it in the EIS. *Id.* § 1502.22(a).

NEPA: EXORBITANT COSTS FOR OBTAINING INFORMATION

If, on the other hand, the costs of obtaining the information are exorbitant, the agency must include in the EIS:

> (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

Id. § 1502.22(b). This standard provides a route for an agency to satisfy its NEPA obligation by disclosing and explaining its lack of information and providing a discussion of the potential impact to the best of its ability without the relevant information.

NEPA: INCOMPLETE INFORMATION

Because "Congress did not enact [NEPA] to generate paperwork or impose rigid documentary specifications," federal courts "are unwilling to give a hypertechnical reading" of regulations like 40 C.F.R. § 1502.22 to require the inclusion of a separate, formal statement in the EIS to the effect that information is incomplete or unavailable where the record in the proceeding supplies the relevant information. *Colo. Envtl. Coal. v. Dombeck,* 185 F.3d 1162, 1172-73 (10th Cir. 1999).

COUNCIL ON ENVIRONMENTAL QUALITY REGULATIONS: IMPACT ON AGENCY

The Commission's "longstanding policy" is that the NRC, as an independent regulatory agency, is not bound by those portions of CEQ's NEPA regulations that, like 40 C.F.R. § 1502.22, "have a substantive impact on the way in which the Commission performs its regulatory functions." *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 444 & nn.94-95 (2011) (quoting Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments, 49 Fed. Reg. 9352, 9352 (Mar. 12, 1984)). The Commission may look to 40 C.F.R. § 1502.22 for guidance, but it is not controlling. *See* CLI-19-9, 90 NRC 121, 135 (2019); *Diablo Canyon,* CLI-11-11, 74 NRC at 443-44; *North Anna ESP,* CLI-07-27, 66 NRC at 235-36 & n.115; *Pacific Gas*

and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1, 12 (2008).

COUNCIL ON ENVIRONMENTAL QUALITY REGULATIONS: IMPACT ON AGENCY

The Commission has "consistently directed the Staff to undertake reasonable efforts to obtain unavailable information." CLI-19-9, 90 NRC at 135. This observation is fully in line with the CEQ's explanation in the statement of consideration for the rule adopting section 1502.22 that this provision is intended to fulfill the goal of the "acquisition of [incomplete or unavailable] information if reasonably possible." National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,620 (Apr. 25, 1986).

RULES OF PRACTICE: BURDEN OF PROOF (NEPA ISSUES)

Generally, an applicant has the burden of proof in a licensing proceeding. The statutory obligation of complying with NEPA, however, rests with the NRC. *See, e.g., Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983). Accordingly, for contentions asserting failure to comply with NEPA, the burden of proof is on the NRC Staff. 10 C.F.R. § 2.325.

RULES OF PRACTICE: BURDEN OF PROOF (NEPA ISSUES)

For the NRC Staff to prevail on factual issues in an evidentiary hearing related to a NEPA contention, the standard of proof that it must attain is preponderance of the evidence. *See Diablo Canyon,* CLI-08-26, 68 NRC at 521. Generally, the factual showing supporting the NRC Staff's NEPA analysis is considered inadequate if the evidentiary record establishes that the Staff "has failed to take a 'hard look' at significant environmental questions — i.e., the Staff has unduly ignored or minimized pertinent environmental effects." *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003).

NEPA: EXORBITANT COSTS FOR OBTAINING INFORMATION

The CEQ regulations in 40 C.F.R. § 1502.22 pose the question as to whether the information "cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known," bearing in mind that "the term 'overall costs' encompasses financial costs and other costs such as costs in

terms of time (delay) and personnel." CEQ Incomplete/Unavailable Information Regulations, 51 Fed. Reg. at 15,622.

NEPA: ADMINISTRATIVE RECORD REVIEW

In an appropriate circumstance, a deficiency in an agency NEPA statement can be rectified by a licensing board based on the record of an evidentiary hearing regarding an intervenor contention challenging that environmental statement. *See, e.g., Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-262, 1 NRC 163, 196 n.54 (1975); *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 371 (1975); *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1013 (1973) (citation omitted); *Calvert Cliffs' Coordinating Comm., Inc. v. AEC,* 449 F.2d 1109, 1114 (D.C. Cir. 1971), *cert. denied,* 404 U.S. 942 (1972).

NEPA: ENVIRONMENTAL IMPACT STATEMENT (SUPPLEMENTATION)

A NEPA deficiency identified in an adjudication can trigger the need to prepare an EIS supplement. Thus, mirroring the 10 C.F.R. Part 51 provision regarding EIS supplementation, NRC decisions have recognized supplementation may be required in certain circumstances. One circumstance is when "the absence of discussion in a [final EIS] is so fundamental an omission as to call for recirculation of the [final EIS]." *Florida Power & Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), ALAB-660, 14 NRC 987, 1014 (1981). Another circumstance is if "the proposed project has been so changed by the Board's decision as not to have been fairly exposed to public comments during the initial circulation of the [final EIS]." *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 786 (1979). Another circumstance is when the evidence presented by the NRC Staff at a hearing "depart[s] so markedly from the positions espoused or information reflected in the [final EIS] as to require formal redrafting and recirculation for comment." *Allied-General Nuclear Services* (Barnwell Nuclear Fuel Plant Separations Facility), ALAB-296, 2 NRC 671, 680 (1975).

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FINAL INITIAL DECISION

I. INTRODUCTION

This Final Initial Decision concerns Contention 1A, the sole remaining contention before this Licensing Board.[1] Contention 1A is a challenge by the Oglala Sioux Tribe and the Consolidated Intervenors to the U.S. Nuclear Regulatory Commission Staff's (NRC Staff) National Environmental Policy Act (NEPA) analysis of the impacts of licensee Powertech (USA), Inc.'s (Powertech) Dewey-Burdock in situ mining operation upon tribal cultural resources.[2] In LBP-15-16, relative to Contention 1A, this Board held that the NRC Staff's obligation to assess the impacts to cultural resources under NEPA had not been satisfied.[3] We

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[1] This decision, the sixth reported decision issued by this Board, is denominated as a final initial decision because it resolves all the remaining issues in this proceeding. LBP-10-16, issued August 5, 2010, ruled on petitions to intervene and requests for hearing. LBP-10-16, 72 NRC 361 (2010). LBP-13-9, issued July 22, 2013, ruled on the admissibility of new and amended contentions. LBP-13-9, 78 NRC 37 (2013). LBP-15-16, issued April 30, 2015, was a partial initial decision that upheld the NRC Staff's issuance of Source Materials License SUA-1600 and imposed additional license conditions, while requiring further NRC Staff action in connection with Contentions 1A and 1B. LBP-15-16, 81 NRC 618 (2015), *petitions for review granted in part and denied in part,* CLI-16-20, 84 NRC 219 (2016). LBP-17-9, issued October 19, 2017, granted summary disposition of Contention 1B and denied summary disposition as to Contention 1A. LBP-17-9, 86 NRC 167 (2017), *petition for review denied,* CLI-18-7, 88 NRC 1 (2018). LBP-18-5, issued October 30, 2018, denied cross-motions for summary disposition as to Contention 1A. LBP-18-5, 88 NRC 95 (2018), *petition for review denied,* CLI-19-9, 90 NRC 121 (2019).

[2] Contention 1A is part of the original admitted Contention 1 that read "Powertech's Application is deficient because it fails to address adequately protection of historical and cultural resources." LBP-10-16, 72 NRC at 444.

[3] LBP-15-16, 81 NRC at 655. Throughout this proceeding and in the exhibits in the record, various terms have been used to describe the artifacts (i.e., objects made or modified by human behavior), features (i.e., indications of non-portable human activity), and locations of significance to Native American Tribes that may exist on the Dewey-Burdock project site (e.g., "cultural, religious, and *(Continued)*

now consider the efficacy of the NRC Staff's efforts to resolve this contention since the issuance of LBP-15-16. In particular, this requires that we resolve disputed issues of fact about the reasonableness of both (1) the NRC Staff's proposed draft methodology for the conduct of a site survey to identify cultural resources of significance to the Oglala Sioux Tribe at the Dewey-Burdock site; and (2) the NRC Staff's determination that its NEPA obligations have been fulfilled because necessary cultural resources information is unavailable. Based on the evidentiary record before us, including the prefiled and evidentiary hearing testimony of the parties' witnesses and the documentary material identified and admitted into evidence,[4] in this Final Initial Decision we conclude that the NRC Staff has carried its burden of proof to establish it has satisfied its obligations under NEPA with regard to cultural resources impact assessment. Contention

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historical resources," "traditional cultural properties," "traditional cultural places," "tribal cultural resources," "traditional cultural landscape"). *See, e.g.,* Ex. NRC-214, Proposed Draft Cultural Resources Site Survey Methodology at 5-6 (defining and discussing "traditional cultural landscape" and "traditional cultural property") [hereinafter February 2019 Methodology]; Tr. at 1846-52 (Aug. 28, 2019) (Spangler). For purposes of this decision, in which we are considering the propriety of the parties' actions associated with creating the framework for NEPA evaluation of such cultural materials and places, we will use the simplified term "cultural resources" to refer to the important items and locations on the Dewey-Burdock project site that may be of interest to intervenor Oglala Sioux Tribe and any other Sioux Tribes potentially participating in the NRC survey process at issue under Contention 1A. *See* Ex. NRC-214, February 2019 Methodology at 7; *infra* note 180. Also for simplification, unless otherwise indicated (e.g., when we refer to the Oglala Sioux Tribe in its capacity as a party to this proceeding), the terms "Oglala Sioux Tribe," "Tribe(s)," or "Tribal" hereinafter incorporate all potential tribal survey participants.

[4] As entered into the record and incorporated into the electronic hearing docket (EHD) associated with the agency's ADAMS document management system, the official exhibit number for each evidentiary item in this proceeding reflects a three-letter party or Licensing Board identifier (i.e., OST, INT, NRC, APP, BRD); followed by three numeric characters to reflect its number; followed in some instances by an additional alpha designation (e.g., A, B, etc.) that, if used, indicates it is one part of a multi-part exhibit, and another alpha character (i.e., -R) to indicate that the exhibit was revised after its original submission as a prefiled exhibit (e.g., admitted exhibit NRC-176-R would be a revised version of prefiled exhibit NRC-176); followed by a two-character numeric identifier (i.e., 00) that identifies the exhibit as being used in a contested case (as opposed to a mandatory/uncontested proceeding (i.e., MA)); followed by the designation BD01, which indicates that this Licensing Board (i.e., BD01) was involved in its identification and/or admission. Accordingly, the official designation for prefiled exhibit NRC-176-R, as ultimately admitted, is NRC-176-R-00-BD01. For ease of reading, however, we will refer to all exhibits identified for the record in this proceeding without the final six characters that make up their official designation.

Additionally, we note that while each of the identified exhibits in this proceeding includes a cover sheet that provides the prefiled exhibit number for the document and its title, for purposes of citing an exhibit we will disregard the cover sheet and use the pagination marked on the exhibit or, in instances when there is no marked pagination for the exhibit, the pagination for the portable document format (PDF) file version of the exhibit that is found in the EHD, designated as such (e.g., Ex. XXXYYY at PDF 1).

1A thus is resolved on the merits in favor of the NRC Staff, thereby concluding this proceeding before the Board.

II. PROCEDURAL HISTORY

A. Procedural History Preceding the 2015 Partial Initial Decision

In 2009, Powertech submitted a license application to construct and operate the proposed Dewey-Burdock in situ uranium recovery (ISR) facility in Custer and Fall River Counties, South Dakota.[5] Consolidated Intervenors (consisting of two individuals and six organizations) filed a request for hearing and a petition for leave to intervene on March 8, 2010.[6] The Oglala Sioux Tribe filed a separate request for hearing and petition for leave to intervene on April 6, 2010.[7] The Board held oral argument on the petitions[8] and admitted the Oglala Sioux Tribe and Consolidated Intervenors as intervenors to the proceeding.[9]

After the Draft Supplemental Environmental Impact Statement (DSEIS) was issued in 2012,[10] the Oglala Sioux Tribe and Consolidated Intervenors filed new and amended contentions.[11] Of these, the Board admitted nine, two of which concerned historic and cultural resources issues.[12] Then in March 2014,

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[5] [Powertech]'s Application for a[n NRC] Uranium Recovery License for Proposed Dewey-Burdock In Situ Leach Uranium Recovery Facility in South Dakota (Aug. 2009) (ADAMS Accession No. ML092870153); Dewey-Burdock Project Supplement to Application for NRC Uranium Recovery License Dated February 2009 (Aug. 2009) (ADAMS Accession No. ML092870155).

[6] Consolidated Request for Hearing and Petition for Leave to Intervene (Mar. 8, 2010).

[7] Petition to Intervene and Request for Hearing of the Oglala Sioux Tribe (Apr. 6, 2010).

[8] Tr. at 1-405 (June 8-9, 2010). Throughout this proceeding, beginning with the oral argument on standing and contention admissibility in 2010, in all but a limited number of instances, the transcripts have continued with sequential numbering. To avoid any confusion, for each transcript citation in this decision we provide the date of the transcript as well.

[9] LBP-10-16, 72 NRC at 376. The Board admitted four of the Oglala Sioux Tribe's contentions and three of the Consolidated Intervenors' contentions. *Id.* at 443-44.

[10] Exs. NRC-009-A-1 through NRC-009-B-2, Office of Federal and State Materials and Environmental Management Programs (FSME), NRC, 1-2 Supplement to the Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities, Draft Report for Comment, NUREG-1910 (supp. 4 Nov. 2014) [hereinafter DSEIS]. Ex. NRC-009-A-1 is DSEIS volume 1, chapters 1 through 3. Ex. NRC-008-A-2 is DSEIS volume 1, chapter 4. Ex. NRC-009-B-1 is DSEIS volume 2, chapters 5 through 7. Ex. NRC-009-B-2 is DSEIS volume 2, chapters 8 through 11 and appendices A through D.

[11] *See* List of Contentions of the Oglala Sioux Tribe Based on the [DSEIS] (Jan. 25, 2013); Consolidated Intervenors' New Contentions Based on DSEIS (Jan. 25, 2013).

[12] LBP-13-9, 78 NRC at 112-13. The seven original contentions contesting the adequacy of various aspects of Powertech's Environmental Report migrated as challenges to the applicable portions of

(Continued)

in accordance with 10 C.F.R. Part 51, the NRC Staff issued its Final Supplemental Environmental Impact Statement (FSEIS),[13] which concluded that the overall potential impacts to cultural resources from the Dewey-Burdock project would range from "SMALL" to "LARGE."[14] Thereafter, the previously-admitted DSEIS-based contentions migrated[15] as challenges to the FSEIS.[16] At about the same time, the NRC Staff finalized a programmatic agreement (PA) for the Dewey-Burdock project to govern cultural resources matters that might arise during post-licensing construction and operations at the Dewey-Burdock facility.[17] On April 8, 2014, the NRC Staff issued the Record of Decision (ROD) documenting the NEPA-review associated aspects of the NRC Staff's decision

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the DSEIS. *Id.* at 50. The Board reformulated several of the original seven contentions for a total of five admitted contentions. In addition, of the three new DSEIS-based contentions that were admitted, one was split into two contentions, producing four new contentions and yielding a total of nine contentions in all. *Id.* at 112-13.

[13] Exs. NRC-008-A-1 through NRC-008-B-2, FSME, NRC, 1-2 Supplement to the [GEIS] for In-Situ Leach Uranium Milling Facilities, Final Report, NUREG-1910 (supp. 4 Jan. 2014) [hereinafter FSEIS]. Ex. NRC-008-A-1 is FSEIS volume 1, chapters 1 through 3. Ex. NRC-008-A-2 is FSEIS volume 1, chapters 4 and 5. Ex. NRC-008-B-1 is FSEIS volume 2, chapters 6 through 11. Ex. NRC-008-B-2 is FSEIS volume 2, appendices A through F.

[14] Ex. NRC-008-A-2, FSEIS at 4-156 to -189, 5-18. As the FSEIS notes, the designation "SMALL" signifies that "[t]he environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource," while "LARGE" signifies that "[t]he environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource." Ex. NRC-008-A-1, FSEIS at xxxii.

[15] A contention "migrates" when a licensing board construes an admitted contention challenging an applicant's environmental review document as a challenge to a subsequently-issued NRC Staff environmental review document without the petitioner amending the contention. *See Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015).

[16] LBP-15-16, 81 NRC at 631-32. Subsequently, two of the nine admitted contentions (Contentions 14A and 14B) were voluntarily withdrawn by the Oglala Sioux Tribe. *Id.* at 633.

[17] Exs. NRC-018-A through NRC-018-H, Programmatic Agreement Among [NRC], U.S. Bureau of Land Management [(BLM)], South Dakota State Historic Preservation Office [(SD SHPO)], [Powertech], and Advisory Council on Historic Preservation [(ACHP)] Regarding the Dewey-Burdock In Situ Recovery Project Located in Custer and Fall River Counties, South Dakota (Mar. 19, 2014) [hereinafter Programmatic Agreement]; *see* 36 C.F.R. §§ 800.4(b)(2), 800.14(b). As its title reflects, the PA was adopted with the approval of the federal ACHP and the BLM, the South Dakota SHPO, and Powertech. *See* LBP-15-16, 81 NRC at 649. The substance of the PA is found in Ex. NRC-018-A, while NRC-018-B is a compilation of PA appendices regarding such matters as cultural resource identification and consultation efforts, monitoring plan reporting criteria, and human remains treatment, and NRC-018-C through NRC-018-H are the executed NRC, BLM, SD SHPO, ACHP, and Powertech PA signature pages along with an ACHP cover letter that accompanied its signature page.

to issue a materials license to Powertech for its proposed Dewey-Burdock facility.[18]

That same day, acting pursuant to 10 C.F.R. § 2.1202(a) and prior to a hearing on the admitted contentions, the NRC Staff issued a Part 40 source materials license to Powertech.[19] This license authorizes Powertech to possess and use source and byproduct material in connection with the Dewey-Burdock project.[20] On April 11, 2014, the NRC Staff and the Oglala Sioux Tribe filed motions seeking summary disposition regarding some of the admitted contentions.[21] Both motions were denied by the Board.[22] The Board then held an evidentiary hearing in Rapid City, South Dakota, from August 19-21, 2014, on the remaining seven admitted contentions.[23]

B. The 2015 Partial Initial Decision

On April 30, 2015, the Board issued a Partial Initial Decision on the merits of the seven Oglala Sioux Tribe and Consolidated Intervenors contentions that were the subject of the August 2014 evidentiary hearing.[24] The Board's Partial Initial Decision resolved all but two of these contentions in favor of the NRC Staff and Powertech. The other two contentions, Contentions 1A and 1B, were resolved in favor of the Oglala Sioux Tribe and Consolidated Intervenors.[25]

Regarding Contention 1A, the Board held that the FSEIS did not adequately assess the project's impacts on Native American cultural resources.[26] The Board found that the NRC Staff failed to fulfill this NEPA obligation because the

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[18] Ex. NRC-011, [NRC] Record of Decision for the Dewey-Burdock Uranium In-Situ Recovery Project in Custer and Fall River Counties, South Dakota (Apr. 8, 2014) [hereinafter ROD].

[19] Ex. NRC-012, Materials License SUA-1600, Powertech (USA), Inc. (Apr. 8, 2014) [hereinafter Powertech License].

[20] LBP-15-16, 81 NRC at 632. On April 30, 2014, the Board granted a temporary stay of the effectiveness of the NRC Staff's action issuing the Dewey-Burdock license in response to motions to stay from both intervenors. *Id.* However, after oral argument on those motions, the Board denied the motions and lifted the temporary stay. Licensing Board Order (Removing Temporary Stay and Denying Motions for Stay of Materials License Number SUA-1600) (May 20, 2014) (unpublished).

[21] NRC Staff's Motion for Summary Disposition on Safety Contentions 2 and 3 (Apr. 11, 2014) (seeking summary disposition on the safety aspects of Contentions 2 and 3); Oglala Sioux Tribe's Motion for Summary Disposition [on NEPA] Contentions 1A and 6 - Mitigation Measures (Apr. 11, 2014) (seeking summary disposition of NEPA issues in Contentions 1A and 6).

[22] Licensing Board Order (Denying Motions for Summary Disposition) (June 2, 2014) at 7 (unpublished).

[23] Tr. at 921-1170 (Aug. 20, 2014), 1171-328 (Aug. 21, 2014).

[24] LBP-15-16, 81 NRC at 708-11.

[25] *Id.* at 708-10.

[26] *Id.* at 653.

FSEIS did "not contain an analysis of the impacts of the project on the cultural, historical, and religious sites of the Oglala Sioux Tribe and the majority of the other consulting Native American tribes."[27] Accordingly, the Board concluded that "[w]ithout additional analysis as to how the Powertech project may affect the Sioux Tribes' cultural, historical, and religious connections with the area, NEPA's hard look requirement has not been satisfied, and potentially necessary mitigation measures have not been established."[28]

With respect to Contention 1B, the Board held that the NRC Staff did not satisfy its National Historic Preservation Act (NHPA) obligation for government-to-government consultation with the Oglala Sioux Tribe.[29] The Board concluded that to satisfy this NHPA consultation requirement, the NRC Staff must undertake additional consultation with the Oglala Sioux Tribe, which is the tribe with "the most direct historical, cultural, and religious ties to the area."[30]

The Board retained jurisdiction of this proceeding pending further consultations and required the NRC Staff to submit monthly status reports describing its consultations with the Oglala Sioux Tribe and the steps being taken to identify cultural resources impacted by the Powertech facility.[31]

C. Initial Efforts at Survey Development and the 2017 Summary Disposition Decision

After the issuance of the 2015 Partial Initial Decision, the NRC Staff and the Oglala Sioux Tribe exchanged a series of letters and met in Pine Ridge, South Dakota, on May 19, 2016.[32] During that meeting, the Oglala Sioux Tribe shared its concerns about the surveys conducted at the Powertech site to identify cultural resources, the lack of meaningful opportunities in the Dewey-Burdock PA for tribes to provide input about the management of these resources, and the continued effectiveness of the license.[33] However, between June 2015 and November 2016, the NRC Staff and the Oglala Sioux Tribe made essentially no substantive progress toward agreement regarding a method to collect the missing

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[27] *Id.* at 655.

[28] *Id.*

[29] *Id.*

[30] *Id.* at 656.

[31] *Id.* at 658. Although all the parties to the proceeding appealed the Board's decision in LBP-15-16, none sought a stay of the Board's rulings retaining jurisdiction and having the parties engage in activities designed to help resolve the deficiencies identified in connection with Contentions 1A and 1B, an approach that ultimately was upheld by a majority of the Commission. *See* CLI-16-20, 84 NRC at 221-22.

[32] *See* LBP-17-9, 86 NRC at 179-80.

[33] *See id.*

cultural resources data.[34] The Board, therefore, convened the first of a series of teleconferences with the parties on November 7, 2016.[35] On November 23, 2016, the NRC Staff invited the Oglala Sioux Tribe to meet to discuss the parameters of an additional cultural resources survey of the Dewey-Burdock site and the Oglala Sioux Tribe's recommendations concerning the Dewey-Burdock PA.[36]

On May 31, 2017, the Oglala Sioux Tribe's Tribal Historic Preservation Officer (THPO) sent a detailed letter regarding the protocols the Tribe sought for an additional site survey. These protocols included asking the NRC Staff to engage a qualified contractor, involving other Sioux Tribes, involving tribal elders, and allowing for multiple site trips.[37] The NRC Staff replied that after more than two years, "further consultation [was] unlikely to result in a mutually acceptable settlement of the dispute," and that it had satisfied its consultation responsibilities.[38]

On August 3, 2017, the NRC Staff moved for summary disposition of Contentions 1A and 1B.[39] In LBP-17-9, the Board found that the NRC Staff's consultation efforts had satisfied NHPA requirements and granted summary disposition of Contention 1B.[40] Nonetheless, the Board denied summary disposition of Contention 1A, noting that the NRC Staff had performed no additional site survey and the deficiencies in the FSEIS cultural resources discussion remained.[41]

D. The NRC Staff's March 2018 Approach, the Oglala Sioux Tribe's June 2018 Proposals, and the Board's 2018 Summary Disposition Decision

Following the issuance of LBP-17-9, the Board held several teleconferences with the parties to monitor their progress on resolving Contention 1A. During the first teleconference on November 16, 2017, the NRC Staff revealed that it was working on a path forward that it hoped to present to the other parties in the next several weeks.[42] In line with this representation, on December 6, 2017,

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[34] *See id.* at 180.

[35] Licensing Board Order (Scheduling Telephonic Status Conference) (Oct. 24, 2016) (unpublished); *see also* Tr. at 1-61 (Nov. 7, 2016).

[36] Ex. NRC-187, NRC November 23, 2016 Letter to the Oglala Sioux Tribe Regarding an Invitation for Teleconference and Continued Consultation.

[37] Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter Responding to NRC's April 14, 2017 Letter at 3-8 [hereinafter Oglala Sioux Tribe May 31, 2017 Letter].

[38] NRC Staff's Motion for Summary Disposition of Contentions 1A and 1B (Aug. 3, 2017) at 27.

[39] *Id.*

[40] LBP-17-9, 86 NRC at 188-90.

[41] *Id.* at 194.

[42] Tr. at 1188-90 (Nov. 16, 2017).

the NRC Staff sent the Oglala Sioux Tribe a proposed approach to identify Tribal cultural resources.[43] This proposal aimed to address the Oglala Sioux Tribe's previously-expressed concerns that the NRC Staff secure a contractor, meet with the tribal councils or tribal leaders of multiple Tribes to discuss the methodology, conduct oral history interviews with Tribal elders, and coordinate a field survey at the site.[44]

During a teleconference held on December 12, 2017, the Oglala Sioux Tribe and Consolidated Intervenors expressed tentative approval of the proposal.[45] On January 19, 2018, the parties provided written responses to the NRC Staff's proposal.[46] Trina Lone Hill, the Oglala Sioux Tribe's THPO, responded that the proposed approach "will provide a reasonable likelihood of satisfying NEPA and resolving the Oglala Sioux Tribe's long-standing NEPA contention with respect to the lack of an adequate cultural resources survey . . . [although] several important details remain to be established" such as "the specific field survey methodology, timing of the surveys, and length of time necessary for the surveys."[47] At the Board's third teleconference on January 24, 2018, while continuing to express its general approval of the NRC Staff's approach, the Oglala Sioux Tribe asserted that the physical site survey is a fundamental requirement for providing the information necessary to fulfill the NRC Staff's NEPA analysis responsibilities.[48]

On March 16, 2018, the NRC Staff notified the parties and the Board it had taken into account the concerns of the Oglala Sioux Tribe and selected an approach to obtain additional information on cultural resources of significance that would resolve Contention 1A.[49] Known as the March 2018 Approach, this proposal included five elements designed to cure the Board-identified deficiency in the FSEIS while addressing Oglala Sioux Tribe-identified concerns: (1) hiring a qualified contractor to facilitate implementation of the approach; (2) involving other Tribes in the site survey process; (3) providing iterative opportunities for

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[43] *See* Ex. NRC-191, NRC Staff December 6, 2017 Letter to Trina Lone Hill, Oglala Sioux Tribe, Regarding US Nuclear Regulatory Commission Proposal to Identify Historic, Cultural, and Religious Sites [hereinafter NRC Staff December 6, 2017 Letter].

[44] *Id.* at 1-2.

[45] Tr. at 1240-43 (Dec. 12, 2017).

[46] *See* Ex. NRC-193, Oglala Sioux Tribe January 19, 2018 Response to NRC's December 6, 2017 Letter [hereinafter Oglala Sioux Tribe January 19, 2018 Response]; LBP-18-5, 88 NRC at 108 n.73.

[47] Ex. NRC-193, Oglala Sioux Tribe January 19, 2018 Response at 1-2.

[48] Tr. at 1273-74 (Jan. 24, 2018); *see* Ex. BRD-006, February 6, 2018 Notice of Summary Report of Counsel Conference Call with Attached Summary of Counsel-to-Counsel Meeting Held on February 1, 2018 ("Both [Consolidated Intervenors and the Oglala Sioux Tribe] confirmed that a physical site survey remains a fundamental requirement for resolution of the outstanding contention.").

[49] Ex. NRC-192, NRC March 16, 2018 Letter to Oglala Sioux Tribe Transmitting NRC's Approach to Identify Historic, Cultural, and Religious Sites [hereinafter March 2018 Approach].

the Tribal site survey; (4) involving Tribal elders; and (5) conducting a site survey using a scientific methodology determined by the contractor in collaboration with the Tribes.[50] All parties expressed support for the March 2018 Approach, with the Oglala Sioux Tribe stating it was comfortable with the March 2018 Approach's timeline.[51] Multiple steps were built into this timeline: first, beginning the field survey process in mid-June 2018 for a two-week period; second, holding meetings between the NRC Staff and its contractor and Tribal leaders to discuss preliminary survey findings as well as conducting oral history interviews with Tribal elders over a two-week period in mid-August 2018; third, conducting a second phase field survey during a two-week period in early September 2018; fourth, providing a draft survey report and draft oral history interviews to participating Tribes for a thirty-day comment period in late October 2018 and sharing final versions of those documents for Tribal review in late December 2018; fifth, providing a draft supplement to the FSEIS in mid-February 2019 for a 45-day public comment period; and finally, publishing a final supplemental FSEIS analysis in late May 2019.[52]

Yet, just before the initial site survey was scheduled to begin, the Oglala Sioux Tribe presented the NRC Staff with an alternative survey proposal.[53] On June 11-12, 2018, Diana Diaz-Toro (NRC Staff project manager) and Dr. Paul Nickens (the contractor retained by the NRC Staff to develop and implement the survey process) met with Oglala Sioux Tribe Acting THPO Kyle White and other representatives of the Oglala Sioux Tribe at the Tribal Historic Preservation Offices in Pine Ridge, South Dakota, to continue discussions regarding a methodology for the June tribal field survey.[54] On June 12, 2018, the Tribe presented Ms. Diaz-Toro and Dr. Nickens with a memorandum entitled "Discussion Draft — Cultural Resources Survey Methodologies" (June 2018 Proposal) that contained the following points:

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[50] LBP-18-5, 88 NRC at 112; *see also* Ex. NRC-176-R, Prefiled Direct Testimony of NRC Staff at 14-15 [hereinafter NRC Staff Direct Testimony]; CLI-19-9, 90 NRC at 128-29.

[51] *See, e.g.,* Tr. at 1389, 1395 (Apr. 6, 2018) (Oglala Sioux Tribe counsel explaining that concerns about contractor selection would not bar the Tribe's participation, and the "Tribe is comfortable" with the March 2018 Approach timeline). The Board described the responses of the parties to the March 2018 Approach in detail in LBP-18-5, 88 NRC at 110-13.

[52] *See* NRC-201, NRC's Timeline for March 2018 Approach.

[53] *See* Ex. BRD-010, Oglala Sioux Tribe June 8, 2018 E-Mail Response to NRC Staff June 8, 2018 E-Mail at PDF 2; Ex. NRC-200, NRC Staff July 2, 2018 Letter to the Oglala Sioux Tribe Regarding June 2018 Proposals at 1 [hereinafter NRC Staff July 2, 2018 Letter]; *see also* Ex. NRC-197, NON-PUBLIC — Oglala Sioux Tribe's June 12, 2018 Updated Cultural Resources Survey Methodologies Proposal [hereinafter Oglala Sioux Tribe Survey Methodology Proposal]; Ex. NRC-198, NON-PUBLIC — Oglala Sioux Tribe's June 15, 2018 Updated Cultural Resources Survey Methodologies Proposal [hereinafter Oglala Sioux Tribe Updated Survey Methodology Proposal].

[54] *See* LBP-18-5, 88 NRC at 119.

1. The June 2018 Proposal, which was addressed only to Ms. Diaz-Toro and Dr. Nickens, "shall not be disclosed or discussed with any federal employee or contractor not specifically addressed in this memo."

2. "[T]he prerequisites set out in [a June 8, 2018 memo circulated by Oglala Sioux Tribe counsel] must be satisfied before any cultural resource survey activities may take place that involve Lakota peoples or Lakota cultural, historical, or spiritual knowledge."

3. There would be other "preliminary work," not included in the proposal that has to be done during Phase One, and that would be based on an "analysis of publicly available information, and Powertech's proposed [siting] of it[s] facilities."

4. The involvement and remuneration of several dozen Oglala Sioux Tribe technical staff, spiritual leaders, elders, and warrior society leaders would be required.

5. Using the NRC Staff's contractor for specific aspects of the proposal would be required.

6. Visits and encampments by the Oglala Sioux Tribe elders at the Dewey-Burdock site over several days during the different seasons of the year would be required.

7. Reasoning that because "[10-meter (m)] intervals are required to obtain locations of [traditional cultural properties] which have been overlooked in past archaeological surveys" a 10-m transect-based Tribal cultural field survey of the entire Dewey-Burdock site would be necessary.

8. More than a year to complete the fieldwork associated with the Tribal cultural field survey and the oral history research and interviews would be needed.

9. By the Oglala Sioux Tribe's estimation, the "full budget to carry out the required survey" would exceed $2 million. This cost estimate for the June 2018 Proposal did not include (i.e., would be in addition to) the costs directly billable to Powertech for the NRC Staff's time and contractor support.

10. Accounting or making provision for the involvement of other Tribes would be necessary.[55]

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[55] Ex. NRC-197, Oglala Sioux Tribe Survey Methodology Proposal at PDF 2-6. Although this exhibit was marked and has been maintained as non-public, this summary description of its provisions *(Continued)*

On June 15, 2018, the Oglala Sioux Tribe provided the NRC Staff with the updated version of its June 12, 2018 proposal (Updated June 2018 Proposal).[56] The Tribe concluded in that updated proposal that:

> It is now NRC's task to either accept the [Oglala Sioux Tribe (OST)] proposal or to propose an approach that limits the OST-proposed survey methodology to meet what NRC considers a reasonable budget. We also understand that NRC will make the final decision on the type of survey that NRC carries out, and the OST requests the opportunity to review and consult on NRC's proposal before it is finalized.[57]

The NRC Staff responded by indicating it considered the Tribe's alternative survey methodology to be a constructive rejection of the March 2018 Approach and terminated implementation of the March 2018 Approach.[58] As a result, on August 17, 2018, the NRC Staff and the Oglala Sioux Tribe each moved for summary disposition seeking a determination that Contention 1A be resolved in its favor.[59]

In LBP-18-5, the Board denied both motions for summary disposition.[60] Although finding that the "Staff's March 2018 Approach, as agreed to by the parties, constituted a valid and reasonable approach for resolving Contention 1A,"[61] the Board also concluded that the NRC Staff failed to show there was no material factual dispute as to whether the NRC Staff had met its NEPA burden and fulfilled its duty to adequately address impacts to cultural resources at the Dewey-Burdock site.[62] The Board determined that although all parties agreed to the March 2018 Approach as a valid path for resolving Contention 1A, material factual disputes remained regarding the reasonableness of the NRC Staff's efforts to implement the March 2018 Approach.[63] These factual disputes con-

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was set forth in the NRC Staff's August 2018 dispositive motion and was reiterated by the Board in its October 2018 ruling on that motion, *see* LBP-18-5, 88 NRC at 120-21, without objection from the Oglala Sioux Tribe.

[56] Ex. NRC-198, Oglala Sioux Tribe Updated Methodology Proposal.

[57] *Id.* at 5. Again, this portion of the non-public updated methodology was set forth in both the NRC Staff's disposition motion and the Board's October 2018 decision, without Oglala Sioux Tribe objection. *See* LBP-18-5, 88 NRC at 121.

[58] Ex. NRC-200, NRC Staff July 2, 2018 Letter at 1-2; *see also* Ex. NRC-176-R, NRC Staff Direct Testimony at 17-18 (Diaz-Toro).

[59] NRC Staff's Motion for Summary Disposition of Contention 1A (Aug. 17, 2018) [hereinafter NRC Staff August 2018 Dispositive Motion]; Oglala Sioux Tribe's Motion for Summary Disposition (Aug. 17, 2018).

[60] LBP-18-5, 88 NRC at 100.

[61] *Id.*; *see* CLI-19-9, 90 NRC at 129.

[62] LBP-18-5, 88 NRC at 125.

[63] *Id.* at 130.

cerned (1) the reasonableness of the methodology proposed by the NRC Staff and its contractor for the site survey component of the March 2018 Approach; and (2) the propriety of the NRC Staff's unilateral decision to discontinue efforts to implement the March 2018 Approach during the first week of Phase One of the site survey.[64] Similarly, the Board concluded that the Oglala Sioux Tribe failed to show that there was no genuine issue of material fact as to the reasonableness of the NRC Staff's survey methodology or the NRC Staff's attempt to implement the March 2018 Approach.[65]

Given that summary disposition was not then appropriate on behalf of either party, in LBP-18-5, the Board provided the parties with two options to resolve Contention 1A: (1) the NRC Staff could resume the implementation of its March 2018 Approach, with appropriate adjustments to the dates in the original timetable; or (2) the parties could prepare for a prompt evidentiary hearing, where testimony and evidence would be taken on the factual questions that were raised but could not be resolved by the motions for summary disposition.[66] Regarding the first option, the Board specified that "the *only* aspect of the [March 2018] Approach that is open for discussion is the site survey methodology."[67] The Board specifically declared:

> [A]ny tribal negotiating position or proposal should only encompass the specific scientific method that would fit into the two-week periods set out in the March 2018 Approach for visiting the physical site, i.e., how the contractor and Tribe members will walk the site and mark or record located tribal resources. While we understand the need to be sensitive to the cultural tenets and needs of the Oglala Sioux Tribe, given that the time period for the site survey phases was agreed to by the Oglala Sioux Tribe, and that it is the Oglala Sioux Tribe that has continually pushed for a scientific methodology, negotiations and proposals must remain within these constraints.[68]

E. The NRC Staff's February 2019 Methodology

The NRC Staff elected to pursue the option of implementing the March 2018

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[64] *Id.* at 130-34. In finding that a material factual dispute existed on this question, the Board "acknowledge[d] that while the Oglala Sioux Tribe characterized the June 12 and June 15 proposals as proposals for a 'methodology,' those proposals may have been an attempt to renegotiate the entire approach, per the NRC Staff's interpretation." *Id.* at 132-33.

[65] *Id.* at 96, 130-31.

[66] *Id.* at 134-35.

[67] *Id.* at 135-36.

[68] *Id.*

Approach, with appropriate adjustments to the dates in the original timetable.[69] By letter dated November 21, 2018, the NRC Staff notified the Oglala Sioux Tribe, other Tribes, and the parties that it would resume carrying out the March 2018 Approach.[70] The NRC Staff letter stated:

> The NRC Staff remains committed to an open dialogue to finalize the methodology to be used for conducting the physical site survey to identify sites of historic, cultural, and religious significance to the Oglala Sioux Tribe and Lakota Sioux Tribes that could be affected by the Dewey-Burdock in situ uranium recovery (ISR) project.[71]

The letter included a revised timeline that contemplated conducting Phase One of the ground field survey in April 2019, followed by Phase Two in June 2019, and then completing the March 2018 Approach with the publication of a draft supplement to the FSEIS by December 2019 and a final FSEIS supplement by February 2020.[72] The Oglala Sioux Tribe's January 11, 2019 response to this letter raised concerns, among other things, about the lack of a cultural resources survey methodology description; the qualifications of Mr. Jerry Spangler, who had recently replaced Dr. Nickens in providing technical assistance as an NRC Staff contractor; the adequacy of a June 2018 literature review report compiled by Dr. Nickens; the compensation to be provided to tribal members participating in the field survey; the timeline for the survey; and the protection and ownership of confidential information.[73] The Board, meanwhile, monitored the parties' efforts to further implement the March 2018 Approach during subsequent telephone status conferences.[74]

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[69] Whether to pursue this option was, of course, a choice for the NRC Staff. A licensing board generally is not permitted to direct the work of the NRC Staff or to require it to adopt a specific approach to resolve an admitted contention. *See, e.g., Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 74 (2004) ("Licensing boards do not sit to correct NRC Staff misdeeds or to supervise or direct NRC Staff regulatory reviews."); *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514, 516 (1980) (explaining that adjudicatory boards do not have authority to "direct the staff in performance of their administrative functions").

[70] *See* Ex. NRC-195, NRC November 21, 2018 Letter to Oglala Sioux Tribe Resuming Implementation of the NRC Staff March 16, 2018 Approach [hereinafter NRC Staff November 21, 2018 Letter].

[71] *Id.* at 1.

[72] *Id.* encl.

[73] Ex. NRC-203, Oglala Sioux Tribe's January 11, 2019 Response to NRC's November 21, 2018 Letter Proposing to Resume Negotiations at 1-6 [hereinafter Oglala Sioux Tribe January 11, 2019 Response].

[74] Tr. at 1460-1517 (Dec. 6, 2018); Tr. at 1518-54 (Jan. 29, 2019); Tr. at 1555-1627 (Mar. 21, 2019); Tr. at 1628-73 (Apr. 23, 2019).

The NRC Staff's efforts resulted in the development of a Proposed Draft Cultural Resources Site Survey Methodology (February 2019 Methodology).[75] The February 2019 Methodology, developed by NRC Staff contractor Jerry Spangler, incorporated the framework of other site survey methodologies.[76] On February 15, 2019, the NRC Staff provided this draft methodology to the Oglala Sioux Tribe for review,[77] and on February 19, 2019, the NRC Staff held a teleconference with the Oglala Sioux Tribe to discuss the contents of the proposed February 2019 Methodology.[78] On February 22, 2019, the NRC Staff met in-person at the Pine Ridge Reservation in South Dakota with the Oglala Sioux Tribal Historic Preservation Advisory Council and with THPOs from the Standing Rock, Rosebud, and Cheyenne River Sioux Tribes.[79] The purpose of the meeting was to continue developing the methodology, with the starting point being the proposed February 2019 Methodology.[80] During the meeting, however, the Tribes raised concerns and objections regarding the February 2019 Methodology, the March 2018 Approach as a whole, the NRC Staff's contractor selection, the NRC Staff's use of (or failure to use) a tribal liaison, and the existing PA.[81] The meeting ended with a request by Oglala Sioux Tribe counsel that the NRC Staff and its contractor "redraft the methodology, taking into consideration the Tribes' concerns and objections."[82]

Rather than redraft the 2019 Methodology, the NRC Staff sent a letter to the Tribes describing the design of the draft methodology and reemphasizing the limited scope of the March 2018 Approach that was still open for discussion after LBP-18-5.[83] The NRC Staff explained that the 2019 Methodology "was a working document intended to facilitate discussion with the Tribes" and that the

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[75] *See* Ex. NRC-214, February 2019 Methodology; *see also* Tr. at 1958-59 (Aug. 29, 2019) (Spangler).

[76] *See infra* section IV.A.5 & note 208.

[77] Ex. NRC-176-R, NRC Staff Direct Testimony at 20-21 (Diaz-Toro, Spangler).

[78] Tr. at 1563 (Mar. 21, 2019).

[79] Ex. NRC-176-R, NRC Staff Direct Testimony at 24, 25, 33 (Diaz-Toro, Spangler); *see also* Ex. NRC-218, Oglala Sioux Tribe's Summary of the Meeting with NRC Staff on February 22, 2019 in Pine Ridge, SD [hereinafter Oglala Sioux Tribe February 22, 2019 Meeting Summary].

[80] Ex. NRC-205, February 8, 2019 Teleconference Call Summary with Oglala Sioux Tribe Comments at 2-3.

[81] Ex. NRC-218, Oglala Sioux Tribe February 22, 2019 Meeting Summary at PDF 2-3; *cf.* OST-042-R, Declaration of Kyle White at 14-15 (stating that "[t]he Tribe did not reject the draft methodology outright" but that "[s]ome participants expressed strong reservations about the draft methodology") [hereinafter White Declaration].

[82] Ex. NRC-215, NRC's March 1 Letter to Oglala Sioux Tribe - Negotiations Regarding Development of a Methodology for a Tribal Site Survey to Identify Historic, Cultural, and Religious Sites at 1.

[83] *See id.*

NRC Staff's goal "is to collaborate with the Tribes on the working document to elicit, encourage, and understand the Tribes' input in order to discuss and finalize a site survey methodology."[84] The NRC Staff concluded its letter by saying that while it would not "renegotiate the parameters of the March 2018 Approach" it "remains willing to further discuss the draft methodology" and asked the Oglala Sioux Tribe to confirm that it would be willing to continue on those terms.[85]

The Oglala Sioux Tribe replied on March 12, 2019.[86] Although indicating that "the Tribes remain committed to working with NRC Staff and its contractor to develop a suitable cultural resources survey methodology," the letter also stated that the "Oglala Sioux Tribe has never accepted a rigid application of the March 2018 proposal."[87] In its letter, the Oglala Sioux Tribe attempted to renegotiate the cost[88] and timeline[89] of the March 2018 Approach. The Tribe also raised NHPA issues that had previously been addressed and resolved in LBP-17-9.[90]

During a teleconference with the Board and the parties on March 21, 2019, the NRC Staff explained that the Oglala Sioux Tribe's March 12, 2019 letter led the NRC Staff to conclude "that the differences that remain were so fundamental that it was not feasible to have further negotiation meetings, particularly given that it was mid-March and the first survey effort was to take place in early April."[91] The NRC Staff advised that "we think the appropriate way to document this inability to reach an agreement would probably be on the record of an

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[84] *Id.* at 4.

[85] *Id.* at 5.

[86] *See* Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response to NRC's March 1, 2019 Letter [hereinafter Oglala Sioux Tribe March 12, 2019 Response].

[87] *Id.* at 1, 2.

[88] *Compare id.* at 2 ("[T]he Tribe did not unconditionally agree to any specific dollar amount. Rather, the Tribe unambiguously stated that the methodology required to meet NRC duties must be determined first, and only then could the costs be determined and agreed upon."), *with* Ex. NRC-194, Oglala Sioux Tribe's February 15, 2018 Responses at PDF 6 ("The Tribe believes that reimbursement is appropriate for its valuable staff time and resources. . . . The Tribe would anticipate that an amount on the order of what was proposed previously would be appropriate.") [hereinafter Oglala Sioux Tribe February 15, 2018 Responses].

[89] *Compare* Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response at 3 ("The Tribe has repeatedly reiterated the position that the timelines must be based on the methodology, and that it would be arbitrary and capricious to limit the methodology to timelines created without [the] benefit of a qualified contractor."), *with* Ex. NRC-193, Oglala Sioux Tribe January 19, 2018 Response at 2 ("Lastly, the proposed time line presented by the NRC Staff appears achievable . . . .").

[90] *See* Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response at 4 ("The Tribe raises the NHPA issues because federal law requires compliance with its identification, evaluation, and nomination requirements.").

[91] Tr. at 1564-65 (Mar. 21, 2019).

evidentiary hearing."[92] The NRC Staff thus ceased further efforts to implement the March 2018 Approach and the February 2019 Methodology.

F. The 2019 Evidentiary Hearing

On April 3, 2019, the NRC Staff moved to set a schedule for an evidentiary hearing.[93] Powertech filed a response in support of the NRC Staff's motion, while the Oglala Sioux Tribe opposed the motion.[94] This Board granted the NRC Staff's motion and set a schedule that culminated in an August 2019 evidentiary hearing.[95] The NRC Staff submitted its initial position statement and the prefiled testimony of two witnesses on May 17, 2019.[96] Powertech filed its responsive position statement on May 22, 2019, without any supporting witness testimony.[97] The Oglala Sioux Tribe and Consolidated Intervenors filed responsive position statements on June 28, 2019,[98] accompanied by the prefiled testimony of three Oglala Sioux Tribe witnesses[99] and twenty-two affidavits submitted by Consolidated Intervenors.[100] The NRC Staff filed a reply statement of position on July 17, 2019, with accompanying prefiled reply testimony from its two witnesses.[101]

On August 3, 2019, the Oglala Sioux Tribe moved to strike the NRC Staff's

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[92] Tr. at 1619-20 (Mar. 21, 2019).

[93] [NRC Staff's] Motion to Set Schedule for Evidentiary Hearing (Apr. 3, 2019) [hereinafter NRC Staff's Motion to Set Evidentiary Hearing].

[94] Powertech (USA) Inc., Response to NRC Staff's Motion for Evidentiary Hearing (Apr. 17, 2019); Oglala Sioux Tribe's Response in Opposition to NRC Staff's Motion to Set Schedule for Evidentiary Hearing (Apr. 18, 2019) [hereinafter Oglala Sioux Tribe Evidentiary Hearing Response].

[95] Licensing Board Order (Granting NRC Staff Motion and Scheduling Evidentiary Hearing) (Apr. 29, 2019) (unpublished) [hereinafter Board Order Granting Evidentiary Hearing].

[96] NRC Staff's Initial Statement of Position on Contention 1A (May 17, 2019) [hereinafter NRC Staff Initial Statement]; Ex. NRC-176-R, NRC Staff Direct Testimony.

[97] Licensee Powertech (USA) Inc. Initial Statement of Position Regarding Contention 1A (May 22, 2019).

[98] Oglala Sioux Tribe's Response Statement of Position (June 28, 2019) [hereinafter Oglala Sioux Tribe Response Statement]; Consolidated Intervenors' Response Position Statement (June 28, 2019) [hereinafter Consolidated Intervenors Response Statement].

[99] Ex. OST-042-R, White Declaration; Ex. OST-043-R, Declaration of Dr. Kelly Morgan [hereinafter Morgan Declaration]; Ex. OST-045-R, Declaration of Dr. Craig Howe [hereinafter Howe Declaration].

[100] Ex. INT-023, Affidavits - Testimony Re: Oglala Lakota Cultural Resources (June 28, 2019) [hereinafter Affidavits].

[101] NRC Staff's Reply Statement of Position (July 17, 2019) [hereinafter NRC Staff Reply Statement]; Ex. NRC-225, NRC Staff's Reply Testimony [hereinafter NRC Staff Reply Testimony].

prefiled direct and reply testimony.[102] The Board denied the motion to strike on August 12, 2019.[103]

On August 28 and 29, 2019, the Board held an evidentiary hearing in Rapid City, South Dakota, concerning the issues of material fact identified in LBP-18-5.[104] At the hearing, the Board received statements from counsel, heard testimony from witnesses for the NRC Staff and the Oglala Sioux Tribe, and admitted party exhibits and thirteen Board-sponsored exhibits into the evidentiary record, with an exhibit list bound into the hearing transcript.[105] Subsequently, in a September 18, 2019 issuance, the Board adopted corrections to the hearing transcripts and to a redacted version of a closed session of the hearing conducted on the afternoon of August 29, 2019, and then closed the evidentiary record.[106]

On October 4, 2019, the NRC Staff, Powertech, and the Oglala Sioux Tribe submitted proposed findings of fact and conclusions of law.[107] On October 11, 2019, Powertech filed its reply.[108] On October 18, the Oglala Sioux Tribe and the NRC Staff filed reply findings of fact and conclusions of law.[109]

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[102] Oglala Sioux Tribe's Motion to Strike (Aug. 2, 2019).

[103] Licensing Board Order (Denying Oglala Sioux Tribe Motion to Strike) (Aug. 12, 2019) (unpublished) [hereinafter Board Order Denying Oglala Sioux Tribe Motion to Strike].

[104] *See* Atomic Safety and Licensing Board; In the Matter of Powertech USA, Inc.; Dewey-Burdock in Situ Uranium Recovery Facility, 84 Fed. Reg. 20,436 (May 9, 2019).

[105] *See* Licensing Board Memorandum and Order (Adopting Transcript Corrections and Redacted Version of Transcript for Closed Hearing Session and Closing the Evidentiary Record) (Sept. 18, 2019) at 2 (unpublished).

[106] *See id.* at 2-3.

[107] NRC Staff's Proposed Findings of Fact and Conclusions of Law (Oct. 4. 2019) [hereinafter NRC Staff Proposed Findings]; Powertech (USA) Inc.'s Proposed Findings of Fact and Conclusions of Law for Remaining Contention 1A (Oct. 4, 2019); Oglala Sioux Tribe's Proposed Findings of Fact and Conclusions of Law (Oct. 4, 2019) [hereinafter Oglala Sioux Tribe Proposed Findings]. Whether Consolidated Intervenors' failure to provide proposed findings is fatal to their ability to take an appeal from this Final Initial Decision will be a matter for Commission determination. *Compare Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-709, 17 NRC 17, 20-21 (1983) (in ruling on show cause order, explaining based on language of 10 C.F.R. § 2.754(b) (currently section 2.712(b) governing Part 2, Subpart G proceedings) that intervenor's failure to file proposed findings of fact does not constitute default so as to preclude seeking appeal unless presiding officer requires such findings to be submitted), *with* 10 C.F.R. § 2.1209 (in Part 2, Subpart L proceeding, each party "shall" file proposed findings).

[108] Powertech (USA), Inc's Reply to Proposed Reply Findings of Fact and Conclusions of Law for Remaining Contention 1A (Oct. 11, 2019).

[109] Oglala Sioux Tribe's Reply Findings of Fact and Conclusions of Law (Oct. 18, 2019); NRC Staff's Reply Findings of Fact and Conclusions of Law (Oct. 18, 2019) [hereinafter NRC Staff Reply Findings].

III. LEGAL STANDARDS

A. Legal Standards Under the Atomic Energy Act (AEA)

The AEA and the Uranium Mill Tailings Radiation Control Act of 1978[110] authorize the NRC to issue licenses for the possession and use of source material and AEA section 11e(2) byproduct material,[111] both of which are involved in the operation of an ISR uranium recovery facility. These statutes require the NRC to license ISR uranium recovery facilities that meet NRC regulatory requirements developed to protect public health and safety from radiological hazards. In order to operate, ISR uranium recovery facilities must meet NRC regulatory requirements and obtain a source materials license.

On April 8, 2014, acting pursuant to 10 C.F.R. § 2.1202(a), the NRC Staff issued NRC Source Materials License No. SUA-1600 to Powertech, authorizing Powertech to possess and use source and byproduct material in connection with the Dewey-Burdock project.[112] This license has since remained in place despite legal challenges.[113]

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[110] AEA, 42 U.S.C. §§ 2011 *et seq.*; Uranium Mill Tailings Radiation Control Act of 1978, 42 U.S.C. §§ 2022 *et seq.*; *id.* §§ 7901 *et seq.*

[111] Section 11e(2) byproduct material is regulated by the NRC under 10 C.F.R. Part 40. In 10 C.F.R. § 40.4, the NRC clarified the definition of byproduct material by adding the clause "including discrete surface wastes resulting from uranium solution extraction processes." In simpler terms, section 11e(2) byproduct material is the waste and tailings generated by the processing of ore for its uranium or thorium content.

[112] Ex. NRC-012, Powertech License; *see also* ADAMS Accession Package Number ML14043-A052, which includes the license transmittal letter, the license, and the NRC Staff's Final Safety Evaluation Report.

[113] The United States Court of Appeals for the District of Columbia Circuit upheld the Commission's ruling in CLI-16-20 that allowed the Powertech license to remain in effect while the proceeding and the NRC Staff's efforts to cure the NEPA-related deficiencies initially identified in LBP-15-16 continued before the Board. *Oglala Sioux Tribe v. NRC,* 896 F.3d 520, 527-38 (D.C. Cir. 2018). Although the D.C. Circuit panel found that the "irreparable harm" standard the Commission applied in determining whether to allow the Powertech license to become effective was contrary to NEPA, it nonetheless remanded to the Commission the question of whether to allow the Powertech license to remain in effect. *Id.* at 538. After briefing from the parties, the Commission left the license in place and ordered that if the adjudicatory proceeding regarding Contention 1A remained pending at the time Powertech contemplated beginning any activities under its license to construct and operate the Dewey-Burdock facility, Powertech must notify this Board and the parties no less than 60 days prior to commencing such activities. CLI-19-1, 89 NRC 1, 11 (2019).

B. Legal Standards Under the National Environmental Policy Act (NEPA)

Contention 1A raises challenges to the NRC Staff's compliance with NEPA[114] and with the NRC regulations implementing the agency's responsibilities pursuant to NEPA.[115] Congress enacted NEPA to protect and promote environmental quality, as well as to "preserve important historic, cultural, and natural aspects of our national heritage."[116] These goals are "realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences"[117] and disseminate that information to the public. Any proposed agency action "significantly affecting the quality of the human environment" requires a detailed environmental impact statement (EIS).[118] Adverse effects include "ecological . . . aesthetic, historic, cultural, economic, social, or health" effects.[119] The Supreme Court has recognized that "one important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences."[120] Such a discussion is important to show that the agency has taken a "hard look."[121] Accordingly, the Council on Environmental Quality (CEQ) implementing regulations for NEPA indicate that an agency should discuss possible mitigation measures in defining the scope of the EIS,[122] in discussing alternatives to the proposed action and the consequences of that action,[123] and in explaining its ultimate decision.[124]

Additionally, the Commission's regulations require the NRC Staff's EIS to include "an analysis of significant problems and objections raised by . . . any affected Indian tribes and by other interested persons."[125] At the same time, NEPA does not "mandate particular results"[126] or require agencies to analyze every

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[114] 42 U.S.C. §§ 4321 *et seq.*

[115] 10 C.F.R. Part 51.

[116] 42 U.S.C. § 4331.

[117] *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 350 (1989) (quoting *Kleppe v. Sierra Club,* 427 U.S. 390, 409 n.18 (1976)).

[118] 42 U.S.C. § 4332(C).

[119] 40 C.F.R. § 1508.8; *see also Oglala Sioux Tribe,* 896 F.3d at 530.

[120] *Robertson,* 490 U.S. at 351 (referencing Council on Environmental Quality regulations' definition of "mitigation").

[121] *Id.* at 352.

[122] 40 C.F.R. § 1508.25(b); *see* 10 C.F.R. Part 51, app. A, § 1(a)(7) (declaring standard format for agency EIS will include analysis of "mitigating actions").

[123] 40 C.F.R. §§ 1502.14(f), 1502.16(h).

[124] *Id.* § 1505.2(c).

[125] 10 C.F.R. § 51.71(b).

[126] *Robertson,* 490 U.S. at 350.

conceivable aspect of a proposed project.[127] NEPA thus gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries.[128] And in seeking to assess impacts, agencies are free to "select their own methodology so long as that methodology is reasonable."[129]

Finally, the NRC's case law establishes that a licensing board may look beyond the face of the NRC Staff's NEPA document and examine the entire administrative record to determine whether "the Staff's underlying review *was* sufficiently detailed to qualify as 'reasonable' and a 'hard look' under NEPA — even if the Staff's description of that review in the [NEPA document] was not."[130] Thus, "even if an [EIS] prepared by the Staff is found to be inadequate in certain respects, the Board's findings, as well as the adjudicatory record, 'become, in effect, part of the [EIS].'"[131]

C. Legal Standards for Incomplete and Unavailable Information in a NEPA Analysis

While a federal agency must analyze environmental consequences in its environmental review where it is reasonably possible to do so, NEPA's rule of reason acknowledges that in certain cases an agency may be unable to obtain information to support a complete analysis.[132] The CEQ regulations outline

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[127] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002).

[128] *Ground Zero Ctr. for Non-Violent Action v. U.S. Navy,* 383 F.3d 1083, 1089-90 (9th Cir. 2004) (citing *No Gwen Alliance of Lane Cty., Inc. v. Aldridge,* 855 F.2d 1380, 1385 (9th Cir. 1988)); *see also Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 631 (2009) (stating that the NRC Staff "need not address every impact that could possibly result, but rather only those that are reasonably foreseeable or have some likelihood of occurring").

[129] *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 316 (2010) (citing *Town of Winthrop v. FAA,* 535 F.3d 1, 11-13 (1st Cir. 2008)).

[130] *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 230 (2007).

[131] *Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC 65, 82 (2015), *aff'd,* CLI-16-13, 83 NRC 566 (2016) (citations omitted), *petition for review denied sub nom. Nat. Res. Def. Council v. NRC,* 879 F.3d 1202 (D.C. Cir. 2018); *see also Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 (2008) ("Consistent with longstanding NRC practice," an NRC adjudicatory decision "becomes part of the environmental [ROD] along with the environmental assessment itself.").

[132] National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,621 (Apr. 25, 1986) [hereinafter CEQ Incomplete/Unavailable Information Regulations]; *cf. Methow Valley,* 490 U.S. at 333, 352-53 (holding that while analysis of environmental consequences is "an important ingredient of an EIS," NEPA does not impose a substantive duty on agencies to include a complete mitigation plan).

a mechanism for instances when an agency is unable to obtain complete information to fully assess foreseeable significant adverse effects on the human environment.[133] Section 1052.22 of the CEQ's regulations states that when the required information "is incomplete or unavailable . . . the agency shall always make clear that such information is lacking."[134] Furthermore, if the incomplete information is "essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant," the agency shall obtain the information and include it in the EIS.[135] If, on the other hand, the costs of obtaining the information are exorbitant, the agency must include in the FSEIS:

> (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.[136]

This standard provides a route for an agency to satisfy its NEPA obligation by disclosing and explaining its lack of information and providing a discussion of the potential impact to the best of its ability without the relevant information. But because "Congress did not enact [NEPA] to generate paperwork or impose rigid documentary specifications," federal courts "are unwilling to give a hyper-technical reading" of regulations like 40 C.F.R. § 1502.22 to require the inclusion of a separate, formal statement in the EIS to the effect that information is incomplete or unavailable where the record in the proceeding supplies the relevant information.[137]

The Commission's "longstanding policy is that the NRC, as an independent regulatory agency, 'is not bound by those portions of CEQ's NEPA regulations' that, like [40 C.F.R. §] 1502.22, 'have a substantive impact on the way in which the Commission performs its regulatory functions.'"[138] With respect to the applicability of 40 C.F.R. § 1502.22, the Commission has explained that it may

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[133] 40 C.F.R. § 1502.22.

[134] *Id.*

[135] *Id.* § 1502.22(a).

[136] *Id.* § 1502.22(b).

[137] *Colo. Envtl. Coal. v. Dombeck,* 185 F.3d 1162, 1172-73 (10th Cir. 1999).

[138] *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 444 & nn.94-95 (2011) (quoting Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments, 49 Fed. Reg. 9352, 9352 (Mar. 12, 1984)).

look to section 1502.22 for guidance, but it is not controlling.[139] In particular, reiterating that the NRC is not bound by section 1502.22, in the context of this proceeding the Commission recently emphasized that, relative to instances when there is an assertion that NEPA analysis information is "incomplete or unavailable," it has "consistently directed the Staff to undertake reasonable efforts to obtain unavailable information."[140] This observation is fully in line with the CEQ's explanation in the statement of consideration for the rule adopting section 1502.22 that this provision is intended to fulfill the goal of the "acquisition of [incomplete or unavailable] information if reasonably possible."[141]

D. Burden of Proof

Generally, an applicant has the burden of proof in a licensing proceeding. The statutory obligation of complying with NEPA, however, rests with the NRC.[142] Accordingly, for contentions asserting failure to comply with NEPA, the burden of proof is on the NRC Staff.[143] Because Contention 1A challenges the Staff's FSEIS, the NRC Staff bears the burden of proof for demonstrating that it has satisfied its responsibilities under NEPA.[144]

For the NRC Staff to prevail on the factual issues in this proceeding, the standard of proof that it must attain is preponderance of the evidence.[145] Generally, the factual showing supporting the NRC Staff's NEPA analysis is considered inadequate if the evidentiary record establishes that the Staff "has failed to take a 'hard look' at significant environmental questions — i.e., the Staff has unduly ignored or minimized pertinent environmental effects."[146]

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[139] *See* CLI-19-9, 90 NRC at 135; *Diablo Canyon,* CLI-11-11, 74 NRC at 443-44; *North Anna ESP,* CLI-07-27, 66 NRC at 235-36 & n.115; *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1, 12 (2008).

[140] CLI-19-9, 90 NRC at 135.

[141] CEQ Incomplete/Unavailable Information Regulations, 51 Fed. Reg. at 15,620.

[142] *See, e.g., Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983).

[143] 10 C.F.R. § 2.325.

[144] *See Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010); *see also Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), CLI-07-17, 65 NRC 392, 395 (2007) (stating that "NRC hearings on NEPA issues focus entirely on the adequacy of the NRC Staff's work").

[145] *See Diablo Canyon,* CLI-08-26, 68 NRC at 521.

[146] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003).

IV. DISCUSSION

With Contention 1A, intervenors Oglala Sioux Tribe and Consolidated Intervenors have challenged the adequacy of the NRC Staff's FSEIS discussion of the impacts of the Dewey-Burdock facility on Tribal cultural resources. Following the Board's determination in LBP-15-16 that the existing FSEIS discussion failed to adequately identify and analyze cultural resources so as to provide mitigation measures sufficient to protect those resources from adverse effects resulting from the construction and operation of the Dewey-Burdock facility, the focus of the parties' efforts has been on developing and implementing a survey process to identify cultural resources and thereby provide the information necessary for the NRC Staff to correct the Board-identified FSEIS deficiency. The subject matter of the Board's August 2019 evidentiary hearing likewise concerned the adequacy of the NRC Staff's efforts in that regard. The NRC Staff and Powertech assert that the NRC Staff's attempts to develop a survey have been adequate under the circumstances to support a conclusion that the requisite "hard look" at impacts on Tribal cultural resources has been taken. In contrast, the intervenors declare that the NRC Staff still has not fulfilled its NEPA responsibilities because it failed, among other things, to create and implement a survey methodology that is adequate to gather the cultural resources information necessary to address the previously-recognized deficiencies in the NRC Staff's FSEIS.

In support of its position, at the evidentiary hearing the NRC Staff presented two witnesses: Ms. Diana Diaz-Toro, the project manager for the NRC Staff's environmental review of Powertech's Dewey-Burdock application,[147] and Mr. Jerry Spangler, an archaeologist and NRC Staff contractor.[148] The Oglala Sioux Tribe provided three witnesses: Mr. Kyle White, the director of the Oglala Sioux Tribe Natural Resources Regulatory Agency and former THPO;[149] Dr. Kelly Morgan, a cultural resources management (CRM) and traditional cultural properties (TCP) consultant;[150] and Dr. Craig Howe, director of the Center for American Indian Research and Native Studies.[151] Consolidated Intervenors did not offer a witness, but presented the affidavits of twenty-two individuals regarding "Oceti Saowin/Oglala Lakota" cultural resources.[152] Licensee Powertech did not provide any witness testimony.

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[147] Ex. NRC-177, Statement of Professional Qualifications of Diana Diaz-Toro.

[148] Ex. NRC-178, Statement of Professional Qualifications of Jerry Spangler [hereinafter Spangler CV].

[149] Ex. OST-042-R, White Declaration at 1.

[150] Ex. OST-044-R, Statement of Professional Qualifications of Dr. Kelly Morgan.

[151] Ex. OST-46-R, Statement of Professional Qualifications of Dr. Craig Howe.

[152] Ex. INT-023, Affidavits.

In the discussion below, we consider whether the NRC Staff's efforts to address the FSEIS deficiencies identified in LBP-15-16 are lacking or whether, in the current circumstances, the requisite "hard look" has been taken such that Contention 1A should be resolved in the NRC Staff's favor.

A. The NRC Staff's March 2018 Approach and February 2019 Methodology Were Reasonable

As is reflected in the discussion above, a principal disagreement between the parties is the adequacy of the NRC Staff's efforts, in light of the Board's ruling in LBP-17-9, to develop and implement a survey process that will provide the additional cultural resources information needed to permit the NRC Staff to fulfill its NEPA obligation. In considering this question, we begin with the issue of the sufficiency, i.e., reasonableness, of the two primary documents generated by the NRC Staff regarding the survey process: the March 2018 Approach and the February 2019 Methodology.

In the wake of the Board's ruling in LBP-17-9 that material factual issues identified in LBP-15-16 remained,[153] the NRC Staff's March 2018 Approach attempted to respond to the concerns raised by the Oglala Sioux Tribe in a May 2017 letter about the NRC Staff efforts to implement a survey process.[154] As we subsequently described in LBP-18-5, these efforts included (1) hiring a qualified contractor; (2) involving other Tribes; (3) providing iterative opportunities for a site survey; (4) engaging Tribal elders; and, most critically, (5) conducting a site survey using a scientific methodology in collaboration with the Tribes.[155] Here, we assess whether, based on the record of the August 2019 evidentiary hearing, the NRC Staff carried its burden to establish that the March 2018 Approach and its follow-up February 2019 Methodology were reasonable proposals for conducting the survey process.

1. Qualified Contractor

Since the NRC Staff undertook its efforts to address the FSEIS deficiency, the Oglala Sioux Tribe has repeatedly indicated that hiring a contractor "with the necessary experience, training, and cultural knowledge to carry out and facilitate the survey" is required to satisfy the NRC Staff's NEPA obligations.[156]

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[153] *See* LBP-17-16, 88 NRC at 196-98.

[154] Ex. NRC-176-R, NRC Staff Direct Testimony at 14 (Diaz-Toro); *see* Oglala Sioux Tribe May 31, 2017 Letter at 2, 4, 8; *see also* Ex. NRC-192, March 2018 Approach at 2-4.

[155] LBP-18-5, 88 NRC at 112-19.

[156] Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 4. That being said, at least initially *(Continued)*

To support this request, the Oglala Sioux Tribe pointed out that Dr. Paul Nickens, who also served as the NRC Staff's cultural resources expert in the *Crow Butte License Renewal* case,[157] testified in that proceeding that in conducting a site survey to identify cultural resources, use of "a facilitator, something along the lines of a cultural anthropologist" who would "provide logistics support, documentation, recording support, [and] report preparation . . . [has] usually been the best approach."[158]

With the March 2018 Approach, the NRC Staff acted on the Oglala Sioux Tribe's request and "onboard[ed] a contractor to facilitate implementation of the approach."[159] The contractor would "facilitate the survey, and document findings and supporting information," and subsequently "prepare a survey report documenting the results and findings of the first and second phase of the field survey."[160] Additionally, the contractor would conduct oral history interviews with tribal elders.[161] Acting under an agency umbrella contract for procuring technical services,[162] the NRC Staff awarded a task order contract for technical support in implementing the March 2018 Approach to Sanford Cohen and Associates (SC&A).[163] Under the SC&A contract, Dr. Nickens began assisting

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following the NRC Staff's proffer of the March 2018 Approach, this did not seem to be the sharply contested issue that it subsequently became. During an April 6, 2018 teleconference, the Oglala Sioux Tribe explained to the Board that its concerns regarding contractor selection would not bar its participation. Tr. at 1389 (Apr. 6, 2018).

[157] *See Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), LBP-16-7, 83 NRC 340, 362 (2016), *appeal pending.*

[158] Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 4 (quoting Transcript of Proceedings, *Crow Butte Res., Inc.* (In Situ Leach Facility, Crawford, Neb.), Docket No. 40-8943-OLA, Tr. at 2023 (ADAMS Accession No. ML15244B278) [hereinafter *Crow Butte* Tr.]).

[159] Ex. NRC-192, March 2018 Approach at 1.

[160] *Id.* at 2-3.

[161] *Id.* at 4.

[162] *See* Tr. at 1754-55 (Diaz-Toro); *see also* Ex. BRD-004, Excerpt from Enterprise Wide IDIQ Contract for Technical Assistance in Support of NRC Environmental and Reactor Programs.

[163] Tr. at 1764 (Aug. 28, 2019) (Diaz-Toro); Tr. at 2053, 2055 (Aug. 29, 2019) (Diaz-Toro); *see also* BRD-005, Enclosure 2 to NRC Staff January 25, 2019 Letter (NRC-204) in Response to Oglala Sioux Tribe January 11, 2019 Letter (NRC-203) [hereinafter January 25, 2019 Staff Letter, Encl. 2].

One of the Oglala Sioux Tribe's ongoing concerns has been tribal input into the retention of a qualified contractor. *See* Ex. NRC-193, Oglala Sioux Tribe January 19, 2018 Response at 1-2; Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 1, 3; Ex. NRC-219, Oglala Sioux Tribe's March 30, 2018 Response to NRC Staff's March 16, 2018 Approach at 2 [hereinafter Oglala Sioux Tribe March 30, 2018 Response]. As the NRC Staff explained at the hearing, it chose to utilize an existing agency umbrella contract to obtain contractor technical assistance, which precluded utilizing any outside input regarding contractor selection. Tr. at 1730, 1732-37 (Aug. 28, 2019) (Diaz-Toro). We find this to be a reasonable approach given the expertise the NRC

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the NRC Staff with implementing the March 2018 Approach, but later in 2018 became unavailable for this task and was succeeded by Mr. Jerry Spangler, who had principal responsibility for developing the February 2019 Methodology.[164] The Oglala Sioux Tribe has questioned Mr. Spangler's qualifications and ability to carry out the Tribe-endorsed role of facilitator, asserting that the only way to satisfy the NEPA deficiencies is to hire the Tribe, a Tribe-preferred contractor, or another person (or other persons) affiliated with the Tribe.[165]

The record before us firmly establishes Mr. Spangler's bona fides for such a facilitator role. As outlined in his curriculum vitae, Mr. Spangler, who meets or exceeds the National Park Service professional qualification standards for archaeology and historic preservation,[166] has twenty-five plus years of experience in archaeological research and public outreach, working collaboratively with public and private entities to protect and preserve cultural resources in the Western United States and to foster greater public awareness of tribal interests, perspectives, and concerns.[167] Additionally, as he testified during the hearing, he has had significant involvement in creating the methodologies for establishing baseline inventories of cultural resources for the purpose of identifying and protecting such resources, the principal purpose of the additional cultural resources survey contemplated by the NRC Staff in its March 2018 Approach and February 2019 Methodology.[168]

We find, based on Mr. Spangler's curriculum vitae[169] and testimony at the

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Staff was seeking and the six to twelve months it generally would take to conduct a competition for a new services contract. Tr. at 1734, 1760-61, 1764 (Aug. 28, 2019) (Diaz-Toro).

[164] Tr. at 1765-67 (Aug. 28, 2019) (Spangler, Diaz-Toro); NRC-176-R, NRC Staff Direct Testimony at 21 (Diaz-Toro, Spangler).

[165] *See* Tr. at 1810-13 (Aug. 28, 2019) (White). As was the case with Dr. Nickens before him, *see* Oglala Sioux Tribe's Response in Opposition to NRC Staff's Motion for Summary Disposition of Contention 1A (Sept. 21, 2018) at 8 (opining that Dr. Nickens "possessed no demonstrated Lakota cultural experience"), the Oglala Sioux Tribe mainly criticizes Mr. Spangler because he is a non-Native archaeologist and therefore does not have the necessary knowledge of Lakota ways and mores. *See, e.g.,* OST-042-R, White Declaration at 5 ("Mr. Spangler lacks training, background, and knowledge of the distinctions between a 'Tribal member' and a 'Lakota person' . . . . Mr. Spangler's statement confirms a lack of knowledge of the distinctions and complexities involved [with cultural property identification], and causes unnecessary confusion."); Oglala Sioux Tribe Response Statement at 18 ("The inability of non-Native archeologists to integrate the various sources of knowledge and information are a familiar component of the Tribes' staff and contractors' day-to-day work with other federal agencies.").

[166] *See* Ex. NRC-178, Spangler CV at 4; *see also* Tr. at 1788-91 (Aug. 28, 2019) (Spangler).

[167] *See* Ex. NRC-178, Spangler CV at 4.

[168] *See* Tr. at 1773-75 (Aug. 29, 2019) (Spangler).

[169] *See* Ex. NRC-178, Spangler CV at 1-4.

hearing,[170] that he is well qualified to design a tribal cultural resources site survey methodology of the type contemplated by the NRC Staff in its March 2018 Approach and February 2019 Methodology. We find he possesses the necessary experience and training to craft a methodology that accounts for traditional cultural knowledge.[171] Mr. Spangler has served as a principal investigator in charge of numerous archaeological survey projects, worked with CRM firms in conducting such surveys, and has extensive experience assisting federal and state agencies in conducting cultural resource surveys.[172] We find that his three decades of experience developing cultural resource methodologies and extensive experience working with Native American tribes to facilitate protection of tribal interests demonstrate that he is well qualified to both design and implement the NRC Staff's methodology for undertaking the Dewey-Burdock cultural resources survey at issue.[173]

Moreover, the Oglala Sioux Tribe's generalized criticism of Mr. Spangler offers no support for the notion that he is not qualified for this role. The Oglala Sioux Tribe argues that the only way to satisfy the NEPA deficiencies identified by the Board is to hire the Tribe, a Tribe-preferred contractor, or another person (or persons) affiliated with the Tribe.[174] To be sure, having one or more individuals with Tribal knowledge about cultural resources that might be found on the Powertech site would be a critical component of the survey process in properly identifying/interpreting cultural resources for protection and preservation.[175] But that identification/interpretation role is not the same as the

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[170] *See* Ex. NRC-176-R, NRC Staff Direct Testimony, at 3, 21-22 (Spangler); Ex. NRC-225, NRC Staff Reply Testimony at 2-3 (Spangler); Tr. at 1777-81 (Aug. 28, 2019) (Spangler).

[171] *See* Ex. NRC-176-R, NRC Staff Direct Testimony at 3 (Spangler); Ex. NRC-225, NRC Staff Reply Testimony at 2-3 (Spangler).

[172] Tr. at 1782, 1784-86 (Aug. 28, 2019) (Spangler).

[173] Mr. Spangler acknowledged that he is not among those few archaeological professionals who have attempted a pedestrian tribal cultural survey like that contemplated under the NRC Staff's 2018 Approach and 2019 Methodology, which he characterized as a relatively "new phenomenon in federal management and administrative proceedings . . . [with], as yet, no uniform standards or approaches, and therefore there is no federal guidance." Ex. NRC-176-R, NRC Staff Direct Testimony at 22 (Spangler). At the same time, the totality of his experience with both archaeological matters, including making technical recommendations on artifact eligibility for protection and tribal outreach, *see* Ex. NRC-178, Spangler CV at 4, convinces us that he was fully capable of performing the facilitator/administrative role contemplated by the NRC Staff in establishing a viable survey methodology and then implementing all aspects of that methodology, including the pedestrian survey, the associated interviews with tribal elders, and the preparation of a comprehensive impacts analysis to inform the NRC Staff's NEPA determination relative to Native American cultural resources on the Dewey-Burdock site.

[174] *See supra* note 156.

[175] *See* NRC Staff Direct Testimony at 15 (Diaz-Toro); NRC Staff Reply Testimony at 2 (Spangler); *see also* Ex. OST-043-R, Morgan Declaration at 3.

facilitator role that Mr. Spangler was to occupy, nor would the need for such tribal input as part of the survey process disqualify Mr. Spangler from fulfilling the facilitator role for which he was retained by the NRC Staff.[176]

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[176] Mr. Spangler himself recognized this distinction as he indicated that under the SC&A services contract with the NRC Staff he had contemplated retaining a Lakota specialist for additional assistance if the February 2019 Methodology had moved forward, which did not occur. *See* Tr. at 1884 (Aug. 28, 2019), 39-40 (Aug. 29, 2019 closed session) (Spangler).

In addition to Mr. Spangler's acknowledgment of the need to obtain tribal expertise to assist with identifying tribal cultural resources under the auspices of the SC&A contract, in response to Board questions regarding a footnote in the February 2019 Methodology-referenced Ball et al. study regarding methods for obtaining compensation for tribal survey activities, the NRC Staff acknowledged that other attempts were made to contract for such assistance in this proceeding. *See* Tr. at 1881-83 (Aug. 28, 2019) (Diaz-Toro) (citing Ex. NRC-184, Ball, David, et al., "A Guidance Document for Characterizing Tribal Cultural Landscapes," Outer Continental Shelf (OCS) Study BOEM 2015-047, Bureau of Ocean Energy Management (2015) at 12 n.7 [hereinafter Ball Study]); *see also* Tr. at 1758-59, 1763 (Aug. 28, 2019) (Diaz-Toro). Thus, starting in 2011 the Staff attempted to obtain such expertise by having Powertech and the tribes identify, and Powertech compensate, a CRM firm that, in conjunction with tribal representatives, would be able to conduct an appropriately informed site survey process. *See* Tr. at 1889-91 (Aug. 28, 2019), 1946-47 (Aug. 29, 2019), 14-15, 47-48 (Aug. 29, 2019 closed session) (Diaz-Toro). This resulted in three different proposals. *See* Ex. BRD-013, NRC Staff October 31, 2012 E-Mail to Tribal Historic Preservation Officers Forwarding October 31, 2012 NRC Staff Letter and Enclosed Revised Proposal for Dewey-Burdock Traditional Cultural Properties Study at 1; Ex. NRC-023, Powertech Dewey-Burdock Draft Scope of Work and Figures — Identification of Properties of Religious and Cultural Significance (Mar. 7, 2012) [hereinafter Powertech Scope of Work]; *see also* Ex. NRC-199-R, Makoche Wowapi/Mentz-Wilson Consultants, Proposal with Cost Estimate for Traditional Cultural Properties Survey for Proposed Dewey-Burdock Project (2012) (public redacted version of Ex. BRD-012); Ex. BRD-011, Kadrmas, Lee & Jackson, Inc., Scope and Fee for the U.S. Nuclear Regulatory Commission and Powertech (USA) (Oct. 2012) (non-public). All of these ventures were unsuccessful, *see* Tr. at 1946-47 (Aug. 29, 2019) (Diaz-Toro), as was a similar, contemporaneous attempt in the *Strata* ISR licensing proceeding, *see* Ex. BRD-003, Strata Energy, Inc., Ross ISR Project, NRC Docket #040-09091, Scope of Work for Assessment of Properties of Religious and Cultural Significance (Aug. 31, 2012), because of either tribal or applicant objections, *see* Tr. at 1946-47 (Aug. 29, 2019), 31-32 (Aug. 29, 2019 closed session) (Diaz-Toro); Ex. NRC-008-A-1, FSEIS, at 1-20 to -24; Ex. BRD-002, Excerpt from Environmental Impact Statement for the Ross ISR Project in Crook County, Wyoming, NUREG-1910, Supplement 5 (Feb. 2014) at 1-19 to -20.

Further, while acknowledging that within the past several years the agency has contracted for CRM services for cultural resources identification and evaluation in connection with the Strata ISR facility, *see infra* note 281, the Staff indicated that retaining either Oglala Sioux Tribe members or Quality Services, Inc., the CRM firm that the Oglala Sioux Tribe employed to assist the Tribe in this proceeding, *see infra* note 251, via an NRC contracting vehicle to prepare a methodology for conducting a site survey was not considered a viable option because of the concern that an AEA section 170A-prohibited conflict of interest would exist as a result of the Tribe's status as an intervenor in this proceeding. *See* Tr. at 1882, 1887-92 (Aug. 28, 2019). Given our determination that the factual circumstances here establish that NRC Staff acted reasonably in the context of the

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2. Involvement of Other Sioux Tribes

The Oglala Sioux Tribe asserted in its May 2017 letter that "a cultural resources survey must include the other Lakota Sioux tribal governments . . . to be competent in its analysis of Lakota Sioux cultural resources."[177] The Oglala Sioux Tribe further maintained that being "engaged with and working with its other Sioux tribes" is a "central cultural tenet."[178] Therefore, in response to information provided by the Oglala Sioux Tribe, as part of the March 2018 Approach, the NRC Staff extended invitations to multiple Sioux tribes, most of whom did not take part in the prior April-May 2013 cultural resources survey during which seven tribes participated.[179] Besides the Oglala Sioux Tribe, the NRC Staff invited seven Sioux tribes to participate in the additional site survey, as well as other elements of the March 2018 Approach, such as the oral history interviews.[180] Only the Rosebud Sioux Tribe accepted the NRC Staff's invitation to join a June 5, 2018 webinar conference to discuss the survey methodology and participate in the March 2018 Approach.[181] Thereafter, at the February 22, 2019 meeting with the NRC Staff and its contractor Mr. Spangler at the Pine Ridge Reservation regarding the February 2019 Methodology, along with the Rosebud Sioux, only the Standing Rock and Cheyenne River Sioux Tribes were represented.[182]

Tribe's actions relative to the March 2018 Approach and the February 2019 Methodology, *see infra* sections IV.B-IV.C, both of which incorporated a Powertech-reliant compensation component, *see infra* note 231, we need not consider whether this contracting/compensation regime raises a question about the reasonableness of the NRC Staff's approach to carrying out its NEPA responsibility to identify and assess tribal cultural resource impacts at proposed facilities such as the Dewey-Burdock site. *See* Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 5 (suggesting use of grant or cooperative agreement would allow tribal compensation to take place outside NRC Staff's continuing dispute with Powertech over full-cost recovery).

[177] Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 4.

[178] Tr. at 1291 (Jan. 24, 2018).

[179] *See* Ex. NRC-192, March 2018 Approach at 2. Both the Santee Sioux and the Crow Creek Sioux Tribes participated in the 2013 site survey. *See* Ex. NRC-008-B-2, FSEIS at F-3.

[180] Via letters substantially the same as exhibit BRD-008, NRC Staff April 12, 2018 Letter to Crow Creek Sioux Tribe [hereinafter NRC April 12, 2018 Letter], the NRC Staff initially extended invitations to the Standing Rock Sioux Tribe, Rosebud Sioux Tribe, Cheyenne River Sioux Tribe, Yankton Sioux Tribe, Crow Creek Sioux Tribe, and Flandreau Sioux Tribe, LBP-18-5, 88 NRC at 113-14, followed by a subsequent invitation to the Lower Brule Sioux Tribe, *see* NRC Staff August 2018 Dispositive Motion at 20 n.91. As the NRC Staff noted in its April 2018 summary disposition motion, while the Yankton Sioux Tribe and the Crow Creek Sioux Tribe are Western Dakota Sioux tribes and the Flandreau Sioux Tribe is an Eastern Dakota Sioux tribe, the other tribes are Lakota Sioux tribes. *See id.* at 20 n.89.

[181] *See* LBP-18-5, 88 NRC at 114.

[182] Ex. NRC-218, Oglala Sioux Tribe February 22, 2019 Meeting Summary at PDF 2.

The Board previously made clear that at this late stage of the process any invited tribe that failed to participate would have a hard time justifying its nonparticipation as a basis for questioning the adequacy of the survey process.[183] Likewise, the Oglala Sioux Tribe recognized that each tribe is "allowed their own decision on whether or not to be involved in the survey, or the NEPA process more generally."[184] Thus, given that the March 2018 Approach and the subsequent February 2019 Methodology afforded an opportunity for Sioux tribes other than the Oglala Sioux Tribe to become involved, the lack of willingness by other Sioux tribes to participate relative to either the March 2018 Approach or the February 2019 Methodology, as evidenced in the evidentiary record before the Board, does not render either of these approaches unreasonable.

3. Iterative Opportunities to Survey the Site

As part of a site survey methodology, the Oglala Sioux Tribe requested the opportunity to make multiple trips to the survey location,[185] and, as is explained in section II.D *supra,* the March 2018 Approach took this into account by providing a two-phased approach that allowed for opportunities to revisit the site.[186] Under the March 2018 Approach, Phase One of the survey was scheduled for June 11-22, 2018, and Phase Two was scheduled for September 3-14, 2018.[187] Citing problems settling on a methodology for the survey, the NRC Staff terminated Phase One of the field survey effort on June 15, 2018, halfway through the scheduled period, and Phase Two of the survey never started.[188] The February

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[183] *See* Tr. at 1408 (Apr. 6, 2018).

[184] Ex. NRC-194, Oglala Sioux Tribe February 15, 2018 Responses at PDF 5.

[185] Tr. at 1202 (Nov. 16, 2017) ("[T]he Tribe has always objected to one shot deals, to single visits that somehow bind them and has repeatedly suggested a process that includes a chance to go out into the field and have those boots on the ground, a chance to come back, talk amongst themselves, talk with their elders, go back again to address issues that come up during those talks, come back and iterate this a few times, not ad infinitum, but a few times."); *see also* Ex. 190, Oglala Sioux Tribe May 31, 2017 Letter at 4-6.

[186] Ex. NRC-192, March 2018 Approach at 2 ("Each phase will be two weeks in length. The first phase will be conducted in mid-June 2018 and the second phase will be conducted at the beginning of September 2018. This approach provides the greatest flexibility and broadest opportunity for tribal participation by providing Tribes time between each of the phases to discuss preliminary results and findings with their Tribal Leaders; an opportunity to revisit the site to examine different areas or re-examine previously-visited areas; and different dates to participate in the field survey if one of the phases conflicts with the Tribes' schedule.").

[187] Ex. OST-058, April 13, 2018 Enclosure 1 to Letter from NRC Staff to Oglala Sioux Tribe at 1 [hereinafter Timeline for March 2018 Approach].

[188] LBP-18-5, 88 NRC at 115; *see* Ex. NRC-200, NRC Staff July 2, 2018 Letter to the Oglala Sioux Tribe Regarding June 2018 Proposals at 1 [hereinafter NRC Staff Letter Discontinuing March 2018 Approach].

2019 Methodology retained this same two-phase approach,[189] but it was never implemented because the NRC Staff again terminated its participation in the process in March 2019.[190]

In mid-2018, a dispute arose and continued into early 2019 concerning the total time necessary to complete the survey process contemplated by the March 2018 Approach and February 2019 Methodology, in light of the Oglala Sioux Tribe's alternate methodology proposal.[191] Nonetheless, this dispute about the time necessary to complete the survey does not negate the reasonableness of the NRC Staff's basic approach of seeking to create separate opportunities for tribal visits to the Powertech site. This approach permits later visits to be informed by information gathered during previous site visits, as well as providing flexibility for tribal representatives who might have an availability conflict.

4. Involvement of the Tribal Elders

The Oglala Sioux Tribe's May 2017 letter asserted that the "ability to use tribal elders" was one of the "cultural needs of the Lakota Sioux" that should be accounted for in crafting a reasonable approach to satisfy the NRC Staff's NEPA obligation.[192] The Oglala Sioux Tribe emphasized Dr. Paul Nickens' endorsement of the need to involve Tribal elders in any approach, having previously testified that "probably the best TCP survey approach is to involve Tribal Elders."[193]

Both the March 2018 Approach and the February 2019 Methodology incorporated Tribal elder involvement. And relative to both, the Oglala Sioux Tribe approved of the "commitment as set forth in [the NRC Staff's] proposal to engage both the Tribal elders and the Tribal councils of multiple Tribes" as "appropriate and welcome."[194]

Under the March 2018 Approach, after the first phase of the site survey, the NRC Staff's contractor would conduct "oral history interviews with the

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[189] Ex. NRC-214, February 2019 Methodology at 14-17.

[190] *See supra* notes 91-92.

[191] During an April 2018 teleconference, counsel for the Oglala Sioux Tribe indicated to the Board that the "Tribe is comfortable" with the March 2018 Approach timeline. Tr. at 1395 (Apr. 6, 2018). Subsequently, however, a disagreement arose that we describe in more detail in section IV.C *infra* and conclude was one of the factors that led the NRC Staff to the reasonable determination that the cultural resources information it needs to complete the FSEIS cultural resources supplement is unavailable.

[192] Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 8.

[193] *Id.* at 4 (quoting *Crow Butte* Tr. at 2023).

[194] Ex. NRC-193, Oglala Sioux Tribe January 19, 2019 Letter at 2.

Tribal Elders of the Lakota Sioux Tribes."[195] These interviews were to focus "on gathering information about resources of significance to the Lakota Sioux Tribes that could be impacted by the Dewey-Burdock ISR project."[196] Additionally, as discussed in section IV.A.3 *supra,* the March 2018 Approach provided for iterative opportunities to visit the survey location to allow for the Oglala Sioux Tribe (and other Sioux tribes, if they desired) to consult with Tribal elders after Phase One of the site survey.

In between Phase One and Phase Two of the field surveys, interviews with Tribal elders were scheduled to occur from August 6 to August 17, 2018.[197] These two weeks were also intended to be an "opportunity for the Tribes and NRC staff to discuss preliminary results of the first part of the site survey."[198] A similar period of time was allotted under the February 2019 Methodology as well.[199] Yet, the NRC Staff never reached this element in either instance because the Oglala Sioux Tribe's June 2018 proposals would have significantly increased the time and resources associated with implementing this aspect of the survey process.[200] But even though neither methodology was implemented, we still find reasonable the NRC Staff's decision to provide an opportunity for Tribal elder input into the identification and interpretation of cultural resources on the Powertech site as an essential element of the NRC Staff's approach.

5. A Scientific Site Survey Methodology

In LBP-18-5, the Board concluded that there was still a material factual dispute as to the reasonableness of the NRC Staff's site survey methodology.[201] The Board explained that the major impediment to resolving Contention 1A was the NRC Staff's repeated offering of an "open-site" survey approach as the methodology for completing the physical survey of the Dewey-Burdock site.[202] An open-site survey, as that term was used and described by counsel for the Oglala Sioux Tribe, is a survey that involves "no support from NRC staff or contractor. And it is essentially opening the site to the tribes to go out and do what they will do and be totally responsible for providing all the data and the analysis with no set protocol or methodology."[203] The Oglala Sioux

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[195] Ex. NRC-192, March 2018 Approach at 4.

[196] *Id.*

[197] Ex. OST-058, Timeline for March 2018 Approach at 1.

[198] Ex. NRC-192, March 2018 Approach at 4.

[199] Ex. NRC-214, February 2019 Methodology at 16.

[200] *See supra* sections II.D, II.E; *infra* section IV.C.

[201] LBP-18-5, 88 NRC at 130-31.

[202] *Id.* at 116-17.

[203] Tr. at 1431 (Apr. 6, 2018).

Tribe rejected an open-site methodology at least twice before the March 2018 Approach was proffered by the NRC Staff.[204] In a 2016 meeting, the Oglala Sioux Tribe made clear its position that such an open site "survey methodology lack[s] scientific integrity."[205] In its May 2017 letter rejecting the "open-site" survey for the second time, the Tribe detailed what it considered appropriate aspects of a survey, including specific protocols and methodologies that the Tribe expected would be included in any NRC Staff courses of action to remedy the cultural resources deficiencies in the FSEIS.[206]

In LBP-18-5, we acknowledged the importance of selecting a scientific methodology for the site survey.[207] Given the Oglala Sioux Tribe's repeated requests for a scientific methodology, we find that the NRC Staff appropriately balanced the incorporation of tribal input with the scientific method. The NRC Staff's February 2019 Methodology builds upon the framework of other scientific methodologies that have been successfully used for site surveys by other governmental agencies.[208] Thus, the NRC Staff's February 2019 Methodology utilizes the definitions and field identifications of Dr. Sebastian LeBeau's Lakota-specific work,[209] which the Oglala Sioux Tribe expressly requested be

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[204] *See* Ex. NRC-186, Summary of May 19, 2016 Meeting with the Oglala Sioux Tribe at 2; Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 1; Tr. at 1431 (Apr. 6, 2018).

[205] Ex. NRC-186, Summary of May 19, 2016 Meeting with the Oglala Sioux Tribe at 2.

[206] *See* Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 4-6.

[207] *See* LBP-18-5, 88 NRC at 135 (holding that "any tribal negotiating position or proposal should only encompass the specific *scientific method* that would fit into the two-week periods set out in the March 2018 Approach" (emphasis added)); *see also* CLI-19-9, 90 NRC at 130.

[208] *See* Tr. at 1960 (Aug. 29, 2019) (Spangler) (explaining that the LeBeau methodology utilized for the February 2019 Methodology has been used by the Army Corps of Engineers, and Ball et al., has been used by the Department of Interior). The February 2019 Methodology lists as an appendix six other cultural resource survey methodologies that were reviewed by NRC Staff contractor Jerry Spangler. *See* Ex. NRC-214, February 2019 Methodology at A-1 to -2 (listing alternative approaches such as the North Dakota Department of Transportation (NDDT) approach, the Southern Nevada model, the Stoffle method, the Solomon Islands model, the Cultural Values model, and the Twin Cities model); *see also* Ex. NRC-180, Branam, Kelly M., et al., "Survey to Identify and Evaluate Indian Sacred Sites and Traditional Cultural Properties in the Twin Cities Metropolitan Area" (August 2010); Ex. NRC-181, Stoffle, Richard W., et al., "The Land Still Speaks: Traditional Cultural Property Eligibility Statements for Gold Strike Canyon, Nevada and Sugarloaf Mountain, Arizona" (2000); Ex. NRC-182, Toupal, Rebecca S., et al., *Cultural Landscapes and Ethnographic Cartographies: Scandinavian-American and American Indian Knowledge of the Land,* Envtl. Sci. & Pol'y 4:171-184 (August 2001); Ex. NRC-183, NDDT, "Design Manual," Chapter II, "Environmental and Public Involvement," Section 5, "Cultural Resources," Revised March 6, 2017 [hereinafter NDDT Design Manual]; Ex. NRC-184, Ball Study; Ex. NRC-185, Odess, Daniel, "A Landscape-Scale Approach to Mitigating Adverse Effects on Historic Properties," U.S. Department of the Interior Draft Document, June 6, 2016.

[209] Ex. NRC-214, February 2019 Methodology at 4, 6, 8-10, 12, tbls. 1-2; *see* Ex. NRC-176-R,

(Continued)

given consideration by the NRC Staff,[210] but then subsequently criticized when it was incorporated.[211] NRC Staff contractor Jerry Spangler also incorporated into that proposal the 2015 framework of Ball et al., which emphasizes that a survey methodology should be driven by tribal goals and objectives and that tribal members themselves describe the sites and their significance according to their own standards and definitions.[212] In blending these previously successful methodologies, the NRC Staff's February 2019 Methodology suggested general categories of information to be collected and analyzed, a format for recording data and observations, and ways to describe the observations.[213] It also proposed

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NRC Staff Direct Testimony at 23 (Diaz-Toro, Spangler) (explaining that Mr. Spangler "blended the definitions and field identifications found in a Lakota-specific methodology from Dr. LeBeau, who is a member of the Cheyenne River Sioux Tribe"); *see also* Ex. NRC-206, LeBeau, Sebastian, "Reconstructing Lakota Ritual in the Landscape: The Identification and Typing System for Traditional Cultural Property Sites" at 1 (2009) ("This work is about Lakota [TCP sites] and the development of a Lakota survey methodology and site taxonomy system . . . .") [hereinafter LeBeau Report].

[210] Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 3.

[211] *See* Ex. NRC-218, Oglala Sioux Tribe February 22, 2019 Meeting Summary at PDF 3 ("Heavy reliance on LeBeau methodology is problematic. LeBeau's work and methods are controversial, do not enjoy their Tribal Historic Preservation Officers' support, and it should not be used as the primary basis for a methodology."); Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response at 6 ("At the February 22, 2019 meeting, the Tribes communicated that heavy reliance in the February 15, 2019 Draft Methodology document on LeBeau's model is not appropriate and ignores criticisms of Mr. LeBeau's 2009 dissertation.").

Although the criticisms lodged in these two documents are general at best, during the evidentiary hearing Dr. Morgan explained in more detail the tribal concerns about Dr. LeBeau's approach. She indicated that tribal criticism of this decade-old dissertation has been that he both generalizes too much in his descriptions of cultural resources without having gotten sufficient input from the tribal community while at the same time being too particular by disclosing information that elders and other tribal members would consider inappropriate for public dissemination. *See* Tr. at 1855-60 (Aug. 28, 2019) (Morgan). She recommended instead more reliance on guidance from the NDDT, which she indicated is referenced but not accounted for sufficiently in the February 2019 Methodology, because that guidance is more reflective of the recent work that has been done by building relationships with tribal nations to better reflect their perspective on the identification of cultural resources. *See* Tr. at 1860-63 (Aug. 28, 2019) (Morgan) (citing Ex. NRC-183, NDDT Design Manual). While it may be that further development of the February 2019 Methodology would have benefited from additional incorporation of the NDDT guidance document as well as specific tribal input on issues with Dr. LeBeau's work, this is hardly sufficient to support the conclusion that the February 2019 Methodology's reliance on Dr. LeBeau's work to provide a general analytical framework for the site survey process was unreasonable, particularly given, as Mr. Spangler pointed out, *see* Tr. at 1866 (Aug. 28, 2019) (Spangler), that report's usefulness in providing a structural approach to eliciting information in a way that will assist a non-tribal decision maker in understanding the information and its importance.

[212] *See* Tr. at 1960 (Aug. 29, 2019) (Spangler); Ex. NRC-176-R, NRC Staff Direct Testimony at 7-8 (Spangler), 32-33 (Diaz-Toro, Spangler); *see also* Ex. NRC-184, Ball Study at 2-3.

[213] Ex. NRC-214, February 2019 Methodology at 10-12; *see* Ex. NRC-176-R, NRC Staff Direct Testimony at 28 (Diaz-Toro, Spangler).

using geographic information system (GIS) software to document the location of sites of significance, oral interviews to supplement field observations, and a set of prescriptive steps to accomplish the site survey within the parameters of the March 2018 Approach, culminating in a synthesized report.[214]

These aspects of the February 2019 Methodology demonstrate that, in response to the Oglala Sioux Tribe's previous criticisms of site surveys as lacking "scientific integrity," the NRC Staff developed a survey proposal that would describe the observable characteristics of sites of tribal significance in a sound manner by blending the scientific method with tribal cultural knowledge.[215] We thus find the NRC Staff's March 2018 Approach, as expanded upon in the February 2019 Methodology, to be valid from both a scientific and cultural resources perspective as a reasonable approach to conducting the site survey recognized by all as critical to resolving Contention 1A.

B. Because of Oglala Sioux Tribe Noncooperation, the Information Necessary for the NRC Staff to Perform a NEPA Analysis of Potential Impacts on the Oglala Sioux Tribe Is Unavailable

In LBP-15-16, the Board observed that "[t]o fulfill the agency's NEPA . . . responsibilities to protect and preserve cultural, religious, and historical sites important to the Native American tribal cultures in the Powertech project area, the NRC Staff must conduct a study or survey of tribal cultural resources before granting a license."[216] Based on the record before us, we have determined that the basic parameters established for that survey by the March 2018 Approach and the February 2019 Methodology were reasonable efforts to design a survey that could provide the cultural resources information necessary to address the NEPA

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[214] Ex. NRC-214, February 2019 Methodology at 12-14; *see* Ex. NRC-176-R, NRC Staff Direct Testimony at 27-28.

[215] *See* Ex. NRC-176-R, NRC Staff Direct Testimony at 30-31; *see also* Ex. NRC-206, LeBeau Report at 90-91. NRC Staff witnesses Ms. Diaz-Toro and Mr. Spangler acknowledged that there is an inherent conflict between the scientific method, which is based on evidence that is observable and measurable, and a tribal assessment of a cultural property, which is based in significant part on unobservable characteristics of a site, depending in large part on recognition by tribal members of the nature and significance of a site as a place of cultural or spiritual significance. *See* NRC-176-R, NRC Staff Direct Testimony at 30-31 (Diaz-Toro, Spangler). In an attempt to reconcile these two perspectives, with the February 2019 Methodology, the NRC Staff sought to establish a mechanism that would allow for scientifically sound empirical observations, while supplementing this information with observations from tribal perspectives that might not be considered rigidly "scientific," but would be given appropriate consideration because they would be based upon traditional knowledge that could only be provided by members of the Oglala Sioux Tribe. *See id.* at 31-33 (Diaz-Toro, Spangler).

[216] LBP-15-16, 81 NRC at 653.

deficiency. But that is not the end of our inquiry. The NRC Staff maintains that, despite these reasonable efforts, it was unable to obtain sufficient information and so should be excused from supplementing the cultural resources analysis in its FSEIS. Accordingly, we now consider the extent to which cultural resources information necessary to permit the NRC Staff to fulfill its NEPA responsibilities is unavailable to the NRC Staff because the survey has not been conducted as a result of the Oglala Sioux Tribe's unwillingness or unjustifiable failure to collaborate with the NRC Staff in implementing the March 2018 Approach and the February 2019 Methodology.[217]

In a letter from former Oglala Sioux Tribe THPO Trina Lone Hill to the NRC Staff on January 19, 2018, regarding an initial iteration of what would become the March 2018 Approach, Ms. Lone Hill stated: "Lastly, the proposed time line presented by NRC Staff appears achievable . . . ."[218] Both that proposal and the March 2018 Approach proposed timeline contemplated two two-week survey sessions as well as oral interviews with tribal elders.[219] Similarly, one month later the Oglala Sioux Tribe expressed satisfaction with the compensation package outlined in the March 2018 Approach: "The Tribe believes that reimbursement is appropriate for its valuable staff time and resources. . . . The Tribe would anticipate that an amount on the order of what was proposed previously would be appropriate."[220] The amount "proposed previously" was $10,000 per participating Tribe plus per diem and mileage.[221] At the evidentiary hearing, however, Oglala Sioux Tribe witness Kyle White testified that when he took over as THPO early in 2018 after Ms. Lone Hill left, he decided that he "did not feel comfortable with what was agreed to by the previous THPO."[222] Mr. White,

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[217] An example of the Oglala Sioux Tribe's unwillingness or unjustifiable failure to support the NRC Staff's efforts is the Tribe's insistence that modifications are necessary to the confidentiality agreement in this case before any field work or interviews can happen. *See, e.g.,* Ex. NRC-208, June 8, 2018 Letter from Travis Stills, Oglala Sioux Tribe, to the NRC Staff, Proposed Schedule for Cultural Resources Survey (insisting that updated confidentiality agreements are "prerequisites for going into the field"). However, at the August 2019 evidentiary hearing, Oglala Sioux Tribe witness Kyle White testified that "we thought [confidentiality agreements] could come at a later date before the interviews took place." Tr. at 44 (Aug. 29, 2019 closed session) (White); *see* Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 5-6. For its part, the NRC Staff sent suggested language for a confidentiality agreement to the Tribe in 2018 but never received a reply. *See* Tr. at 1922-23 (Aug. 28, 2019), 46 (Aug. 29, 2019 closed session) (Diaz-Toro); *see also* Ex. BRD-009, NRC Staff December 12, 2018 E-Mail Response to Oglala Sioux Tribe December 10, 2018 E-Mail at 1.

[218] Ex. NRC-193, Oglala Sioux Tribe January 19, 2018 Response at 2.

[219] *See* Ex. NRC-191, NRC Staff December 6, 2017 Letter at 2; Ex. OST-058, April 13, 2018 Enclosure 1 to Letter from NRC Staff to Oglala Sioux Tribe at PDF 2.

[220] Ex. NRC-194, Oglala Sioux Tribe February 19, 2018 Responses at PDF 6.

[221] *See infra* note 231; LBP-18-5, 88 NRC at 111 & n.101.

[222] Tr. at 1975 (Aug. 29, 2019) (White).

in collaboration with tribal contractor Quality Services, Inc., and other senior members of the Tribe,[223] then developed the Oglala Sioux Tribe's June 2018 proposals, which contemplated a site survey lasting at least one year (with site visits during each of the four seasons) followed by oral interviews.[224] In addition, the Oglala Sioux Tribe's June 2018 proposals advocated for the expenditure of sums that were many multiples of the previously proposed survey reimbursement figures outlined above, with an estimate of $2 million to implement the March 2018 Approach in toto.[225] Moreover, when the NRC Staff sought to engage the Oglala Sioux Tribe in discussions over the essential elements of the February 2019 Methodology, the Tribe instead insisted on returning to the concerns that had been raised in its June 2018 proposals.[226]

This Board has acknowledged in previous rulings that the Oglala Sioux Tribe's June 2018 Proposals during this proceeding involved expanding timeframes and exorbitant costs.[227] In contrast to the apparent initial acceptance of the basic parameters of the March 2018 Approach when it was first proposed,[228] the Tribe now takes a contrary position. At the hearing, Dr. Morgan stated that "the [March 2018 Approach] is wholly lacking in many respects," implying that the NRC Staff would need to start over completely with its site survey methodology.[229] At the same time, there is uncertainty even among people affiliated with the Tribe as to what would be needed to ensure Tribal involvement and support for the March 2018 Approach and the February 2019 Methodology. At the August 2019 evidentiary hearing, Oglala Sioux Tribe witness Dr. Morgan stated her opinion that a "reasonable [cost] estimate" for designing and implementing a survey and reporting process that she would consider adequate to meet the NRC Staff's NEPA obligation would be "between that $800,000

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[223] *See infra* note 251; Ex. OST-42-R, White Declaration at 13.

[224] *See* Ex. NRC-197, Oglala Sioux Tribe Survey Methodology Proposal at PDF 4; NRC-198, Oglala Sioux Tribe Updated Survey Methodology Proposal at 3; Tr. at 1966, 1969 (Aug. 29, 2019) (White).

[225] *See* Ex. NRC-197, Oglala Sioux Tribe Survey Methodology Proposal at PDF 6; NRC-198, Oglala Sioux Tribe Updated Survey Methodology Proposal at 6.

[226] *See* Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 2-3, 4-6; Ex. NRC-218, Oglala Sioux Tribe February 22, 2019 Meeting Summary at PDF 1-2; Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response at 2-7; *see also infra* note 234.

[227] In LBP-15-16, 81 NRC at 657 n.229, the Board found that the cost of the Oglala Sioux Tribe's 2012 Makoche Wowapi survey proposal, estimated at close to $1 million, Tr. at 807 (Aug. 19, 2014), was unreasonable. In LBP-18-5, 88 NRC at 132-33, the Board indicated that the Oglala Sioux Tribe's June 2018 proposals "went far beyond just suggesting a methodology for the site survey . . . by expanding the budget, the time frame, and the geographic area involved."

[228] *See supra* notes 156 (hiring contractor), 218 (timeline), 220 (reimbursement).

[229] Tr. at 1953 (Aug. 29, 2019) (Morgan) ("And I would hate to say that you need to start all over, but you don't have a document that's been fully fleshed out.").

mark and a one million dollar mark."[230] While this estimate is still considerably higher than the proposed reimbursement for the Tribe's participation under the March 2018 Approach or the February 2019 methodology,[231] it is significantly lower than the Oglala Sioux Tribe's June 2018 cost estimate for survey work, the amount of compensation that continued to be an issue relative to the NRC Staff's February 2019 Methodology.[232]

In LBP-18-5 we concluded that "all the parties accepted the March 2018 Approach as reasonable, and the NRC Staff began to move forward with its implementation [in 2018], in accordance with the parties' expressions of support for the March 2018 Approach and its included timeline."[233] Rather than work with the NRC Staff to incorporate into a site survey methodology any reasonable requirements that the Oglala Sioux Tribe believed to be missing from the discussion drafts, the record indicates the Tribe remains committed

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[230] Tr. at 8-9 (Aug. 29, 2019 closed session) (Morgan).

[231] *See* Ex. NRC-210, April 11, 2018 Powertech Response to NRC Staff's March 16, 2018 Letter Confirming Reimbursement and Honoraria at PDF 3 (confirming per diem offer relative to March 2018 Approach of $136 per day for lodging and $59 per day for meals and incidental expenses for each tribal representative, $0.535 per mile round trip to Edgemont, South Dakota, for each field survey phase for up to two vehicles for each Lakota Sioux Tribe, and $10,000 honorarium for each Lakota Sioux Tribe to be used at Tribe's discretion); Ex. NRC-202, Powertech's December 5, 2018 Response to NRC Staff's November 21, 2018 Letter Confirming Reimbursement and Honoraria at PDF 2 (confirming Powertech will continue to provide reimbursement and support for field survey relative to what became NRC Staff's February 2019 Proposal).

Survey participation compensation consisting of some combination of a $10,000 per tribe honorarium along with per diem and travel mileage reimbursement for each individual tribal participant has been the reimbursement offer in this and other recent ISR licensing proceedings. *See supra* note 221 and accompanying text; *Crow Butte License Renewal,* LBP-16-7, 83 NRC at 397; *see also* Ex. BRD-003, Strata Energy, Inc., Ross ISR Project, NRC Docket #040-09091, Scope of Work for Assessment of Properties of Religious and Cultural Significance (Aug. 31, 2012) at 1-20 to -21. As noted above, *see supra* note 220, that reimbursement offer had a favorable reception in this proceeding. It could be a viable option as well in instances when tribal involvement is limited in scope and/or participation in terms of the number of survey days and tribal members involved. On the other hand, when viewed in light of the estimated minimum rates for compensating CRM firm personnel doing field surveys, *see* Tr. at 32-33 (Aug. 29, 2019 closed session) (using as bounding figures South Dakota minimum wage rate and estimated area CRM hourly field technician wage rate, approximate cost of covering Powertech 2600-acre APE within four-week period contemplated by NRC Staff field survey plan between $13,000 and $30,000), to say nothing of the possible cost of compensating tribal oral interview participants, *see* Tr. at 1909, 1912-13 (Aug. 28, 2019), 37 (Aug. 29, 2019 closed session) (Morgan) (indicating "customary" to compensate oral interview participants); *but see* Tr. at 908, 1912 (Aug. 28, 2019) (Spangler) (indicating "never heard" of compensating oral interview participants), in ISR proceedings with different factual circumstances than existed here, the reasonableness of such a one-size-fits-all approach to tribal compensation may be an open question.

[232] *See* Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 4-5.

[233] LBP-18-5, 88 NRC at 111-12; *see* CLI-19-9, 90 NRC at 128.

to the much higher costs and far more extensive survey time contained in its June 2018 proposals.[234] The Tribe's alternative is fundamentally incompatible with implementation of the March 2018 Approach and the subsequent February 2019 Methodology.[235] The Oglala Sioux Tribe's June 2018 proposals included a wide range of activities and milestones that were not part of the March 2018 Approach generally endorsed by all the parties, entailing a significantly larger scope, cost, and implementation time than the NRC Staff's selected approach.[236]

As the NRC Staff has recognized, without the realistic prospect of an agreement with the Oglala Sioux Tribe to conduct a pedestrian site survey, the oral interviews with tribal elders, and the other aspects of the NRC Staff's March 2018 and follow-on February 2019 efforts to provide for a survey process, the information needed to complete a supplement to the FSEIS so as to address the Board's concerns in LBP-15-16 would not otherwise be obtainable.[237] Given

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[234] While, perhaps because of confidentiality concerns, the cost estimates and other particulars of the June 2018 proposals that caused the NRC Staff to cease its efforts regarding the March 2018 Approach were not reiterated by the Oglala Sioux Tribe in its responses to the NRC Staff's February 2019 Methodology, the subjects of concern embodied in those proposals continued to be raised (e.g., survey methodology, tribal reimbursement, timeline) along with new issues (e.g., adequacy of June 2018 literature review report, possible expansion of the APE, grant funding to reimburse tribal participation, tribal involvement in survey report preparation, restarting the NHPA process). *See* Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 1-7; Ex. NRC-218, Oglala Sioux Tribe February 22, 2019 Meeting Summary at PDF 1-2; Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response at 2-6. Included as well were the Oglala Sioux Tribe's expressions of continued willingness to work with the NRC Staff. *See* Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 8; Ex. NRC-218, Oglala Sioux Tribe February 22, 2019 Meeting Summary at PDF 2; Ex. NRC-211, Oglala Sioux Tribe March 12, 2019 Response at 1, 6-7. Nonetheless, this continuation and expansion of the Tribe's June 2018 proposals provided a reasonable basis for the NRC Staff in March 2019 to again withdraw from further discussions regarding the survey process.

[235] Ex. NRC-176-R, NRC Staff Direct Testimony at 18-19 (Diaz-Toro); *see also* LBP-18-5, 88 NRC at 119-22.

[236] *See* LBP-18-5, 88 NRC at 119-22; *supra* section II.D.

[237] *See* Ex. NRC-176-R, NRC Staff Direct Testimony at 40-42 (Diaz-Toro). Relative to the conduct of oral interviews, the Oglala Sioux Tribe has asserted that, notwithstanding the issues that impaired the start of a site survey in June 2018 and thereafter, the NRC Staff was remiss in not beginning the NEPA information-gathering process by conducting oral interviews with Tribal members. *See* Oglala Sioux Response Statement at 42-50; Ex. OST-42-R, White Declaration at 15 ("NRC Staff took no affirmative steps to conduct any oral interviews."); Ex. OST-043-R, Morgan Declaration at 2 ("The best practice is to conduct oral interviews before, during, and after site surveys to provide cultural context that archaeologists carrying out the surveys often lack."). Mr. Spangler, however, provided a reasonable justification for having a pedestrian survey of the Powertech site with knowledgeable Tribal personnel as the initial step under the February 2019 Methodology. Conducting the survey first is preferable, he maintained, because subsequent oral interviews with Tribal elders will then augment the ground survey observations by providing context to the identified artifacts and features, thereby enhancing what is known about a particular location. *See* Tr. at 1799 (Aug. 28,

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the cost and time estimates that all parties agreed were reasonable under the March 2018 Approach, we find that it likewise was reasonable for the NRC Staff to conclude that, owing to the Tribe's demonstrated unwillingness or unjustifiable failure to work within the parameters of the March 2018 Approach and the February 2019 Methodology, and without reasonable assurance that a practicable alternate approach might meet with joint approval in a reasonable time frame, the necessary information is unavailable.

C. The NRC Staff's Decision to Discontinue Working with the Oglala Sioux Tribe to Obtain Necessary Information Was Reasonable, Despite the Unavailability of That Information

Having found that the NRC Staff's March 2018 Approach and February 2019 Methodology were reasonable and that the necessary information these Staff documents were intended to provide is unavailable because of Oglala Sioux Tribe lack of assistance in critical aspects of their implementation, we now address the reasonableness of the NRC Staff's decision to discontinue its survey implementation efforts without this information.[238]

The NRC Staff developed important elements of the March 2018 Approach, in particular the site survey and oral interview elements, based on the assumption that the Oglala Sioux Tribe would be an active participant.[239] The critical site survey component of the March 2018 Approach was "premised upon the [Oglala Sioux] Tribe's assertion that a Tribal site survey is necessary to identify the specific information deemed essential to the Staff's NEPA analysis."[240] According to the NRC Staff, while an archaeologist with some experience dealing with Native American cultural resources, such as the NRC Staff's contractor Mr. Spangler, "might be able to identify physical remains of certain activities, . . . only Tribal members can assign significance to those sites" and identify "sacred locations that are intangible or not readily identifiable as archaeological

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2019) (Spangler); *see also* Tr. at 1959 (Aug. 29, 2019) (Spangler) (stating that Stoffle methodology (Ex. NRC-181) preferred by Dr. Nickens was not used as a principal basis for the February 2019 methodology in that, as an older methodology that involved taking tribal members to, and interviewing them concerning what they think about, a particular location, this methodology fails to incorporate the newer trend of ensuring tribal engagement early on by means of a landscape-scale survey process).

[238] We note that while the missing cultural resources information likely would not have changed the NRC Staff's overall NEPA impacts determination, which was designated as SMALL to LARGE, *see* Ex. NRC-176-R, NRC Staff Direct Testimony at 45 (Diaz-Toro); *see also* Tr. at 1801 (Aug. 28, 2019) (Diaz-Toro); Tr. at 1930 (Aug. 29, 2019) (Diaz-Toro), as we discuss in section IV.E *infra,* the missing information clearly could have implications for NEPA-associated mitigation measures.

[239] Ex. NRC-192, March 2018 Approach at 2.

[240] NRC Staff Initial Statement at 49.

sites, such as landforms or places of worship and ceremony."[241] Additionally, as the NRC Staff noted, the oral interview element of the March 2018 Approach required the involvement of people with Lakota knowledge who could elaborate on any information gleaned from the site survey.[242] The NRC Staff thus concluded, and we find reasonably so, that it could not complete these elements of the March 2018 Approach without the cooperation and participation of the Oglala Sioux Tribe.

The NRC Staff acknowledged the necessity of the Oglala Sioux Tribe's participation from the beginning stages of the development of the March 2018 Approach. The NRC Staff's preliminary draft approach in December 2017 included involvement by the Oglala Sioux Tribe at each step.[243] The Oglala Sioux Tribe likewise recognized its key role in its December 2017 letter to the NRC Staff, in which THPO Trina Lone Hill stated that "it [is] important to recognize that a physical survey of the site must be conducted in order to allow for identification of cultural resources" and "[a]lso of great importance is the fact that the expertise of the Lakota Sioux is essential to a meaningful and comprehensive survey."[244] The NRC Staff explained in a November 2018 letter to the Oglala Sioux Tribe that the elements of the March 2018 Approach were constructed to "work in harmony rather than in a compartmentalized manner," meaning that each step relied on successful completion of previous milestones with the Tribe.[245] Yet, despite a consensus that the Oglala Sioux Tribe must participate in the March 2018 Approach for a satisfactory analysis under NEPA, the parties were unable to agree on how to implement the March 2018 Approach. These disagreements are described at length in LBP-18-5 and in sections II.D and IV.A *supra.*

Based on the evidentiary record before us, we conclude that the Oglala Sioux Tribe's last-minute attempts in June 2018 to renegotiate fundamental elements of the March 2018 Approach as well as the related modifications subsequently requested to the February 2019 Methodology were not reasonable. These included major modifications affecting the geographic scope, number of participants, overall cost, and the time frame to complete the required cultural resources data collection.

The focus of field survey efforts, according to the NRC Staff in the March 2018 Approach and the February 2019 Methodology,[246] was the possible con-

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[241] Ex. NRC-176-R, NRC Staff Direct Testimony at 5-6, 7 (Spangler).

[242] Ex. NRC-192, March 2018 Approach at 4.

[243] *See* Ex. NRC-191, NRC Staff December 6, 2017 Letter.

[244] Ex. NRC-190, Oglala Sioux Tribe May 31, 2017 Letter at 3.

[245] Ex. NRC-195, NRC Staff November 21, 2018 Letter at 1.

[246] *See* Ex. NRC-176-R, NRC Staff Direct Testimony at 18 (Diaz-Toro); Ex. NRC-192, March *(Continued)*

struction and operations-impacted area of potential effect (APE) at the Dewey-Burdock site.[247] Yet, the Oglala Sioux Tribe's June 2018 proposals sought to take survey activities to areas twenty miles off of the Dewey-Burdock facility,[248] potentially greatly expanding the scope of any field survey.[249] So too, the three Oglala Sioux Tribe representatives originally contemplated to be involved in field survey activities under the NRC Staff's March 2018 Approach expanded to several dozen Oglala Sioux Tribe technical staff, spiritual leaders, elders, and warrior society leaders under the Tribe's June 2018 proposals,[250] contributing to a significant portion of what the NRC Staff identified was the $2 million overall cost of the Tribe's June 2018 proposals prepared by Mr. White and Oglala Sioux Tribe contractor Mr. Lance Rom of the CRM firm Quality Services, Inc.[251]

2018 Approach at 2; Ex. NRC-214, February 2019 Methodology at 7, 15. Both the March 2018 Approach and the February 2019 Methodology also indicated that during the field survey periods, examination of other facility areas of tribal choosing would be allowed. *See* Ex. NRC-192, March 2018 Approach at 2; Ex. NRC-214, February 2019 Methodology at 15.

[247] The Dewey-Burdock facility totals some 10,580 acres. The APE for facility construction and operations if the option of using liquid waste disposal via deep injection wells is used would total 2637 acres, while the use of the land application option for liquid waste disposal would add approximately 1250 acres to encompass the proposed land application areas. *See* Ex. NRC-008-A-1, at xxx, 3-75; *see also* Ex. BRD-001, Color Version of Figure 3.9-1 from [EIS] for the Dewey-Burdock Project in Custer and Fall River Counties, South Dakota, NUREG-1910, Supplement 4, Vol. 1 (Jan. 2014) (Ex. NRC-008-A-1) at PDF 2.

[248] *See* Ex. NRC-198, Oglala Sioux Tribe Updated Survey Methodology Proposal at 4; Tr. at 1971 (Aug. 29, 2019) (Morgan).

[249] We note that the ACHP guidance regarding identification of historic properties in the context of a NHPA section 106 review indicates that "[t]he Section 106 process does not require that the agency search for all historic properties in a given area. Because the APE defines the geographic limits of federal agency responsibility for purposes of Section 106 review, identification efforts are carried out within its boundaries." Ex. NRC-047, ACHP, Meeting the "Reasonable and Good Faith" Identification Standard of Section 106 Review at 3.

[250] *See* Ex. NRC-176-R, NRC Staff Direct Testimony at 18 (Diaz-Toro). *Compare* NRC-192, March 2018 Approach at 2, *with* Ex. NRC-198, Oglala Sioux Tribe Updated Survey Methodology Proposal at 2-3. No doubt reflecting the distinction between "method" and "methodology" highlighted by Mr. Spangler at the hearing, *see* Tr. at 1951-52 (Aug. 29, 2019) (Spangler) (stating "methodology is the theory" while "method is the means to do it" that requires tribal input), with regard to the number of representatives per tribe that could be involved in field survey activities, the February 2019 Methodology did not provide a specification, but instead indicated that such surveys could include "spiritual leaders, Tribal elders, and others." Ex. NRC-214, February 2019 Methodology at 13. While this may indicate an NRC Staff recognition of the different types of Tribal personnel that might be involved in such surveys in light of the Oglala Sioux Tribe's June 2018 proposals, it hardly constitutes an acceptance of the much broader scope of those proposals that continued to be reflected in Tribal concerns about the adequacy of the February 2019 Methodology. *See supra* note 234.

[251] Ex. NRC-176-R, NRC Staff Direct Testimony at 40-42 (Diaz-Toro); *see* Ex. OST-042-R, *(Continued)*

Further, as NRC Staff witness Ms. Diaz-Toro testified,[252] the time required to complete the survey work under the Tribe's June 2018 proposals would be, as Oglala Sioux Tribe witness Mr. White likewise declared, "a year to a year and a half,"[253] despite the parties having already subscribed to the notion, in the context of the March 2018 Approach, that two noncontiguous two-week periods was a reasonable amount of time to conduct the site survey.[254] In early 2018, the parties seemed to be in general agreement on the parameters of the March 2018 Approach, and by early 2019, the discontinuities in the June 2018 proposals

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White Declaration at 11, 12; Ex. NRC-197, Oglala Sioux Tribe Survey Methodology Proposal at PDF 6; NRC-198, Oglala Sioux Tribe Updated Survey Methodology Proposal at 6. According to Mr. White, Mr. Rom and members of his firm were retained by the Oglala Sioux Tribe to provide the Tribe with professional assistance associated with the June 2018 site survey at a cost of $5000. *See* Ex. OST-42-R, White Declaration at 11. Although Mr. White testified during the evidentiary hearing that after presenting the NRC Staff with its June 2018 proposals the Oglala Sioux Tribe, in conjunction with Quality Services, Inc. personnel, were prepared to begin the site survey in June 2018, *see* Tr. at 1977-78 (Aug. 29, 2019) (White), given the clear disconnect between the NRC's Staff's March 2018 Methodology and the Tribal proposals, as we discuss above, this Tribal readiness has no impact on our determination concerning the reasonableness of the Staff's actions.

[252] Ex. NRC-176-R, NRC Staff Direct Testimony at 41 (Diaz-Toro).

[253] Tr. at 1969 (Aug. 28, 2019) (White). That the Oglala Sioux Tribe's June 2018 proposals would require far longer to complete the fieldwork associated with the Tribal cultural field survey and the oral history research and interviews than the time frames contemplated by the NRC Staff's March 2018 Approach and February 2019 Methodology is evident from provisions calling for Tribal elder encampments during the different seasons of the year, and 10-m transects over the entire 10,000-plus acres of the Dewey-Burdock site. *See* Ex. NRC-198, Oglala Sioux Tribe Updated Survey Methodology Proposal at 3-4, 6. Certainly, as a practical matter, neither of these activities can be accomplished in two, two-week periods. *See* Ex. NRC-176-R, NRC Staff Direct Testimony at 18 (Diaz-Toro).

[254] *See supra* note 218. During the hearing, Dr. Morgan raised concerns about the time needed to conduct a site survey, indicating that "[i]t's just not doable" to survey the approximately 2600-acre APE, to say nothing of the entire 10,000-acre Powertech site, in the two, two-week periods provided for under the March 2018 Approach and the follow-on February 2019 Methodology. Tr. at 1970-72 (Aug. 29, 2019) (Morgan). In contrast, Mr. Spangler indicated that, with adequate Tribal participation, conducting a field survey covering the approximately 2600-acre APE was "definitely doable" in that four-week period. Tr. at 2007 (Aug. 29, 2019) (Spangler). The width of the transects (i.e., the intervals between surveyors) used to cover the survey area undoubtedly would impact the site survey's "doability." *See* Tr. at 1986 (Aug. 29, 2019) (White) (stating that while Tribe typically does three- or five-meter transects, because of time constraints under March 2018 Approach would use nine-meter transects); Tr. at 1994 (Aug. 29, 2019) (Spangler/Morgan) (indicating South Dakota standard is 30 meters, depending on ground visibility); NRC-023, Powertech Scope of Work at 2, 3 n.2 (assuming 30-meter transects generally used by northern Plains region archaeologists). Nonetheless, in light of the level of Tribal participation anticipated by Mr. White in connection with the February 2019 Methodology, *see* Tr. at 2004 (Aug. 29, 2019) (given tribes participating in February 2019 discussions regarding Methodology, increase in number of people would allow for coverage of APE acreage) (White), we cannot say that Mr. Spangler's site coverage estimate is unreasonable.

continued to form the basis for the Tribe's objections to the follow-on February 2019 Methodology. The conspicuously widening gap between the NRC Staff and the Oglala Sioux Tribe on these major aspects of the NRC Staff's proposed cultural resources survey process, without any apparent indication that consensus eventually might be reached, provided a reasonable basis for the NRC Staff's determination to discontinue further interactions with the Oglala Sioux Tribe regarding the survey.

Moreover, further supporting our finding in this regard is the fact that while the Oglala Sioux Tribe previously requested "a scientifically sound cultural resources survey"[255] and rejected previous NRC Staff proposals that it described as containing "no identifiable scientific methodology for a cultural resources survey,"[256] the Tribe's recent critiques of the NRC Staff's proposed methodology criticize the very elements that the Tribe hitherto claimed were absent.[257] Even though the entire structure of the NRC Staff's proposed methodology is predicated on reconciling a scientific method with traditional cultural values and perspectives,[258] the Oglala Sioux Tribe maintains its objections.[259]

Thus, given the Tribe's apparently evolving position on the application of scientific principles in the proposed methodology, as well as the issues with the logistics and scope of the survey process described above, we find the NRC Staff reasonably concluded that further negotiations regarding the survey process would not be productive.

D. The NRC Staff Has Satisfied NEPA's Standard of "Reasonable" Action Consistent with the Council on Environmental Quality (CEQ) Regulatory Provision Regarding Unavailable Information

The information deficit outlined above is hardly the first instance in which information that would be considered necessary for the preparation of an envi-

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[255] Ex. NRC-219, Oglala Sioux Tribe March 30, 2018 Response at 1.

[256] Oglala Sioux Tribe's Response in Opposition to NRC Staff's Motion for Summary Disposition of Contention 1A, at 7-8 (Sept. 21, 2018).

[257] *See, e.g.,* Oglala Sioux Tribe Response Statement at 19 (June 28, 2019) ("The [d]raft [m]ethodology relies on stilted and outmoded 'scientific method' and 'empirical evidence' in a way that violates NEPA's mandate that all federal agencies use a 'systematic interdisciplinary approach' that involves 'unquantified' considerations and 'ecological information.'").

[258] *See supra* note 215.

[259] *See* Oglala Sioux Tribe Response Statement at 16 ("NRC Staff is wrong in its narrow interpretation of 'scientific' in the context of NEPA as a matter of fact and law."); Tr. at 1953 (Aug. 29, 2019) (Morgan) ("And so you can use whatever flowery language you want to, or you can use whatever scientific terms you want to, and it still comes down to that there's been a lack of tribal input.").

ronmental review document was found to be unavailable.[260] "If [NEPA] barred agency action until this information became available, it is unlikely that any project requiring an environmental impact statement would ever be completed."[261] The CEQ recognized this situation and incorporated guidance into 40 C.F.R. § 1502.22 that assigns an agency certain responsibilities when it determines circumstances exist in which relevant information is missing or is unavailable.[262]

Of course, CEQ regulations generally are not controlling on the NRC, at least to the extent they have not been incorporated by the agency into 10 C.F.R. Part 51, and the unadopted provisions of 40 C.F.R. § 1502.22 are not binding on the NRC Staff in this case.[263] Nevertheless, the Commission has recognized that such CEQ regulations can be useful guides for determining what actions are reasonable under NEPA.[264] In LBP-17-9, we stated that "if the NRC Staff chooses a methodology that does not include complete information about adverse effects on the Tribe's cultural resources, the NRC Staff would need to include an explanation that satisfies the requirements of 40 C.F.R. § 1502.22."[265] We further stated that

> if the NRC Staff concludes there is no affordable alternative to the open-site survey for assessing the missing Native American cultural resources, it must at a minimum provide an explanation of this type to satisfy NEPA that is specific to the cultural resources of the Oglala Sioux Tribe and the other Native American tribes currently missing from the FSEIS.[266]

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[260] *See, e.g., WildEarth Guardians v. U.S. Forest Serv.,* 828 F. Supp. 2d 1223, 1240 (D. Colo. 2011); *Village of False Pass v. Watt,* 565 F. Supp. 1123 (D. Alaska 1983).

[261] *Village of False Pass,* 565 F. Supp. at 1149 (citing *Jicarilla Apache Tribe of Indians v. Morton,* 471 F.2d 1275, 1280 & n.11 (9th Cir. 1973)).

[262] 40 C.F.R. § 1502.22; *see also* CEQ Incomplete/Unavailable Information Regulations, 51 Fed. Reg. at 15,618. It might be debated whether the cultural resources information at issue in this proceeding is "incomplete" under the terms of section 1502.22, which seems to turn on whether some, but not all, of a body of relevant information is included in the EIS analysis, as opposed to "unavailable," which arguably denotes a body of relevant information that is not in the analysis at all. Given the factual circumstances of this case, for purposes of this decision, we employ the term "unavailable." Moreover, under the provisions of section 1502.22, it seemingly makes little difference which term is used because for both types of information the definitional (information is "incomplete" or "unavailable" if it "cannot be obtained because the overall costs are exorbitant or the means of obtaining it are not known") and procedural (explanatory statement regarding information must be included in the EIS) conditions regarding the information are essentially the same.

[263] *See supra* section III.C (citing *Diablo Canyon,* CLI-11-11, 74 NRC at 444).

[264] CLI-19-9, 90 NRC at 135.

[265] LBP-17-9, 86 NRC at 200.

[266] *Id.*

In LBP-18-5, we found that issues of material fact remained as to whether it was "not reasonably feasible for the [NRC] Staff to obtain the information from the Tribe."[267] The 2019 evidentiary hearing focused on these issues.

Although the NRC Staff has not updated its FSEIS to address the deficiencies identified in LBP-15-16, our various findings regarding the reasonableness of the NRC Staff's actions in connection with the unavailable cultural resources information needed to address those deficits are consistent with the provisions of section 1502.22. That section contains transparency admonitions that "the agency shall always make clear that such information is lacking" and "shall include" the following elements within the environmental impact statement:

(1) a statement of the information's unavailability;

(2) a statement of the unavailable information's relevance "in evaluating reasonably foreseeable significant adverse impacts on the human environment";

(3) "a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment"; and

(4) "the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community."[268]

Information relevant to these items is in the FSEIS or this decision, as it supplements the FSEIS per the discussion in section IV.G *infra.*

Additionally, section 1502.22(b) poses the question as to whether the information "cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,"[269] bearing in mind that "the term 'overall costs' encompasses financial costs and other costs such as costs in terms of time (delay) and personnel."[270] Our findings in sections IV.A and IV.B regarding the potential cost and time delays associated with the Oglala Sioux Tribe's June 2018 proposals establish that the information the NRC Staff has not been able to obtain falls within that definition, such that the disclosures and discussion regarding cultural resources in the FSEIS and this decision are sufficient to comply with the precepts of section 1502.22, as well as demonstrate,

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[267] LBP-18-5, 88 NRC at 130 (quoting NRC Staff August 2018 Dispositive Motion at 32-33).

[268] 40 C.F.R. § 1502.22(b)(1).

[269] *Id.* § 1502.22(b).

[270] CEQ Incomplete/Unavailable Information Regulations, 51 Fed. Reg. at 15,622.

as we discussed in more detail in section IV.C *supra,* that the NRC Staff's "determination to discontinue the survey was reasonable."[271]

E. Post-Operational Identification and Protection of Traditional Cultural Resources Can Be Facilitated Through the Existing Programmatic Agreement

While we find that legal and factual evidence exists to support the NRC Staff's determination that the missing tribal cultural resources information is unavailable, we nonetheless consider extant a significant unresolved matter, i.e., the question of how the Tribal cultural resources that almost inexorably remain on the Dewey-Burdock site will be identified and protected as facility construction and operation goes forward.[272] Given the NRC Staff's planned attempt to conduct ground-truthing and oral history surveys to address that question was not able to be implemented, the provisions of the existing PA covering the mitigation of post-licensing facility construction and operation cultural resource impacts will govern the future discovery and treatment of cultural resources on site.[273]

In that regard, as was noted in the Board's April 2015 partial initial decision, in April 2014 following the issuance of the NRC Staff's FSEIS but before the

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[271] CLI-19-9, 90 NRC at 135.

[272] A number of cultural resources already were identified as a result of a 2013 survey of the Powertech site conducted by members of seven tribes other than the Oglala Sioux Tribe. *See* Ex. NRC-008-A-1, FSEIS at 3-76 to -82; Ex. NRC-008-B-2, FSEIS at F-1 to -30. Nonetheless, given the recognized status of the Powertech site and the surrounding area as part of the Tribal homeland and the recognition that only Tribal personnel will be fully cognizant of what constitutes a Tribal cultural resource, *see* Ex. NRC-176-R, NRC Staff Direct Testimony at 11, 14 (Diaz-Toro), there can be no doubt that, although their significance is indeterminate, some as-not-yet identified Oglala Sioux Tribe cultural resources can be found on the Powertech site. *See* Ex. OST-042-R, White Declaration at 7-8 (indicating likelihood that cultural artifacts and evidence of burial grounds exist on Powertech site "is strong"), 10 (stating number and density of cultural resources at site demonstrate that mining activity is likely to impact Oglala Sioux Tribe cultural resources); Ex. OST-043-R, Morgan Declaration at 3 (declaring previous identification of cultural resources on Powertech site indicates "there may well be more that only the Tribe can identify"); Ex. INT-023, Affidavits (providing affidavits from Lakota tribal members asserting knowledge of Oglala Lakota cultural resources on the Dewey-Burdock site); Ex. NRC-224, Nickens, Paul, Literature Review of Lakota Historic, Cultural, and Religious Resources for the Dewey-Burdock ISR Project at 42 [hereinafter Nickens Literature Review] (indicating that while cultural resource finds to date on Dewey-Burdock site do not indicate cultural affiliation with any of the region's historic Tribes, contemporary Oglala Sioux Tribe accounts of historic period use of area within site boundaries and stone features identified in 2013 tribal surveys fitting well within LeBeau framework of potentially significant Lakota traditional places call for further investigation).

[273] *See* Ex. NRC-018-A, Programmatic Agreement at 2.

NRC Staff published its NEPA ROD,[274] the NRC Staff adopted the PA, which is considered a condition of the Powertech license.[275] As was the case with the 2013 site survey, however, the PA did not have the support of the Oglala Sioux Tribe and a number of other affected Tribes identified by the NRC Staff as consulting parties.[276] Thus, in becoming a signatory to the PA, the Advisory Council on Historic Preservation (ACHP) recognized this lack of consensus and observed:

> This PA incorporates a path forward to continue working with consulting tribes to conclude the identification and evaluation process. In addition, the PA sets forth a process for addressing adverse effects to historic properties that can't be avoided as the project is implemented. Consulting tribes will review and comment on all determinations of eligibility and effect and in the development of treatment plans for adverse effects. NRC's agreement to this protocol and its willingness to continue to collaborate with the consulting tribes and other consulting parties as Dewey-Burdock is implemented is the appropriate next step. Accordingly, we have signed the PA to conclude the Section 106 review process. We appreciated the efforts of NRC staff to negotiate an outcome that balances project goals and historic preservation concerns.[277]

What this ACHP comment recognizes, and so is apropos to the situation both then and now, is that notwithstanding the lack of a site survey identifying Oglala Sioux Tribe-recognized cultural resources, the PA will provide protection for onsite cultural resources as they may be encountered during facility construction and operation.[278]

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[274] *See* LBP-15-16, 81 NRC at 694 (finding that although the PA was completed after the FSEIS was released, its adoption before the ROD was issued satisfied NEPA).

[275] *See id.* at 657 n.233 (indicating that by its terms, PA is a license condition (citing Ex. NRC-018-A, Programmatic Agreement at 4)); *see also* Ex. NRC-012, Powertech License at 5-6 (section 9.8).

[276] *See* LBP-15-16, 81 NRC at 649; *see also* Ex. OST-012, Statement of Contentions of Oglala Sioux Tribe Following Issuance of [FSEIS] at PDF 132 (Letter from Bryan V. Brewer, President, Oglala Sioux Tribe, to Haimanot Yilma, Project Manager, Environmental Review Branch (ERB), NRC (Feb. 5, 2014)); Ex. OST-42-R, White Declaration at 9, 10.

[277] Ex. NRC-018-D, Letter from Reid Nelson, Director, Office of Federal Agency Programs, ACHP, to Kevin Hsueh, Chief, ERB, NRC, at 1 (Apr. 7, 2014).

[278] As NRC Staff witness Mr. Spangler recognized, while the eligibility of cultural resources for NHPA protection is governed by four criteria developed by the National Park Service to evaluate properties for inclusion in the NHPA-associated National Register of Historic Places, *see* Ex. NRC-179, U.S. Department of Interior, National Park Service, National Register Bulletin 15, "How to Apply the National Register Criteria for Evaluation" (Rev. 1997) at i, 1-2, NEPA allows more flexibility in protecting NHPA-ineligible sites, so that, for example, tribal sites with intangible values

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Of particular note in this regard is PA Stipulation 9, which specifies how "Unanticipated Discoveries" are to be handled during facility construction and operation, such as those that arise due to the current dearth of cultural resources input from the Oglala Sioux Tribe.[279] NRC Staff witness Mr. Spangler explained it is standard practice that, in conjunction with construction or some operational activity that may involve ground disturbance potentially impacting cultural resources, a monitor with appropriate archaeological expertise is employed to be onsite observing the operation with the authority to halt the activity if a cultural resources artifact or feature in danger of disturbance is observed.[280] PA Stipulation 13(c) provides for such a monitor as part of a monitoring plan, which Powertech will develop, subject to NRC Staff review, and which will govern appropriate practices on site during facility development and operation.[281] Further, under the terms of PA Stipulation 5(e)(ii), that monitoring should be "by a qualified archaeologist and/or Tribal monitor,"[282] which NRC Staff witness

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that might not be fit neatly within the NHPA protection scheme nonetheless would be eligible for NEPA-associated avoidance, mitigation, and data recovery protection strategies in the context of carrying out a programmatic agreement. *See* Tr. at 1896-97 (Aug. 28, 2019) (Spangler); *see also* Tr. at 1897-98 (Aug 28, 2109), 1930-36 (Aug. 29, 2019) (Diaz-Toro) (explaining how NRC Staff works with tribes to understand and document the significance of tribal-identified cultural resources on a facility site, whether they are NHPA-eligible or not).

[279] *See* Ex. NRC-018-A, Programmatic Agreement at 10-11. As was noted during the hearing, in one sense these Oglala Sioux Tribe-related cultural resource items are not truly "unanticipated" because no site survey was conducted with Oglala Sioux Tribe members participating and these types of as yet unidentified artifacts undoubtedly exist. Tr. at 2034-35 (Bollwerk, A.J.). Nonetheless, in the context of post-licensing construction and operational activities, these types of artifacts can be considered "unanticipated." Tr. at 2036 (Aug. 29, 2019) (Diaz-Toro).

[280] *See* Tr. at 2037 (Aug. 29, 2019) (Spangler); *see also* NRC-018-A, Programmatic Agreement, at 13 ("In the case of an unanticipated discovery . . . , the Monitor shall have authority to stop certain construction activities.").

[281] *See* Ex. NRC-018-A, Programmatic Agreement at 13. Although NRC Staff witness Ms. Diaz-Toro indicated that the PA did not have any provisions regarding NRC approval of such a monitor; *see* Tr. at 2074-76 (Aug. 29, 2019), to the degree that such a monitor is part of the monitoring plan initially developed by Powertech, *see* Ex. NRC-018-A, Programmatic Agreement at 12-13, and that NRC "will request that Powertech make any necessary revisions to the plan," after which "the revised Monitoring Plan will remain in effect for all covered ground-disturbing activities during the license period," *id.* at 13, NRC does indeed seem to have a role in the designation of an appropriate monitor. Moreover, while PA Stipulation 13(c) gives Powertech primary responsibility for retaining a monitor, *id.*; *see also* Tr. at 2051 (Aug. 29, 2019), if the circumstances warranted, the agency undoubtedly could take a more direct role in such post-licensing monitoring activities under the PA by arranging for such monitoring by an agency-procured CRM firm, *see* Tr. at 1724-25, 1728, 1738-42, 1755-58 (Aug. 28, 2019) (Diaz-Toro) (describing circumstances under programmatic agreement regarding Strata ISR facility in which agency contracted for CRM services to complete NHPA section 106 responsibilities in conjunction with NEPA review).

[282] *Id.* at 8.

Mr. Spangler suggested should include a Tribal monitor,[283] a recommendation that would be fully in accord with the directive in PA Stipulation 13(c)(i) that "[p]reference will be given to individuals meeting [the Secretary of the Interior's Professional Qualifications for Archaeology] who are employed by tribal enterprises, especially during phases of the monitoring program where sites with religious and cultural significance to the Tribes might be affected."[284]

Certainly in this instance, given the lack of pre-facility construction and operation identification of cultural resources by the Oglala Sioux Tribe or other consulted Tribes, this monitoring process must take on additional significance if the purpose of Stipulation 13 is to be fully realized.[285] During the evidentiary hearing, the NRC Staff committed to notify the consulting tribes, including the Oglala Sioux Tribe, of the identity of the monitor whose services are engaged by Powertech pursuant to Stipulation 13(c).[286] Given the circumstances here, we consider this a laudable pledge worthy of addition to the overall process under PA Stipulation 13(b) for NRC Staff review of a proposed Powertech monitoring plan prior to the initiation of facility construction activities that deserves incorporation into the PA. As such, we add a new license condition provision to PA Stipulation 13(c),[287] Stipulation 13(c)(iii), that provides as follows:

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[283] Tr. at 2042 (Aug. 29, 2019).

[284] NRC-018-A, Programmatic Agreement at 13.

[285] *Id.* at 12 ("NRC affirms avoidance of adverse effects to historic properties remains the preferred course of action.").

[286] *See* Tr. at 2074-75 (Aug. 29, 2019) (Diaz-Toro). This notification would be provided even though none of the relevant tribes concurred in the PA. *See* Tr. at 2075 (Aug. 29, 2019) (Diaz-Toro).

Further in this regard, given the controversy over the issue of tribal compensation, *see* section IV.B *supra,* we would anticipate that determinations about the engagement of, and compensation for, Tribal monitors or other Tribal members involved in the monitoring process would be informed by PA Stipulation 6(f), which concerns cultural resource identification if power transmission lines are installed outside the licensed facility boundary and states:

> Powertech shall offer to provide appropriate financial compensation to Tribal Representatives for the work on the identification of properties of religious and cultural significance. The identification of properties of religious and cultural significance will occur at the same time or prior to identification of archaeological properties.

NRC-018-A, Programmatic Agreement at 9.

[287] Relative to this license condition, the PA Stipulation 13(c) language regarding the retention of a monitor seemingly permits either an entity (such as a TCP or CRM firm like Quality Services, Inc. or Makoche Wowapi) or an individual (such as a CRM/TCP consultant like Dr. Morgan) to fulfill this role. *See id.* at 13. Given that a firm may utilize multiple staff or affiliated personnel to perform monitoring work, *see* Tr. at 1943-45, 2041 (Aug. 29, 2019) (Morgan), we would not anticipate that the use of multiple individuals associated with the firm providing monitoring services, as opposed to a change in the monitoring firm, would require notice to the consulting Tribes.

Also, in adding this PA provision, the Board incorporates a 30-day review and comment period

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iii. If the identity of the Monitor engaged by Powertech under Stipulation 13(c) to provide services is not specified in the Monitoring Plan provided to NRC under Stipulation 13(b)(i), when Powertech engages the Monitor, Powertech shall promptly notify the NRC of the identity of the Monitor, which in turn will distribute that information to the signatories and consulting Tribes to this agreement for a 30-day review and comment period. Thereafter, if a new Monitor is engaged by Powertech, Powertech shall promptly notify the NRC of the identity of that Monitor, which will again distribute that information to the signatories and consulting Tribes to this agreement for a 30-day review and comment period.

F. The NRC Staff Has Satisfied Its Hard Look Requirement Under NEPA

In LBP-18-5, we concluded that the NRC Staff had not met its hard look requirement under NEPA.[288] A material factual dispute existed as to the reasonableness of the NRC Staff's efforts to implement its March 2018 Approach and the NRC Staff's ultimate decision to discontinue work.[289] These factual disputes were addressed at the August 2019 evidentiary hearing. We now find that, despite the absence of information from the planned cultural resources survey that otherwise would be necessary to complete a supplemental EIS,[290] under

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consistent with the review and comment period for the Powertech monitoring plan generally. *See* Ex. NRC-018-A, Programmatic Agreement at 13 (PA Stipulation 13(b)(i)). And the Board includes this PA provision with the understanding that any disputes arising from comments by PA signatories or consulting Tribes concerning Monitor selection would be resolved consistent with the existing PA provision governing the resolution of disputes regarding implementation of the terms of the PA. *See id.* at 13 (PA Stipulation 14).

[288] LBP-18-5, 88 NRC at 125-29.

[289] *Id.* at 132-34.

[290] Although the cultural resource survey process envisioned by the NRC Staff in response to LBP-15-16 never fully materialized, two additions to the store of cultural resources information regarding the Powertech site were generated in that decision's wake. One was a report compiled by the NRC Staff's then-contractor Dr. Nickens summarizing his activities and those of two SC&A personnel during the week of June 11-14, 2018, on the Powertech site. Their visit was to (1) revisit and further document 20 tribal sites identified during the 2013 tribal survey that lie within the designated ISR project APE; (2) conduct a viewshed analysis to determine whether any of the numerous regional places of tribal cultural or religious significance, as identified by a contemporaneous literature review, could be seen from the Dewey-Burdock project area; and (3) evaluate the current status of bald eagle nesting within the ISR project area that was a potential place/resource of religious significance to Lakota Tribes. *See* Ex. NRC-196, Summary of Tribal Cultural Heritage Resources Data Acquired in June 2018 at the Dewey-Burdock In Situ Uranium Recovery Project - Fall River and Custer Counties, South Dakota at 5. The Oglala Sioux Tribe did not challenge the conclusions of this report.

On the other hand, the Oglala Sioux Tribe has questioned the efficacy of the above-referenced *(Continued)*

the circumstances, the NRC Staff has satisfied the hard look requirement under NEPA.

The NRC Staff's actions taken after the issuance of both LBP-17-9 and LBP-18-5 show a diligent effort to fulfill its NEPA "hard look" obligation. Relative to the NRC Staff's activities after LBP-17-9, in the face of a Board ruling that there remained material factual questions about the reasonableness of its survey methodology, the NRC Staff produced the March 2018 Approach that, based on the parties' responses at the time, appeared to provide a firm foundation for moving forward with the survey process.[291] And relative to its post-LBP-18-5 activities, despite the availability of the Board-proffered option to proceed di-

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literature review, *see supra* note 272, in which Dr. Nickens attempted to compile and evaluate the significant existing published information relevant to the cultural resources evaluation for the Powertech site's NEPA review. *See* Ex. NRC-224, Nickens Literature Review at 9-10; *see also* Tr. at 2061 (Aug. 29, 2019) (Spangler) (describing Nickens literature review as "a Class I overview, which is basically a synthesis of all of the cultural materials known about a certain area that are reasonably available"). The Oglala Sioux Tribe has been particularly critical of the Nickens report's description of the location of the "Race Track," a culturally significant area the description of which the Tribe asserts "is inaccurate and taken from an outdated map that was prepared by Dr. Craig Howe for purposes that did not involve location/protection of specific cultural sites or sacred landscapes." Ex. NRC-203, Oglala Sioux Tribe January 11, 2019 Response at 3.

To support its criticism, the Oglala Sioux Tribe presented the testimony of Dr. Howe, who asserted that Dr. Nickens' report, besides failing to utilize some of the early core reference works by anthropologists and ethnologists familiar with Lakota history and culture, contained significant inaccuracies, particularly the misalignment of the Race Track that encircles the interior of the geographically sacred Black Hills area relative to the Dewey-Burdock site. According to Dr. Howe, referencing a map Dr. Howe created for a 2011 publication he authored (with others), Dr. Nickens' report indicates the Race Track is situated some four miles north of the Powertech site. *See* Ex. OST-45-R, Howe Declaration at 2-3; Tr. at 1842-44 (Aug. 28, 2019) (Howe); *see also* Nickens Literature Review at 22, 32-33, 35. This location designation, Dr. Howe asserts, reflects a failure to either contact him or seek public comment on Dr. Nickens' report so that he (and perhaps others) might have explained more recent developments regarding understanding of the Race Track and its location that would place the Powertech site "on top" of the Race Track, thereby bringing the ISR site within the category of impacted "properties of traditional religious and cultural importance." Ex. OST-45-R, Howe Declaration at 3; *see* Tr. at 1844-45 (Aug. 28, 2019) (Howe).

Putting aside the fact that a reference to the significance of the Race Track to North Plains tribes in the FSEIS apparently did not engender any public comments about its location or importance relative to the Dewey-Burdock site, *see* Ex. NRC-008-A-1, FSEIS at 3-86; Ex. NRC-008-B-2, FSEIS at E-18 to -257, we observe that Dr. Nickens' report, while indicating that the red clay valley geological formation that is generally denoted as the Race Track does lie a few miles from the Powertech site, also explained that the Race Track designation of cultural significance is not limited solely to sites within that geological formation and that information regarding Tribal views of cultural places and project landscape impacts would continue to accrue with the planned summer 2018 site survey and subsequent Tribal elder interviews. *See* Ex. NRC-224, Nickens Literature Review at 13, 20, 24, 42; *see also* Tr. at 1803-04 (Aug. 28, 2019) (Diaz-Toro). Of course, for the reasons we have detailed in this decision, those activities did not take place.

[291] *See supra* notes 51, 218-20 and accompanying text.

rectly to an expeditious evidentiary hearing to address still unresolved material issues of fact about its survey approach and the implementation of that approach, the NRC Staff chose to resume working with its March 2018 Approach, expanding it into the February 2019 Methodology.[292] The NRC Staff identified a qualified contractor, Mr. Spangler, and hired him to develop a scientific methodology to conduct the all-important site survey in a culturally sensitive manner when the previous contractor Dr. Nickens departed.[293] We have found the NRC Staff's selected contractor Mr. Spangler was well qualified to facilitate the field survey and prepare the reports required to potentially resolve the issues raised by Contention 1A.[294] Both the NRC Staff's March 2018 Approach and the proposed February 2019 Methodology, based on accepted scientific methodologies, demonstrated a reasonable effort on the part of the NRC Staff to work toward a supplemental NEPA impacts analysis regarding cultural resources on the Dewey-Burdock project.[295]

The NRC Staff also involved an agency tribal liaison in January 2019, as requested by the Oglala Sioux Tribe.[296] After the issuance of both LBP-17-9 and LBP-18-5, the NRC Staff communicated with the Tribe by various means, including letter, webinar, and email, and travelled to the Pine Ridge Reservation in February 2019.[297] Additionally, while the NRC Staff displayed a willingness to address the Oglala Sioux Tribe's concerns regarding potential revisions to the confidentiality agreements, it never received any proposed language or sample agreements from the Tribe.[298] Taken together, these actions show that, although the NRC Staff did not ultimately complete a supplemental NEPA analysis, it

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[292] *See* Ex. NRC-195, NRC November 21, 2018 Letter to Oglala Sioux Tribe Resuming Implementation of the NRC Staff March 16, 2018 Approach.

[293] With Dr. Nickens no longer available, Mr. Spangler expanded the NRC Staff's research on the different methods that federal and state agencies have employed successfully with Native American tribes to conduct cultural research surveys. The NRC Staff's March 2018 Methodology and its February 2019 Methodology thus are based on Dr. Nickens and Mr. Spangler's attempts to augment the existing cultural resource inventory data for the Powertech site by including Tribal perspectives on the nature and significance of cultural resources. *See* NRC-176-R, NRC Staff Direct Testimony at 5-9 (Spangler, Diaz-Toro).

[294] *See supra* note 173 and accompanying textual discussion of Mr. Spangler's qualifications.

[295] *See supra* section IV.A.

[296] Tr. at 1526 (Jan. 29, 2019). The Board finds that the action of engaging a tribal liaison demonstrated a willingness to take the Tribe's concerns into account, although we note that the tribal liaison only participated in two interactions with the Tribe, on February 8 and February 19, 2019, and did not attend the in-person meeting at the Pine Ridge Reservation on February 22, 2019. *See* NRC-176-R, NRC Staff Direct Testimony at 20; Tr. at 2016-18 (Aug. 29, 2019) (Diaz-Toro).

[297] *See* LBP-18-5, 88 NRC at 105-09, 119; Ex. NRC-176-R, NRC Staff Direct Testimony at 24 (Diaz-Toro).

[298] *See supra* note 217; LBP-18-5, 88 NRC at 108, 136; Tr. at 1922-23 (Aug. 28, 2019) (Diaz-Toro); Tr. at 46 (Aug. 29, 2019 closed session) (Diaz-Toro).

acted reasonably to develop and implement the March 2018 Approach and the February 2019 Methodology.

To be sure, the inability of the NRC Staff to gain the additional information about cultural resources on the Dewey-Burdock site that would have come from the successful completion of the survey process is troubling, given that information would inform a determination about the impact of construction and operational activities on the Powertech site on these currently unidentified cultural resources. Nonetheless, that information is already encompassed in the EIS finding that the overall impacts of the facility on cultural resources will be SMALL to LARGE.[299] Further, as we discussed in section IV.E *supra,* the related issues regarding the adequacy of impact mitigation via protection and avoidance that arise because of this lack of current identification of these cultural resources can still be adequately addressed in the context of the existing PA, as modified by the Board.[300]

We thus find that a preponderance of the evidence establishes that the NRC Staff did indeed take the requisite "hard look" required by NEPA, notwithstanding the missing cultural resources information and potential additional impacts analysis that might have resulted had the proposed survey process been fully implemented.

G. NRC Staff Need Not Publish and Seek Public Comment on the Unavailability of the Cultural Resources Information in a Supplement to the Powertech FSEIS

In LBP-15-16, the Board stated that because of the NRC Staff's failure to adequately address Native American cultural resources in the FSEIS, the "FSEIS and Record of Decision in the case must be supplemented, if necessary, to include any cultural, historic, or religious sites identified and to discuss any mitigation measures necessary to avoid any adverse effects."[301] Although the NRC Staff contemplated supplementing the FSEIS with the information it gath-

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[299] *See supra* notes 14, 238.

[300] In his prefiled testimony, Mr. White expressed concern that this "SMALL" to "LARGE" designation was too broad and generalized to constitute a useful impacts analysis. *See* Ex. OST-042-R, White Declaration at 15-16. This might be an issue if such a broad designation were applied to describe project impacts generally across the spectrum of subject matter areas being considered in an EIS analysis, but as the Staff indicated, such a designation, if accurate, is not improper in analyzing a particular subject matter area so long as there is an analysis of specific mitigation measures needed to address the range of impacts in that area. *See* Tr. at 1800-01 (Aug. 28, 2019), 1930-33 (Aug. 29, 2019) (Diaz-Toro).

[301] LBP-15-16, 81 NRC at 708.

ered as a result of any additional cultural resources survey efforts,[302] it ultimately determined not to prepare such a supplement for the reasons we described previously in section IV.C *supra.* In opposing the NRC Staff's April 3, 2019 request to convene an evidentiary hearing to resolve Contention 1A, the Oglala Sioux Tribe maintained that such a hearing was improper until after the NRC Staff first issued for public comment a draft FSEIS supplement addressing any new information and explaining why additional information is unavailable consistent with 40 C.F.R. § 1502.22, followed by a final FSEIS supplement addressing any comments.[303] The NRC Staff, in turn, asserted that the established agency practice of allowing the evidentiary hearing record to supplement and/or correct any deficiencies in a final EIS means that in this instance it is unnecessary for the NRC Staff to issue an FSEIS supplement regarding the unavailability of the cultural resources information.[304] Both in granting the NRC Staff's request to convene an evidentiary hearing and denying a subsequent Oglala Sioux Tribe motion in limine raising the same issue, the Board rejected the Oglala Sioux Tribe's arguments in this regard.[305] At the same time, the Board acknowledged that this legal issue remained extant so as to warrant resolution in the context of its post-hearing merits ruling on Contention 1A.[306]

Below, we outline in more detail the parties' positions on this issue and set forth our ruling on this discrete matter.

1. Parties' Positions on Need for FSEIS Supplementation

In challenging the Staff's request for an evidentiary hearing on Contention 1A, besides asserting that there was an insufficient legal and factual basis for proceeding to an evidentiary hearing on the NRC Staff's claim that it acted reasonably in abandoning its supplementation efforts,[307] the Oglala Sioux Tribe also maintained that the NRC Staff violated the procedural precepts of NEPA. Specifically, the Oglala Sioux Tribe accused the NRC Staff of violating the mandate in 40 C.F.R. § 1502.22 that an explanation must be included "within the [EIS]" about why information relevant to reasonably foreseeable adverse

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[302] *See* Ex. NRC-201, NRC March 16, 2018 Letter to Oglala Sioux Tribe Transmitting NRC's Approach to Identify Historic, Cultural, and Religious Sites, Encl. 1, at 1; Ex. BRD-005, January 25, 2019 Staff Letter, Encl. 2, at 2; *see also* Ex. BRD-007, NRC Staff February 20, 2018 Letter to Powertech at 1; Ex. BRD-008, NRC Staff April 12, 2018 Letter at 1.

[303] Oglala Sioux Tribe Evidentiary Hearing Response at 10-18.

[304] *See* Tr. at 1636 (Apr. 23, 2019).

[305] *See* Board Order Denying Oglala Sioux Tribe Motion to Strike at 4-5.

[306] *See id.*; Licensing Board Order (Scheduling Prehearing Teleconference) at 4 (July 29, 2019) (unpublished).

[307] *See* Oglala Sioux Tribe Evidentiary Hearing Response at 11-14.

impacts is unavailable. According to the Oglala Sioux Tribe, the NRC's Staff's lack of an "unavailability" explanation in a supplement to the FSEIS has not only contravened the public's right under NEPA to comment on those claims, but also deprived the Oglala Sioux Tribe of an opportunity to interpose challenges to those claims in the form of new or amended contentions.[308] So too, in its response position statement for the hearing and its proposed findings of fact/conclusions of law, the Oglala Sioux Tribe reiterated its argument that, in the absence of an FSEIS supplement explaining the basis for the NRC Staff's position that relevant missing cultural resources information is unavailable as required by section 1502.22, the NRC Staff's attempt to rely on section 1502.22 must be rejected as procedurally deficient.[309]

For its part, the NRC Staff asserted in its hearing-related initial and reply statements of position and its proposed findings of fact and conclusions of law that it is not necessary to first supplement the Dewey-Burdock FSEIS with an explanation of the basis for its claim that additional Contention 1A-associated cultural resources information is "unavailable" within the meaning of section 1502.22. Rather, the NRC Staff maintained that, consistent with longstanding agency precedent, the record compiled during the Board's August 2019 adjudicatory hearing on the unavailability issue is consistent with section 1502.22 and can provide the basis for resolving Contention 1A.[310]

2. Board Ruling

Longstanding agency precedent establishes that, in an appropriate circumstance, a deficiency in an agency NEPA statement can be rectified by a licensing board based on the record of an evidentiary hearing regarding an intervenor contention challenging that environmental statement. Not long after the seminal 1971 *Calvert Cliffs* decision directing the Atomic Energy Commission (AEC) to consider radiological and non-radiological environmental impacts as part of the agency's licensing process,[311] an Atomic Safety and Licensing Appeal Board recognized that a final environmental impact statement

> is subject to modification by the Licensing Board in light of other evidence in the record. In short, the [final EIS] is to be reevaluated in the context of the entire

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[308] *See id.* at 14-18.

[309] *See* Oglala Sioux Tribe Response Statement at 31-38; Oglala Sioux Tribe Proposed Findings at 38-46; Oglala Sioux Tribe Reply Findings at 5-6.

[310] *See* NRC Staff Initial Statement at 23; NRC Staff Reply Statement at 14-16; NRC Staff Proposed Findings at 51; NRC Staff Reply Findings at 5-6.

[311] *Calvert Cliffs' Coordinating Comm., Inc. v. AEC,* 449 F.2d 1109, 1114 (D.C. Cir. 1971), *cert. denied,* 404 U.S. 942 (1972).

> record of the proceeding and any necessary modifications are to be made through the vehicle of the initial decision.[312]

That precept was also recognized by an appeal board as continuing to be applicable after the AEC's regulatory authority was ceded to the NRC by reason of passage of the Energy Reorganization Act of 1974,[313] and subsequently was acknowledged by the Commission itself on numerous occasions.[314] The courts have accepted the validity of this principle as well.[315] We thus see no basis for

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[312] *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1013 (1973) (citation omitted).

[313] *See Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-262, 1 NRC 163, 196 n.54 (1975) ("Under the procedures of this agency, the analysis [in the final EIS] was put forward at a public, adjudicatory hearing and was fully tested. And Commission regulations not only contemplate that the ultimate NEPA judgments be made on the basis of the entire record before the adjudicatory tribunals but, as well, that the findings and conclusions of those tribunals be deemed to amend the [final EIS] (insofar as different therefrom)."); *see also Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 371 (1975).

[314] *See Crow Butte Resources, Inc.* (License Renewal for the In Situ Leach Facility, Crawford, Nebraska), CLI-19-5, 89 NRC 329, 330 (2019); *Ross,* CLI-16-13, 83 NRC at 595; *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-15-6, 81 NRC 340, 387-88 & n.255 (2015); *Hydro Resources, Inc.* ((P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001); *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 29 n.43 (1978), *petitions for review denied sub nom. New England Coal. on Nuclear Pollution v. NRC,* 582 F.2d 87 (1st Cir. 1978); *see also Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 706-07 (1985); *Florida Power & Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), ALAB-660, 14 NRC 987, 1014 (1981); *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 785-86 (1979); *Allied-General Nuclear Services* (Barnwell Nuclear Fuel Plant Separations Facility), ALAB-296, 2 NRC 671, 680 (1975).

[315] *See Nat. Res. Def. Council,* 879 F.3d at 1209-12; *New England Coal.,* 582 F.2d at 94; *Citizens for Safe Power v. NRC,* 524 F.2d 1291, 1294 n.5 (D.C. Cir. 1975); *Ecology Action v. AEC,* 492 F.2d 998, 1001-02 (2d Cir. 1974).

The Oglala Sioux Tribe nonetheless maintains that one or both of the D.C. Circuit's recent decisions in *Oglala Sioux Tribe,* 896 F.3d at 529, and *Natural Resources Defense Council,* cited above, require that we abandon this long-standing agency precedent. *See* Oglala Sioux Tribe Evidentiary Hearing Response at 15; Oglala Sioux Tribe Response Statement at 33; Oglala Sioux Tribe Proposed Findings at 40. In our view, however, these two cases do not pose a procedural bar to the result reached here regarding supplementation.

Each of these rulings expressed concern about aspects of the agency's procedural approach of allowing a requested license to become effective despite the fact that the as-yet-to-be completed adjudicatory process had identified a NEPA deficiency that required correction. With the former case, the Oglala Sioux Tribe sought review of this Board's decision under the agency's rule, 10 C.F.R. § 2.1202(a), permitting the Staff-issued Powertech license to become effective while an

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declaring that an adjudicatory record developed by a licensing board regarding some aspect of an admitted challenge to the NRC Staff's environmental review process or documents cannot provide the basis for a board determination that modifies the NRC Staff's environmental determinations, including the issue of whether EIS supplementation is necessary.

It also has been recognized, however, that a NEPA deficiency identified in an adjudication can trigger the need to prepare an EIS supplement. Thus, mirroring the 10 C.F.R. Part 51 provision regarding EIS supplementation,[316] agency decisions have recognized supplementation may be required when "the absence of

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adjudicatory hearing on contested issues was pending based principally on a finding of no irreparable injury to the Tribe. In the latter case, the challenge was to a licensing board's ability to supplement a NEPA record on the basis of evidentiary hearing information when, pursuant to section 2.1202(a), an effective license had been issued. And in both instances, the focus of the court's concern mirrored that set forth in a dissent written by Commissioner Baran during Commission review of the licensing board decisions at issue questioning whether the agency could make a license effective when the adjudicatory process regarding the underlying application had not been completed. *See Oglala Sioux Tribe,* 896 F.3d at 526; *Nat. Res. Def. Council,* 879 F.3d at 1210. Both Commissioner Baran's dissents and the two judicial panel's decisions emphasized that the negative implications for the agency's NEPA process of allowing a license to become effective before the adjudicatory process is completed "are not idle concerns." *Nat. Res. Def. Council,* 879 F.3d at 1210; *see Oglala Sioux Tribe,* 896 F.3d at 532 (explaining that agency's practice of allowing licenses to issue while adjudicatory process is ongoing is "contrary to NEPA"); CLI-16-20, 84 NRC at 269 (Baran, C., dissenting in part) (taking the position that NEPA requires an adequate environmental record before an agency can consider issuing a license); *Ross,* CLI-16-13, 83 NRC at 604 (Baran, C., concurring in part and dissenting in part) (taking the position that an agency cannot supplement the NEPA record after the licensing action has been taken). Thus, to the degree they raise questions about a licensing board's ability to supplement a NEPA statement in an initial decision, they appear to do so based on the proposition that such supplementation is improper because the license is effective, rather than because it is done as part of the adjudicatory process.

In this instance, however, notwithstanding its finding that the agency improperly allowed the Powertech license to remain effective after concluding that a significant NEPA deficiency existed, without vacating that agency decision the D.C. Circuit's *Oglala Sioux Tribe* panel remanded the matter to the Commission to consider further, in line with the D.C. Circuit's *Allied Signal* precedent, whether and under what circumstances the Powertech license should remain effective. *See Oglala Sioux Tribe,* 896 F.2d at 538 (citing *Allied-Signal, Inc. v. NRC,* 998 F.2d 146, 150-51 (D.C. Cir. 1993)). In light of this judicial determination and the Commission's follow-on decision allowing the effectiveness of the Powertech license to remain intact, albeit subject to certain conditions, *see also* CLI-19-1, 89 NRC at 8-10, we do not consider either the *Oglala Sioux Tribe* or *Natural Resources Defense Council* cases as compelling, in and of themselves, supplementation of the NRC Staff's FSEIS outside the adjudicatory process, *id.* at 10-11.

[316] In pertinent part, 10 C.F.R. § 51.92 provides that "the NRC staff will prepare a supplement to a final [EIS] . . . if (1) [t]here are substantial changes in the proposed action that are relevant to environmental concerns; or (2) there are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." In our estimation, the agency case law discussed *infra* provides some specific instances when information provided in the context of the adjudicatory process constitutes "new and significant circumstances or information."

discussion in [a final EIS] is so fundamental an omission as to call for recirculation of the [final EIS],"[317] or if "the proposed project has been so changed by the Board's decision as not to have been fairly exposed to public comments during the initial circulation of the [final EIS],"[318] or should the evidence presented by the NRC Staff at a hearing "depart so markedly from the positions espoused or information reflected in the [final EIS] as to require formal redrafting and recirculation for comment."[319]

Initially, we do not consider dispositive of this supplementation issue the language in section 1502.22 stating, as it would be applicable to this instance, that an explanation about the unavailability of any purported cultural resources information that is relevant to reasonably foreseeable adverse impacts arising from construction or other activities on the Dewey-Burdock site must be included "within the [EIS]." As the Commission pointed out in its recent order denying a request for interlocutory review of the Board's decision in LBP-18-5, "as an independent regulatory agency we are not bound by section 1502.22."[320] Given the longstanding agency precedent that the adjudicatory record of a licensing proceeding can serve to supplement or amend an NRC Staff environmental document, we conclude that an adjudicatory record, such as the one created in this instance, can serve that purpose in the appropriate circumstance.[321]

Thus, the Oglala Sioux Tribe's supplementation question here turns on the matter of whether, based on the adjudicatory record developed by the Board, there is sufficient grounds to require that, notwithstanding the information in the adjudicatory record, the NRC Staff must prepare a draft supplement to the Dewey-Burdock EIS, which would then be circulated for comment and published as a final environmental document for inclusion in the ROD for this

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[317] *Turkey Point,* ALAB-660, 14 NRC at 1014.

[318] *Black Fox,* ALAB-573, 10 NRC at 786.

[319] *Barnwell,* ALAB-296, 2 NRC at 680.

[320] CLI-19-9, 90 NRC at 135.

[321] In maintaining that such supplementation is required, a principal Oglala Sioux Tribe argument is that the NRC Staff's approach deprives the public of its opportunity for input on the matter of information unavailability in violation of the NEPA process. *See* Oglala Sioux Tribe Evidentiary Hearing Response at 17; Oglala Sioux Tribe Response Statement at 31. As an appeal board observed in responding to a similarly framed challenge to the propriety of allowing the adjudicatory record to be used to correct or supplement the NRC Staff's NEPA documents, the hearing process "arguably allows for additional and a more rigorous public scrutiny of the [final EIS] than does the usual 'circulation for comment.'" *Limerick,* ALAB-819, 22 NRC at 707. Certainly, it seems unlikely that any member of the public could pursue this matter in a manner that would be more effective than the intervenors, represented by counsel, or that this concern would receive more careful scrutiny than that which has been afforded by this Board in considering the intervenors' NEPA-based concerns.

proceeding.[322] In its 2015 partial initial decision, the Board determined that supplementation was required relative to Contention 1A because the NRC Staff's environmental documents "do not adequately address Sioux tribal cultural, historic, and religious resources" such that "the FSEIS and Record of Decision in this case must be supplemented, if necessary, to include any cultural, historic, or religious sites identified and to discuss any mitigation measures necessary to avoid any adverse effects."[323] Now, four years later, the issue is whether it is necessary to provide a supplement outlining the reasons why such additional cultural resources information still has not been obtained by the NRC Staff.

Although the concerns reflected in the agency's case law about the need for supplementation when a board's decision or the NRC Staff's evidentiary presentation are significantly different from the final EIS do not appear to be applicable here,[324] as was the case with the Board's 2015 partial initial decision, the importance of the purported missing information is a factor that warrants consideration as a basis for supplementation.[325] The NRC Staff's original FSEIS indicated that cultural resources information was not available because "the Oglala Sioux Tribe initially announced its intention to participate in the April [2013] survey, but withdrew its acceptance because the tribal council had not been briefed before the survey was scheduled to begin."[326] The FSEIS, however, contained no discussion about reasonable NRC Staff actions or exorbitant costs or unknown means of obtaining the information (along the lines of what we have outlined are the precepts embodied in section 1502.22)[327] to explain why the NRC Staff had not obtained this information that the intervenors (and subsequently the Board) clearly believed to be of importance to the completeness of its environmental impact analysis. Yet, the intervenors made no complaint

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[322] As the NRC Staff indicated during the evidentiary hearing, depending on the substantive information involved and the number and complexity of comments received, the supplementation process can require from three to six months to complete. *See* Tr. at 1804-05 (Aug. 28, 2019) (Diaz-Toro).

[323] LBP-15-16, 81 NRC at 708.

[324] *See supra* notes 314-15. We note that, while its explanation in support of its position regarding the lack of inclusion of cultural resources has changed somewhat based on the circumstances, the position the NRC Staff took relative to the original FSEIS and its current position regarding the inclusion of cultural resources are not fundamentally different, i.e., those cultural resources as they might be identified by the Oglala Sioux Tribe are not included because, despite the reasonable efforts of the NRC Staff to formulate a survey process that would comply with NEPA, the Tribe insisted that type of cultural resources survey protocol was not acceptable.

[325] *See supra* note 312.

[326] *See* Ex. NRC-008-B-2, FEIS at F-2. The other relevant portions of the Staff's FSEIS contain no discussion regarding the absence of the Oglala Sioux Tribe's input regarding cultural resources on the Powertech site. *See* Ex. NRC-008-A-1, FSEIS at xxxix-xl, 1-16 to -21, 3-72 to -82; Ex. NRC-008-A-2, FSEIS at 4-156 to -177, 5-45 to -49; Ex. NRC-008-B-2, FSEIS at F-1 to -30.

[327] *See supra* section IV.D.

then about the lack of such an accounting or the need to supplement the FSEIS to include such a discussion.[328]

The Oglala Sioux Tribe's relatively recent focus on the ancillary matter of how the environmental record of this proceeding should document why this information is unavailable thus does not appear to us to constitute the type of significant discussion that warrants employing the supplemental process, particularly when the adjudicatory process has been utilized to include that information in the record in a fair, meaningful, and effective manner.[329]

V. CONCLUSION AND BOARD ORDER

In support of its position regarding the failings in the NRC Staff process under NHPA and NEPA for carrying out the identification of the Oglala Sioux Tribe's cultural resources on the Powertech site, the Intervenors have sought to remind the Board of the respect for tribal sovereignty and the associated trust responsibility the federal government and its agencies owe to Native American tribes.[330] Those considerations are not, however, absolutes to the degree that they preclude a federal agency from taking action in the exercise of its NEPA responsibilities once a reasonable effort has been made to procure the cooperation

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[328] *See* Oglala Sioux Tribe's Statement of Position on Contentions (June 20, 2014) at 10-15; Consolidated Interveners' Opening Statement (June 26, 2014) at 2-4; Oglala Sioux Tribe's Rebuttal Statement (July 15, 2014) at 2-13; [Consolidated Interveners'] Rebuttal to Opening Statements of Applicant and NRC Staff (July 15, 2014) at unnumbered pp. 1-3; Oglala Sioux Tribe's Post-Hearing Initial Brief with Findings of Fact and Conclusions of Law (Jan. 9, 2015) at 12-25; Consolidated Intervenors' Proposed Findings of Fact and Conclusions of Law and Response to Post-hearing Order (Jan. 9, 2015) at 1-14; Oglala Sioux Tribe's Post-Hearing Reply Brief (Jan. 29, 2015) at 1-14; Consolidated Intervenor's Reply to Post-hearing Briefs (Jan. 29, 2015) at 1-12.

[329] *See Friends of the River v. FERC,* 720 F.2d 93, 106 (D.C. Cir. 1983) (declining to require remand to prepare additional EIS when pertinent information had already been incorporated into a publicly-accessible Commission opinion, given that to do so "would treat the EIS as 'an end in itself'" and would not meaningfully serve NEPA's goals); *cf. Dombeck,* 185 F.3d at 1172-73 (declaring participants' awareness through the environmental review process of the scarcity of lynx impact data was sufficient to excuse need for formal statement citing and parroting the regulatory language of section 1502.22(b)).

Of course, the NRC Staff is still responsible for whatever "supplementation" may be required to the agency's ROD to reflect the pertinent adjudicatory activities that have transpired since the NRC Staff's initial ROD for this proceeding was issued in 2014. *See* 10 C.F.R. § 51.102(c); *see also* Issuance of Materials License and [ROD] for Powertech (USA) Inc., Dewey-Burdock Facility, 79 Fed. Reg. 21,302 (Apr. 15, 2014).

[330] *See* Consolidated Intervenors Response Statement at 3-18; Oglala Sioux Tribe's Response in Opposition to NRC Staff Motion for Summary Disposition of Contentions 1A and 1B (Sept. 1, 2017) at 25-26.

and input from a tribe.[331] In this instance, we conclude that, although unsuccessful, the NRC Staff acted reasonably in seeking to obtain information from the Tribe regarding the location and significance of Tribal cultural resources on the Dewey-Burdock site for the purpose of its NEPA impacts analysis and, as such, we conclude that the NRC Staff has prevailed relative to Intervenors' Contention 1A.

Accordingly, the Atomic Safety and Licensing Board assigned to hear the contentions raised in this case rules as follows:

A. Contention 1A is *resolved* on the merits in favor of the NRC Staff. The Board finds that the NRC Staff has satisfied its NEPA obligation to take a reasonable hard look at potential impacts to Native American cultural resources by proposing and attempting to implement the March 2018 Approach. The Board finds that the information necessary to complete the NRC Staff's NEPA review is effectively unavailable, consistent with the CEQ guidelines in 40 C.F.R. § 1502.22. No further supplemental EIS is necessary in this case.

B. A new license condition provision is *incorporated* into PA Stipulation 13(c)(iii), as set forth in section IV.E *supra.*

C. Pursuant to 10 C.F.R. § 2.1207(a)(3)(iii) the Board, by separate order, is providing to the Commission's Secretary for inclusion in the agency's docket for this proceeding a copy of all proposed Board questions submitted by the parties prior to and during the course of the evidentiary hearing.

D. The proceeding before this Board is *terminated.*

E. In accordance with 10 C.F.R. § 2.1210, this Final Initial Decision will constitute a final decision of the Commission 120 days from the date of issuance (or the first agency business day following that date if it is a Saturday, Sunday, or federal holiday, *see* 10 C.F.R. § 2.306(a)), unless a petition for review is filed in accordance with 10 C.F.R. § 2.1212, or the Commission directs otherwise. Any party wishing to file a petition for review with the Commission regarding the Board's ruling

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[331] *Cf. United Keetoowah Band of Cherokee Indians v. FCC,* 933 F.3d 728, 749 (D.C. Cir. 2019) (requiring agency to "make a reasonable and good faith effort to carry out appropriate identification efforts" relative to tribal cultural resources in the context of NHPA and NEPA review of impacts of small cell towers and ACHP regulations, if applicant seeking tribal cultural resources information to present to agency is "unable to agree on a fee [with the tribe], the applicant may seek other means to fulfill its obligation" (quoting 36 C.F.R. § 800.4(b)(1) and *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment* (Second Report & Order), FCC 18-30, 2018 WL 1559856, ¶ 125 (FCC Mar. 30, 2018))).

on the grounds specified in 10 C.F.R. § 2.341(b)(4) must do so within twenty-five (25) days after service of this Final Initial Decision. Within twenty-five (25) days after service of a petition for review, parties to the proceeding may file an answer supporting or opposing Commission review. Any petition for review and any answer shall conform to the requirements of 10 C.F.R. § 2.341(b)(2)-(3).

It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

William J. Froehlich, Chairman
ADMINISTRATIVE JUDGE

Dr. Mark O. Barnett
ADMINISTRATIVE JUDGE

G. Paul Bollwerk, III
ADMINISTRATIVE JUDGE

Rockville, Maryland
December 12, 2019

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Paul S. Ryerson, Chairman
Nicholas G. Trikouros
Dr. Gary S. Arnold

In the Matter of **Docket No. 72-1050-ISFSI**
(ASLBP No. 19-959-01-ISFSI-BD01)

INTERIM STORAGE PARTNERS LLC
(WCS Consolidated Interim Storage Facility)

December 13, 2019

This proceeding concerns the application of Interim Storage Partners LLC to construct and operate a consolidated interim storage facility for spent nuclear fuel and greater-than-Class C waste in Andrews County, Texas. The Board considered a motion by Sustainable Energy and Economic Development Coalition (SEED) for leave to late-file SEED Contention 17. The Board denies SEED's motion and terminates this proceeding.

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

Any petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so.

RULES OF PRACTICE: CONTENTIONS (GOOD CAUSE)

To establish good cause, a petitioner must show that (1) the information upon which the new or amended contention is based was not previously available; (2) the information upon which the contention is based is materially different from

information previously available; and (3) the contention has been submitted in a timely fashion after the new information on which it is based becomes available.

RULES OF PRACTICE: CONTENTIONS (NEW INFORMATION)

Previously available information that has merely been collected, summarized, and placed into context does not qualify as "new information."

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

An admissible contention must, among other things, (1) show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; and (2) state the alleged facts or expert opinions that support the petitioner's position.

RULES OF PRACTICE: CONTENTIONS (SCOPE)

A contention must raise an issue that is within the scope of the proceeding.

MEMORANDUM AND ORDER
(Ruling on Motion for Leave to File Late-Filed Contention and Terminating Proceeding)

Before the Board is a motion by Sustainable Energy and Economic Development Coalition (SEED) for leave to file a late-filed contention (SEED Contention 17).[1] We deny SEED's motion because it fails to meet the requirements of 10 C.F.R. §§ 2.309(c)(1) and 2.309(f)(1). There being no other contention pending, this proceeding is terminated.

I. BACKGROUND

The background of this proceeding is set forth in detail in the Board's August 23, 2019 Memorandum and Order,[2] but is summarized below.

In April 2016, Waste Control Specialists LLC (WCS) submitted an application to the Nuclear Regulatory Commission (NRC) for a license to construct and

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[1] Motion of Intervenor Sustainable Energy and Economic Development Coalition for Leave to File Late-Filed Contention, and Contention 17 (Oct. 23, 2019) [hereinafter SEED Motion to File].

[2] LBP-19-7, 90 NRC 31, 42-47 (2019), *appeal pending*; *see also* LBP-19-9, 90 NRC 181 (2019).

operate a consolidated interim storage facility for spent nuclear fuel and greater-than-Class C waste in Andrews County, Texas.[3] A year later, WCS asked the NRC to suspend consideration of its application.[4] Thereafter, WCS merged with Orano CIS LLC to form Interim Storage Partners LLC (ISP).[5]

In June 2018, ISP submitted a revised license application,[6] and the NRC published a *Federal Register* notice that permitted the public to request a hearing and petition to intervene.[7] SEED jointly submitted a timely hearing request,[8] as did several other petitioners. After briefing, the Board heard oral argument in Midland, Texas concerning petitioners' standing and the admissibility of their contentions.[9]

In LBP-19-7, we denied SEED's hearing request and the hearing requests of all other petitioners except Sierra Club.[10] Although we concluded that SEED had not proffered an admissible contention, we found that SEED had established standing.[11]

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[3] Waste Control Specialists LLC, Application for a License for a Consolidated Interim Spent Fuel Storage Facility (Apr. 28, 2016) (ADAMS Accession No. ML16133A100).

[4] Joint Request to Withdraw the *Federal Register* Notice Providing an Opportunity to Submit Hearing Requests (Apr. 19, 2017), Attach. 1, Letter from Rod Baltzer, WCS President and CEO, to NRC Document Control Desk (Apr. 18, 2017) (ADAMS Accession No. ML17109A480).

[5] Interim Storage Partners LLC License Application, Docket 72-1050, Andrews County, Texas, (rev. 2 July 2018) at 1-1, 1-4 (ADAMS Accession No. ML18206A483) [hereinafter ISP License Application].

[6] Letter from Jeffery D. Isakson, ISP, to NRC Document Control Desk (June 8, 2018) (ADAMS Accession No. ML18166A003).

[7] Interim Storage Partners Waste Control Specialists Consolidated Interim Storage Facility, 83 Fed. Reg. 44,070, 44,070-75 (Aug. 29, 2018), *corrected,* 83 Fed. Reg. 44,680 (Aug. 31, 2018) (correcting the deadline date for petitioners to request a hearing to October 29, 2018). The Secretary of the Commission later extended this deadline to November 13, 2018. Order of the Secretary (Oct. 25, 2018) at 2.

[8] Petition of Don't Waste Michigan, Citizens' Environmental Coalition, Citizens for Alternatives to Chemical Contamination, Nuclear Energy Information Service, Public Citizen, Inc., San Luis Obispo Mothers for Peace, Sustainable Energy and Economic Development Coalition and Leona Morgan, Individually, to Intervene, and Request for an Adjudicatory Hearing (Nov. 13, 2018).

[9] Licensing Board Notice and Order (Establishing Dates and Location of Oral Argument) (May 24, 2019) at 1 (unpublished).

[10] LBP-19-7, 90 NRC at 39.

[11] *Id.* The NRC Staff argues (in a footnote) that "SEED should have submitted affidavits to demonstrate that it continues to meet the criteria for standing in this proceeding." NRC Staff Answer in Opposition to Sustainable Energy and Economic Development Coalition's New Contention 17 (Nov. 18, 2019) at 10 n.45 [hereafter NRC Staff Answer]. ISP concedes (subject to its pending appeal of LBP-19-7) that it "does not challenge [SEED's Motion to File] on standing grounds." Interim Storage Partners LLC's Answer Opposing Petitioner Sustainable Energy and Economic Development Coalition's Motion for Leave to Submit Late-Filed Contention 17 (Nov. 18, 2019) *(Continued)*

Thereafter, the Board dismissed Sierra Club's sole admitted contention.[12] Before we did so, however, SEED submitted the motion now before us. SEED asks permission to file out of time Contention 17, which states:

> The Environmental Report for the ISP/WCS [consolidated interim storage facility] fails to satisfy NEPA in light of findings in a 2019 report published by the U.S. Nuclear Waste Technical Review Board. The NWTRB, as principal scientific and engineering governmental advisory panel for [spent nuclear fuel] disposition, has concluded that 50 to 80 years will be necessary for DOE to prepare for and accomplish the transportation of spent nuclear fuel to the ISP/WCS facility in west Texas. The NWTRB also found that the lead time needed for resolution for associated technical issues related to transport of the vast majority of the [spent nuclear fuel] is 10 years or more; that the NRC lacks data to establish a technical basis for the long-term storage of high-burnup [spent nuclear fuel] and reliability of its fuel cladding under high burnup conditions and will not have results of a DOE study presently under way for about 7 more years; and that there is inadequate data as yet to determine whether high burnup [spent nuclear fuel] can withstand the rigors of long-distance transportation. Mitigation plans and the discussion of alternatives to shipment of all [spent nuclear fuel] within a 20-year period consequently have not been sufficiently addressed and disclosed as required by NEPA.[13]

According to SEED, the findings in a September 23, 2019 report of the U.S. Nuclear Waste Technical Review Board[14] "vindicate and go beyond the problems raised in SEED Coalition's earlier contentions,"[15] which the Board ruled inadmissible in LBP-19-7.[16]

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at 6 n.24 [hereafter ISP Answer]. But, in a second footnote, ISP points out that "to the extent SEED (which was previously denied party status) is required to reestablish (or affirm continued) standing under 10 C.F.R. § 2.309(c), it has not done so." *Id.* at 12 n.52. The Board has examined the cases cited by the Staff and by ISP and concludes that none involved similar circumstances. *See, e.g., Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Unit 2), CLI-93-4, 37 NRC 156, 162-63 (1993) (explaining that petitioner sought to re-intervene in a proceeding in which its most recent filing had been submitted "well over 4 years ago"). Because SEED submitted its Motion to File just two months after the Board's initial ruling on standing, we do not require SEED to demonstrate standing all over again.

[12] LBP-19-9, 90 NRC at 182, 185.

[13] SEED Motion to File at 5.

[14] "Preparing for Nuclear Waste Transportation: Technical Issues That Need to Be Addressed in Preparing for a Nationwide Effort to Transport Spent Nuclear Fuel and High-Level Radioactive Waste," 23 *U.S. Nuclear Waste Technical Review Board* (Sept. 23, 2019) (ADAMS Accession No. ML19297D146) [hereinafter NWTRB Report].

[15] Seed Motion to File at 5.

[16] SEED Contention 17 revisits issues that were initially raised (and ruled inadmissible) in Joint Petitioners Contentions 1, 4, and 11. *See* LBP-19-7, 90 NRC at 87-89, 91-93, 101-03.

Both ISP and the NRC Staff oppose SEED's motion.[17]

II. ANALYSIS

A. Good Cause

Any petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so.[18] To establish good cause, a petitioner must show that (1) the information upon which the new or amended contention is based was not previously available; (2) the information upon which the contention is based is materially different from information previously available; and (3) the contention has been submitted in a timely fashion after the new information on which it is based becomes available.[19]

It is not disputed that SEED has satisfied the third requirement. In accordance with the Board's Initial Scheduling Order,[20] SEED proffered Contention 17 within 30 days of publication of the NWTRB Report on which Contention 17 relies.

Both ISP and the NRC Staff argue, however, that the information in the NWTRB Report on which SEED relies was either previously available or not materially different from information that was previously available.[21] We agree.

The NWTRB Report does not purport to document any new scientific or engineering research. Rather, as required by the Nuclear Waste Policy Amendments Act of 1987,[22] the purpose of the NWTRB Report is to review the Department of Energy's (DOE's) preparedness to transport spent nuclear fuel and high-level radioactive waste.[23]

In undertaking this review, the NWTRB Report relies on and cites approximately 150 earlier references.[24] Indeed, the Report explicitly acknowledges that, in identifying the issues that its recommendations address, the NWTRB drew upon such earlier sources. These included both issues that the NWTRB itself had

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[17] ISP Answer; NRC Staff Answer. SEED filed a timely reply. *See* Reply of Intervenor Sustainable Energy and Economic Development Coalition in Support of Litigation of Proposed Contention 17 (Nov. 25, 2019) [hereinafter SEED Reply].

[18] *See* 10 C.F.R. § 2.309(c)(1).

[19] *See id.* § 2.309(c)(1)(i)-(iii).

[20] Licensing Board Order (Initial Scheduling Order) (Oct. 16, 2019) at 4 (unpublished).

[21] ISP Answer at 8-12; NRC Staff Answer at 6-9.

[22] Nuclear Waste Policy Amendments Act of 1987, Pub. L. No. 100-203, § 5051, 101 Stat. 1330-248 (1987) or 2 U.S.C. §§ 10261-10270.

[23] NWTRB Report at 1.

[24] *Id.* at 107-17.

previously identified "during past Board public meetings, technical workshops, and Board reports" (spanning 2012-2018) and "[a]dditional relevant technical issues" that had been previously "identified and documented" in reports and presentations by DOE, the United States nuclear industry, and researchers in other countries.[25] All or virtually all of these original sources were publicly available before September 2019.[26]

For example, SEED Contention 17 claims that, according to the NWTRB Report, some nuclear waste could not be removed from all commercial reactor sites within the 20-year timeframe contemplated by ISP's Environmental Report or even within the 40-year term of the license ISP is requesting.[27] According to SEED, the NWTRB Report makes the "critical determination" that, because of increased use of high burnup fuel and storage of spent fuel in large canisters, DOE could not remove spent fuel from "all nuclear power plants" for some period of time.[28] Specifically, the NWTRB Report states that, even if the spent fuel were repackaged into smaller canisters, DOE likely could not remove all such fuel until approximately 2070.[29] And, as SEED quotes from the Report, without repackaging "some of the largest [spent nuclear fuel] canisters, storing the hottest [spent nuclear fuel] would not be cool enough to meet the transportation requirements until approximately 2100."[30]

As the NWTRB Report acknowledges, however, these same conclusions were first presented at an NWTRB public workshop in 2013.[31] Because this information was publicly available years ago, SEED fails to show good cause for failing to raise this aspect of Contention 17 earlier.

Likewise, SEED's claim that ISP's Environmental Report fails to address what it calls "the DOE mandate of standardized transportation, aging and disposal (TAD) canisters"[32] most clearly is not based on new information. This is essentially the same claim SEED initially proffered in Joint Petitioners Contention 4, which we previously rejected as being outside the scope of this proceeding.[33] Moreover, in supporting this claim, SEED primarily relies on a 2006

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[25] *Id.* at 23.

[26] *See id.* at 107-17.

[27] SEED Motion to File at 8.

[28] *Id.* at 7-8.

[29] NWTRB Report at 77.

[30] SEED Motion to File at 8.

[31] NWTRB Report at 77. The Report cites as authority a November 2013 presentation at a public NWTRB technical workshop by Jeffrey Williams, the director of DOE's Nuclear Fuels Storage and Transportation Planning Project. Mr. Williams' discussion of the timeframe for transporting all spent nuclear fuel from reactor sites appears at page 54 of the workshop transcript, which is publicly available at https://www.nwtrb.gov/docs/default-source/meetings/2013/november/13nov18.pdf?sfvrsn=9.

[32] SEED Motion to File at 6.

[33] *See* LBP-19-7, 90 NRC 91-93.

DOE *Federal Register* notice and DOE's 2008 Supplemental Environmental Impact Statement for Yucca Mountain[34] — documents that were available more than a decade ago.

In its reply, SEED argues that it was free to ignore an analysis presented at a public NWTRB workshop in 2013 by "a sole member of the NWTRB."[35] Rather, SEED claims, only when that analysis became the "official" position of the NWTRB was SEED required to pay attention and submit a contention based on it.[36] The NRC recognizes no such distinction.[37] Moreover, ironically, the Declaration of SEED's own supporting expert cites and relies on the very same 2013 NWTRB workshop presentation that SEED now claims was of no consequence.[38]

For the most part, the Declaration of SEED's expert, Robert Alvarez, merely repeats conclusions in the NWTRB Report. But his Declaration also demonstrates that SEED Contention 17 is based on facts and theories that were available long before the contention was filed. For example, Mr. Alvarez states that the NWTRB "concluded in 2016 that the Nuclear Regulatory Commission and the Energy Department lack a technical basis in support of the safe transport of high burnup [spent nuclear fuel]."[39] Indeed, Mr. Alvarez cites his own work in 2013 for the proposition that "[h]igh burnup fuel temperatures make the used fuel more vulnerable to damage from handling."[40]

Mr. Alvarez's Declaration similarly confirms that SEED's claims regarding repacking spent fuel for eventual transmission to a DOE permanent repository merely repeat concerns that were expressed years ago. Mr. Alvarez quotes from a 2013 DOE study cautioning that "[d]irect disposal of the large canisters currently used by the commercial nuclear power industry is beyond the current experience base globally" and "represents significant engineering and scientific challenges."[41] He quotes a 2013 NWTRB staff report asserting that "repackaging the [spent nuclear fuel] may be a lengthy process and could impact operational schedules at the utility sites, at a consolidated storage facility, or at the reposi-

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[34] *See* SEED Motion to File at 6-7.

[35] SEED Reply at 2.

[36] *Id.* at 2-3.

[37] On the contrary, the Commission has expressly stated that a petitioner may not delay filing a contention "until a document becomes available that collects, summarizes and places into context the facts supporting that contention." *See Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 496 (2010).

[38] *See* Declaration of Robert Alvarez in Support of Motion of Intervenor Sustainable Energy and Economic Development Coalition for Leave to File Late-Filed Contention (Oct. 23, 2019) at 2 n.8 [hereinafter Alvarez Declaration].

[39] *Id.* at 1.

[40] *Id.* at 6 n.26.

[41] *Id.* at 8.

tory, depending on where repackaging is performed."[42] He quotes a 2014 GAO report for the proposition that "casks and canisters being used by the power utilities will be at least partially, and maybe largely, incompatible with future transport and repository requirements, meaning that some if not all, of the [used nuclear fuel] that is moved to dry storage by the utilities will ultimately need to be repackaged."[43]

Indeed, SEED concedes that its claim about the need for repackaging spent fuel is not "new" in any conventional sense.[44] But, SEED argues, "with the weight of the NWTRB behind it," this claim is "'new' in the sense that it can't simply be ignored any longer."[45] Again, the NRC recognizes no such distinction.

SEED fails to demonstrate that Contention 17 is based on new and materially different information, as required by 10 C.F.R. § 2.309(c)(1).

B. Contention Admissibility

Even if SEED had demonstrated good cause for proffering Contention 17 after the initial deadline for filing a hearing petition, Contention 17 would also have to satisfy the NRC's usual requirements for contention admissibility.[46] Although we do not adjudicate disputed facts at this stage, an admissible contention must (1) show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; and (2) state the alleged facts or expert opinions that support the petitioner's position.[47] Moreover, among other things, a contention must raise an issue that is within the scope of the proceeding.[48]

SEED fails to raise a genuine dispute with ISP's application, as required by 10 C.F.R. § 2.309(f)(1)(vi). Contrary to SEED's claims, the findings of the NWTRB Report do not contradict ISP's plans.

DOE's statutory responsibility to store the nation's spent nuclear fuel at a permanent repository (and hence eventually to implement a "national transportation program for nuclear waste"[49]) is not ISP's responsibility. Rather, ISP, a

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[42] *Id.* at 8-9.

[43] *Id.* at 9.

[44] SEED Motion to File at 19.

[45] *Id.*

[46] *See* 10 C.F.R. § 2.309(f)(1).

[47] *Id.* § 2.309(f)(1)(v)-(vi).

[48] *Id.* § 2.309(f)(1)(iii).

[49] NWTRB Report at 3.

private applicant, seeks NRC authorization to possess and store 5,000 metric tons of spent nuclear fuel at an interim storage facility.[50]

According to SEED's own expert, nuclear power reactors in the United States have generated more than 80,000 tons of such fuel — a number that is only increasing.[51] As the NWTRB Report acknowledges, most of "the existing dry-storage casks and canisters for commercial [spent nuclear fuel] have been designed and approved for both storage and transportation."[52] Accordingly, while the NWTRB concludes that some technical issues must be resolved "before the nation's *entire* inventory of waste can be transported,"[53] it agrees that not all such issues "must be resolved before the first of the waste can be transported."[54]

Contrary to 10 C.F.R. § 2.309(f)(1)(v), therefore, the NWTRB Report does not support SEED's suggestion that 5,000 (out of 80,000) metric tons of spent nuclear fuel could not possibly be moved to ISP's facility within the term of the license ISP is requesting. And even if it did, as ISP points out[55] that would simply mean that its proposed facility would likely not be built. As we stated in LBP-19-7, the NRC is not concerned with the commercial viability of the facilities it licenses, because the business decision whether to use a license has no bearing on a licensee's ability to safely conduct the activities the license authorizes.[56]

SEED claims that "[t]he NWTRB has identified several flaws and/or weaknesses in DOE's role in the development of the ISP/WCS [interim storage facility] which change the expected timing and sequencing of [spent nuclear fuel] storage activity at the facility."[57] But neither DOE nor the NWTRB has any role in the NRC's licensing process for ISP's proposed facility.

As explained *supra,* the NWTRB's responsibility under the Nuclear Waste Policy Amendments Act of 1987 is to "evaluate the technical and scientific validity of activities undertaken by the Secretary [of Energy] . . . including activities relating to the packaging or transportation of high-level radioactive waste

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[50] Because of the likelihood that ISP will seek license amendments, its Environmental Report analyzed the impacts of storing up to 40,000 metric tons of spent fuel, to be received under separate license amendments over a period of 20 years. *See* WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report, Docket No. 72-1050 (rev. 2 July 2018) at 1-1 (ADAMS Accession No. ML18221A405 (package)) [hereinafter Environmental Report]. The application under review, however, would authorize storage of only 5,000 metric tons, and the only term limit for receiving the spent fuel would be the term of the initial license itself: that is, 40 years.

[51] Alvarez Declaration at 3.

[52] NWTRB Report at 73.

[53] *Id.* at xxiii (emphasis added).

[54] *Id.*

[55] ISP Answer at 17.

[56] *See* LBP-19-7, 90 NRC at 57.

[57] SEED Motion to File at 20.

or spent nuclear fuel."[58] The NWTRB does not license private spent fuel transportation systems; the NRC does. Contrary to SEED's claims,[59] the NWTRB has no ability to "effectively revise the scope" of ISP's project or of this adjudication.

ISP's Environmental Report confirms that spent nuclear fuel will be transported to ISP's proposed facility only in transportation packages that are approved and certified as safe by the NRC under 10 C.F.R. Part 71.[60] ISP's license application lists the specific, currently approved packages it proposes to accept for storage.[61] ISP's application, however, is for a storage facility under Part 72, not for a transportation system under Part 71. Responsibility for transporting spent nuclear fuel to ISP's proposed facility (including any repackaging required for such transportation) would lie with the title holders of the fuel, not with ISP.

Contrary to 10 C.F.R. § 2.309(f)(1)(iii), any challenge to the safety of NRC-approved transportation packages is outside the scope of this proceeding, as we ruled in LBP-19-7.[62] Although 10 C.F.R. § 72.108 requires consideration of transportation impacts in ISP'S Environmental Report, section 72.108 "does not require that the environmental report prove the safety of transportation packages," because 10 C.F.R. Part 71 separately addresses these issues.[63]

SEED fails to address, much less challenge, the parts of ISP's Environmental Report that do, in fact, analyze the potential environmental impacts associated with transportation of spent nuclear fuel (including high burnup fuel).[64] Likewise (and as we determined in connection with the contentions SEED initially proffered), SEED fails to acknowledge or dispute any safety analyses, aging management plans or quality assurance programs described in ISP's application, including provisions that specifically address how ISP proposes to address the challenges posed by high burnup fuel.[65]

Accordingly, SEED Contention 17 again fails to raise a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Rather than address what ISP's application says, SEED mounts a generalized attack on the adequacy of the NRC's regulations.

For example, SEED claims that such safety-related transportation issues as "the travel-worthiness of high burnup [spent nuclear fuel] and its potential dam-

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[58] NWTRB Report at 1.

[59] SEED Motion to File at 20.

[60] Environmental Report at 1-8.

[61] ISP License Application at 2-1.

[62] LBP-19-7, 90 NRC at 81.

[63] *Holtec International* (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 415 (2019) (citation omitted), *appeal pending*.

[64] *See, e.g.,* Environmental Report at 4-9 to -10, 4-12, 4-16, 4-23.

[65] *See* LBP-19-7, 90 NRC at 102.

age from shipping" and "when to require standardized TAD canisters" must be addressed in the Environmental Report for a consolidated interim storage facility under Part 72.[66] SEED makes such claims even though ISP has committed to accepting at its facility only transportation packages that have been approved by the NRC and licensed under Part 71.

In essence, such claims try to expand a Part 72 application process into a dispute over the adequacy of the NRC's Part 71 requirements. Plainly, these claims are outside the scope of this Part 72 proceeding, in contravention of 10 C.F.R. § 2.309(f)(1)(iv). And, insofar as they attack Commission regulations without seeking a waiver, SEED's claims violate 10 C.F.R. § 2.335 as well.

SEED's challenge to what it calls "ISP's dogmatic refusal to have dry transfer system ('DTS') capability on site"[67] is similar. As we explained in LBP-19-7, "ISP's application does not set forth any intent to repackage spent fuel or any analysis of the costs of repackaging the fuel, and the Continued Storage Rule does not require a spent fuel storage facility applicant under Part 72 to include such an analysis beyond the license term."[68]

If SEED believes the NWTRB Report warrants revisions in the NRC's rules and regulations, it may petition the Commission.[69] In this adjudicatory proceeding, however, the Board applies the Commission's rules, and has no authority to change them.

SEED Contention 17 is not admissible.

III. ORDER

For the foregoing reasons:

A. SEED's motion for leave to late-file Contention 17 is *denied.*

B. This proceeding is *terminated.* As this decision terminates this proceeding before the Board, any appeal to the Commission shall be filed in conformity with 10 C.F.R. § 2.311.

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[66] SEED Motion to File at 16.

[67] SEED Reply at 6.

[68] LPB-19-7, 90 NRC at 92.

[69] *See* 10 C.F.R. § 2.802.

It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Paul S. Ryerson, Chairman
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

Rockville, Maryland
December 13, 2019

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AmerGen Energy Co. (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124, 128-29 (2007)
NRC is not required to consider terrorism in its NEPA analysis of licensing actions outside of those states encompassed by the United States Court of Appeals for the Ninth Circuit; LBP-19-7, 90 NRC 65, 103 n.483 (2019)
AmerGen Energy Co. (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124, 129 (2007)
only facilities within the jurisdiction of the United States Court of Appeals for the Ninth Circuit must conduct a NEPA analysis for terrorist attacks; LBP-19-7, 90 NRC 74, 108 (2019)
AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-08-13, 67 NRC 396, 399 (2008)
absent a showing of irreparable injury, stay movants must make an overwhelming showing of likely success on the merits; CLI-19-11, 90 NRC 280 (2019)
AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-08-13, 67 NRC 396, 400 (2008)
absent a showing of irreparable harm or likelihood of success on the merits, Commission need not make a determination on the remaining two stay factors; CLI-19-11, 90 NRC 283 (2019)
Amoco Prod. Co. v. Vill. of Gambell, 480 U.S. 531, 545 (1987)
presumption of irreparable damage is contrary to traditional equitable principles; CLI-19-11, 90 NRC 274 n.63 (2019)
Balt. Gas & Elec. v. Nat. Res. Def. Council, Inc., 462 U.S. 87, 97 (1983)
NEPA imposes a duty on an agency to both consider every significant aspect of the environmental impact of a proposed action and inform the public of its analysis and conclusion; LBP-19-7, 90 NRC 54 (2019)
Beyond Nuclear v. NRC, 704 F.3d 12, 18-19 (1st Cir. 2013)
NRC's rule waiver process for Category 1 issues comports with NEPA, which does not mandate particular hearing procedures and does not require hearings; LBP-19-8, 90 NRC 169 n.39 (2019)
Bullcreek v. NRC, 359 F.3d 536, 543 (D.C. Cir. 2004)
NRC has authority to license away-from-reactor interim storage facilities; LBP-19-7, 90 NRC 60, 104 (2019)
Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009)
petitioner may show traditional standing by showing that a person or organization has suffered or might suffer a concrete and particularized injury that is fairly traceable to the challenged action,

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likely redressable by a favorable decision, and arguably within the zone of interests protected by the governing statutes; LBP-19-7, 90 NRC 47 (2019)

Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-12-19, 76 NRC 184 (2012)

Atomic Energy Act sections 103 and 104 are violated where a power reactor license applicant's parent company is foreign owned; LBP-19-7, 90 NRC 97 (2019)

Calvert Cliffs' Coordinating Comm., Inc. v. AEC, 449 F.2d 1109, 1114 (D.C. Cir. 1971), *cert. denied,* 404 U.S. 942 (1972)

NRC must consider radiological and nonradiological environmental impacts as part of the agency's licensing process; LBP-19-10, 90 NRC 350 (2019)

Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), CLI-00-11, 51 NRC 297, 299 (2000)

Commission may exercise its discretion to take review of a matter to address a novel or important issue, but its decision to do so stems from its inherent supervisory authority over adjudications and in no way implies that parties have a right to seek interlocutory review on that same ground; CLI-19-7, 90 NRC 10 (2019)

rules of procedure do not provide a party the right to solicit Commission review directly on a claim of a novel issue of law; CLI-19-9, 90 NRC 134 (2019)

Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), CLI-01-7, 53 NRC 113, 118 (2001)

NRC Staff conclusion on the no significant hazards consideration is final, subject only to the Commission's discretion, on its own initiative, to review the determination; CLI-19-11, 90 NRC 264 (2019)

Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), LBP-99-25, 50 NRC 25, 29-31 (1999)

standing of petitioner 17 miles from spent fuel facility was approved; LBP-19-7, 90 NRC 49 n.83 (2019)

Carolina Power and Light Co. (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514, 516 (1980)

adjudicatory boards do not have authority to direct NRC Staff in performance of their administrative functions; LBP-19-10, 90 NRC 307 n.69 (2019)

Citizens for Safe Power v. NRC, 524 F.2d 1291, 1294 n.5 (D.C. Cir. 1975)

findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Colo. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1172-73 (10th Cir. 1999)

because Congress did not enact NEPA to generate paperwork or impose rigid documentary specifications, federal courts are unwilling to require the inclusion of a separate, formal statement in the EIS to the effect that information is incomplete or unavailable where the record in the proceeding supplies the relevant information; LBP-19-10, 90 NRC 315 (2019)

participants' awareness through the environmental review process of the scarcity of lynx impact data was sufficient to excuse need for formal statement citing and parroting the regulatory language of section 1502.22(b); LBP-19-10, 90 NRC 355 n.329 (2019)

Colo. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1176 (10th Cir. 1999)

under NEPA, an environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of 'past, present, and reasonably foreseeable future actions; LBP-19-7, 90 NRC 106 (2019)

Commonwealth Edison Co. (Zion Nuclear Power Station, Units 1 and 2), CLI-00-5, 51 NRC 90, 98 (2000)

it is petitioner's burden to demonstrate that standing requirements are met; LBP-19-7, 90 NRC 47 (2019)

Connecticut Yankee Atomic Power Co. (Haddam Neck Plant), CLI-01-25, 54 NRC 368, 373-74 (2001)

protracted litigation in itself provides no grounds for interlocutory review; CLI-19-9, 90 NRC 132 (2019)

Connecticut Yankee Atomic Power Co. (Haddam Neck Plant), CLI-01-25, 54 NRC 368, 374-75 (2001)

rules of procedure do not provide a party the right to solicit Commission review directly on a claim of a novel issue of law; CLI-19-9, 90 NRC 134 (2019)

Conservation Law Found., Inc. v. Busey, 79 F.3d 1250, 1272 (1996)

NEPA violation does not necessarily call for an injunction; CLI-19-11, 90 NRC 274 n.63 (2019)

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Consolidated Edison Co. of New York (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 132 (2001)
Commission has approved incorporation of contentions of other petitioners by reference, but only for those who have demonstrated standing and have submitted an admissible contention themselves; LBP-19-7, 90 NRC 110 (2019)

Consolidated Edison Co. of New York (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 132-33 (2001)
to adopt a contention, participant must demonstrate standing and have proffered its own admissible contention; LBP-19-7, 90 NRC 87, 108-09 (2019)

Consolidated Edison Co. of New York (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 133 (2001)
Commission does not permit wholesale incorporation by reference by a petitioner who, in a written submission, merely establishes standing and attempts, without more, to incorporate the issues of other petitioners; LBP-19-7, 90 NRC 110 (2019)

Consolidated Edison Co. of New York (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 175 (1975)
Commission is more likely to take review when there will otherwise not be any further Commission review; CLI-19-7, 90 NRC 12 (2019)

Consumers Energy Co. (Big Rock Point Independent Spent Fuel Storage Installation), CLI-07-19, 65 NRC 423, 426 (2007)
consideration of representation for standing with multiple organizations might lead to confusion; LBP-19-7, 90 NRC 50 n.89 (2019)
relevant distance from a consolidated interim storage facility to establish proximity-based standing is likely less than 50 miles because such a facility is essentially a passive structure rather than an operating facility and therefore has less chance of widespread radioactive release; LBP-19-7, 90 NRC 48 (2019)

Consumers Energy Co. (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 409 (2007)
to establish representational standing, an organization must show that the interests it seeks to protect are germane to its own purpose, identify at least one member who qualifies for standing in his or her own right, show that it is authorized by that member to request a hearing on his or her behalf, and show that neither the claim asserted nor the relief requested requires an individual member's participation in the organization's legal action; LBP-19-7, 90 NRC 48 (2019)

Crow Butte Resources, Inc. (In Situ Leach Facility, Crawford, Nebraska), CLI-15-17, 82 NRC 33, 42 n.58 (2015)
contention migrates when a licensing board construes a contention challenging an environmental report as a challenge to a subsequently issued Staff National Environmental Policy Act document without petitioner amending the contention; LBP-19-6, 90 NRC 20 n.4 (2019); LBP-19-7, 90 NRC 55 n.134 (2019); LBP-19-10, 90 NRC 298 n.15 (2019)

Crow Butte Resources, Inc. (In Situ Leach Facility, Crawford, Nebraska), CLI-19-5, 89 NRC 329, 330 (2019)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Crow Butte Resources, Inc. (In Situ Leach Facility, Crawford, Nebraska), LBP-16-7, 83 NRC 340, 362 (2016), *appeal pending)*
in conducting a site survey to identify cultural resources, use of a facilitator, something along the lines of a cultural anthropologist who would provide logistics support, documentation, recording support, and report preparation has usually been the best approach; LBP-19-10, 90 NRC 319 (2019)

Cuomo v. NRC, 772 F.2d 972, 976 (D.C. Cir. 1985)
entity seeking a stay must show that it faces imminent, irreparable harm that is both certain and great; CLI-19-11, 90 NRC 264 (2019)

David Geisen, CLI-09-23, 70 NRC 935, 937 (2009)
absent a showing of irreparable injury, stay movants must demonstrate that success on the merits is a virtual certainty; CLI-19-11, 90 NRC 280 (2019)

Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-709, 17 NRC 17, 20-21 (1983)
whether intervenors' failure to provide proposed findings is fatal to their ability to take an appeal from a final initial decision will be a matter for Commission determination; LBP-19-10, 90 NRC 311 n.107 (2019)

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Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 219 (2003)
contention admissibility rules properly reserve the hearing process for genuine, material controversies between knowledgeable litigants; LBP-19-7, 90 NRC 53 (2019)

Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001)
contention admissibility rules are strict by design; LBP-19-7, 90 NRC 53 (2019)
NRC's contention admissibility standard is strict by design; LBP-19-8, 90 NRC 150 (2019)
petitioners have a duty to read the pertinent portions of the license application, state applicant's position, and explain their disagreement with applicant, identifying what section is allegedly devoid of a required analysis; LBP-19-7, 90 NRC 96, 99 (2019)

Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005)
Commission uses a four-factor test for resolving rule waiver petitions; LBP-19-8, 90 NRC 168 (2019)
waiver of a regulation must be necessary to reach a significant safety or environmental problem; LBP-19-8, 90 NRC 151 (2019)

Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 222 n.10 (2007)
Council on Environmental Quality regulations do not bind NRC, but they are given substantial deference, subject to certain conditions; CLI-19-9, 90 NRC 127 n.37 (2019)

Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 230 (2007)
licensing boards may look beyond the face of NRC Staff's NEPA document and examine the entire administrative record to determine whether Staff's underlying review was sufficiently detailed to qualify as reasonable and a hard look under NEPA even if Staff's description of that review in the NEPA document was not; LBP-19-10, 90 NRC 314 (2019)

Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 235 (2007)
agencies may defer certain issues in an environmental impact statement for a multistage project when detailed useful information on a given topic is not meaningfully possible to obtain, and the unavailable information is not essential to determination at the earlier stage; CLI-19-10, 90 NRC 220 n.66 (2019)

Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 235-36 & n.115 (2007)
Commission may look to 40 C.F.R. 1502.22 for guidance, but it is not controlling; LBP-19-10, 90 NRC 315-16 (2019)

Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 237 (2007)
lack of resolution on such issues as need for power, alternative energy sources, and severe accident mitigation alternatives, did not prevent issuance of early site permit; CLI-19-10, 90 NRC 252 n.289 (2019)

DTE Electric Co. (Fermi Nuclear Power Plant, Unit 3), CLI-14-7, 80 NRC 1, 7-8 (2014)
request to suspend issuance of decisions on reactor license applications was denied; CLI-19-8, 90 NRC 28 n.5 (2019)

DTE Electric Co. (Fermi Nuclear Power Plant, Unit 3), CLI-15-1, 81 NRC 1, 7 (2015)
premising a newly proffered contention on previously available information renders the contention impermissibly late; LBP-19-9, 90 NRC 186 (2019)

Duke Cogema Stone & Webster (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-7, 55 NRC 205, 213-14 (2002)
board legal error that affected the basic structure of the proceeding in a pervasive and unusual manner has been found where a board decided to adjudicate a construction permit separately from an operating permit; CLI-19-9, 90 NRC 132 (2019)

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Duke Energy Carolinas, LLC (William States Lee III Nuclear Station, Units 1 and 2), CLI-16-19, 84 NRC 180, 210 (2016)
- there are no specific regulatory findings for an applicant's site selection criteria, but rather, the criteria are examined for reasonableness; LBP-19-7, 90 NRC 75 (2019)

Duke Energy Corp. (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 74 (2004)
- licensing boards do not sit to correct NRC Staff misdeeds or to supervise or direct NRC Staff regulatory reviews; LBP-19-10, 90 NRC 307 n.69 (2019)

Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-14, 55 NRC 278, 295 (2002)
- consistent with NEPA's rule of reason, projects that are merely contemplated and not concrete or reasonably certain do not warrant consideration in a cumulative impact analysis; LBP-19-7, 90 NRC 106 (2019)
- possible future action must be in a sufficiently advanced stage to be considered a proposal for action that brings NEPA into play; LBP-19-7, 90 NRC 106 n.512 (2019)

Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382-83 (2002)
- contentions that argue for alternative analyses or refinements to an analysis might be characterized as contentions of adequacy; LBP-19-6, 90 NRC 19-20 n.2 (2019)

Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002)
- contention of omission is cured when applicant supplies the missing information; LBP-19-9, 90 NRC 185 (2019)
- to challenge the adequacy of new information, intervenor must timely file a new contention that addresses the factors in 10 C.F.R. 2.309(f)(1); LBP-19-6, 90 NRC 26 n.18 (2019)
- when missing information is later supplied by applicant or considered by NRC Staff in a draft environmental impact statement, the contention is moot and should be dismissed; LBP-19-6, 90 NRC 21 (2019); LBP-19-9, 90 NRC 185 (2019)

Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 384 (2002)
- contention of omission claiming that an environmental report fails to include required information can be cured by applicant supplying the missing information in a revised environmental report or by NRC Staff supplying the missing information in an environmental impact statement; LBP-19-6, 90 NRC 21 (2019)

Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003)
- factual showing supporting NRC Staff's NEPA analysis is considered inadequate if the evidentiary record establishes that Staff has unduly ignored or minimized pertinent environmental effects; LBP-19-10, 90 NRC 316 (2019)

Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999)
- licensing boards would previously admit contentions that appeared to be based on little more than speculation, and petitioners would try to unearth admissible contentions through cross-examination; LBP-19-7, 90 NRC 53 (2019)
- rather than expend agency time and resources on vague and unsupported claims, the Commission strengthened the contention admissibility standards to afford evidentiary hearings only to those who proffer at least some minimal factual and legal foundation in support of their contentions; LBP-19-7, 90 NRC 53 (2019)
- six-factor contention pleading standard resulted from the Commission's effort to raise the threshold bar for an admissible contention; LBP-19-7, 90 NRC 53 (2019)

Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999)
- where petitioner is dissatisfied with the Commission's generic approach to a technical issue, the rulemaking process is more appropriate than the adjudicatory process; CLI-19-7, 90 NRC 12 n.69 (2019)

Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983)
- applicant generally has the burden of proof in a licensing proceeding but statutory obligation of complying with NEPA rests with NRC; LBP-19-10, 90 NRC 316 (2019)

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Ecology Action v. AEC, 492 F.2d 998, 1001-02 (2d Cir. 1974)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

EnergySolutions, LLC (Radioactive Waste Import/Export Licenses), CLI-11-3, 73 NRC 613, 623 (2011)
petitioners' standing claim denied for failing to show there would be any impact from the transport of radioactive materials to be imported; LBP-19-7, 90 NRC 50 n.93 (2019)

Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 316 (2010)
in seeking to assess environmental impacts, agencies are free to select their own methodology so long as that methodology is reasonable; LBP-19-10, 90 NRC 314 (2019)

Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-22, 72 NRC 202, 208-09 (2010)
Commission has directed Staff to undertake reasonable efforts to obtain unavailable information; CLI-19-9, 90 NRC 135 (2019)

Entergy Nuclear Operations, Inc., and Entergy Nuclear Palisades, LLC (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 257 n.8 (2008)
decision on intervention petitions was issued after NRC Staff had issued an order approving a license transfer; CLI-19-11, 90 NRC 262 n.10 (2019)
license transfer application will lack NRC's final approval until and unless the Commission concludes the adjudication and approves the transfer; CLI-19-8, 90 NRC 28 n.6 (2019)
until the adjudicatory proceeding is concluded, the Commission retains the authority to modify the license by imposing license conditions or, if warranted, to rescind an order approving a license transfer; CLI-19-8, 90 NRC 29 n.6 (2019)

Entergy Nuclear Operations, Inc. (Indian Point, Unit 2), CLI-16-5, 83 NRC 131, 136 (2016)
failure to satisfy even one of the contention pleading requirements requires the board to reject the contention; LBP-19-7, 90 NRC 53 (2019); LBP-19-8, 90 NRC 150 (2019)

Entergy Nuclear Operations, Inc. (Indian Point, Units 2 and 3), CLI-09-6, 69 NRC 128, 133-36 (2009)
argument that truly exceptional delay or expense, resulting from contention potentially requiring production of thousands of documents, constituted irreparable harm warranting interlocutory review has been rejected; CLI-19-9, 90 NRC 131 n.81 (2019)

Entergy Nuclear Operations, Inc. (Indian Point, Units 2 and 3), CLI-09-6, 69 NRC 128, 138 (2009)
Commission may exercise its discretion to take review of a matter to address a novel or important issue, but its decision to do so stems from its inherent supervisory authority over adjudications and in no way implies that parties have a right to seek interlocutory review on that same ground; CLI-19-7, 90 NRC 10 (2019)
rules of procedure do not provide a party the right to solicit Commission review directly on a claim of a novel issue of law; CLI-19-9, 90 NRC 134 (2019)

Entergy Nuclear Operations, Inc. (Indian Point, Units 2 and 3), CLI-11-14, 74 NRC 801, 813 n.70 (2011)
board has no authority to direct the manner in which NRC Staff conducts its safety and environmental reviews; CLI-19-9, 90 NRC 133 (2019)

Entergy Nuclear Operations, Inc. (Indian Point, Units 2 and 3), CLI-15-6, 81 NRC 340, 387-88 & n.255 (2015)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237 (2006)
entity seeking a stay must show that it faces imminent, irreparable harm that is both certain and great; CLI-19-11, 90 NRC 264 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237-38 (2006)
renewed license could be revoked or modified, if necessary, to reflect the outcome of the hearing process; CLI-19-7, 90 NRC 9 (2019)

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Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 238 (2006)
if, after the hearing, the board determines that the license amendment should not have been granted, the amendment can be revoked or conditioned; CLI-19-7, 90 NRC 11 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 20 (2007)
any contention on a Category 1 issue amounts to a challenge to NRC's regulation that bars challenges to generic environmental findings; LBP-19-8, 90 NRC 167 n.37 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 21 (2007)
rule waiver is required to litigate any new and significant information relating to a Category 1 issue because adjudicating Category 1 issues site by site based merely on a claim of new and significant information would defeat the purpose of resolving generic issues in a GEIS; LBP-19-8, 90 NRC 169 n.39 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 NRC 333, 338 (2011)
reopening a record is considered to be an extraordinary action; CLI-19-7, 90 NRC 9 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 NRC 333, 342 n.43 (2011)
approximately 30-60 days is generally considered as the limit for timely filings based on new information; LBP-19-8, 90 NRC 149 n.14 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-16-17, 84 NRC 99, 124 (2000)
if licensee cannot conclude that the environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements, it must prepare and provide the necessary additional environmental analysis, describing and evaluating the additional environmental impacts; CLI-19-11, 90 NRC 273 (2019)

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-18-3, 87 NRC 87 (2018)
Commission has held adjudicatory proceedings in abeyance at the request of participants in negotiations; CLI-19-8, 90 NRC 28 (2019)

Envtl. Law & Policy Ctr. v. NRC, 470 F.3d 676, 684 (7th Cir. 2006)
agencies may defer certain issues in an environmental impact statement for a multistage project when detailed useful information on a given topic is not meaningfully possible to obtain, and the unavailable information is not essential to determination at the earlier stage; CLI-19-10, 90 NRC 220 n.66 (2019)

Exelon Generation Co., LLC (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5, 27-29 (2005)
early site permit application is subject to all procedural requirements in 10 C.F.R. Part 2; CLI-19-10, 90 NRC 214 (2019)

Exelon Generation Co., LLC (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5, 38-39 (2005)
Commission does not review early site permit application de novo in an uncontested proceeding, but rather considers the sufficiency of NRC Staff's review of the application on both safety and environmental matters; CLI-19-10, 90 NRC 215 (2019)

Exelon Generation Co., LLC (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5, 39 (2005)
Commission considers whether the safety and environmental record is adequate to support issuance of the early site permit and whether NRC Staff's findings are reasonably supported in logic and fact; CLI-19-10, 90 NRC 215 (2019)

Exelon Generation Co., LLC (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5, 45 (2005)
Commission must reach its own independent determination on whether the cited NEPA requirements have been met, the appropriate final balance among conflicting factors, and whether the early site permit should be issued, denied, or appropriately conditioned; CLI-19-10, 90 NRC 215 (2019)
Commission will not second-guess NRC Staff's underlying technical or factual findings unless it finds that Staff's review is incomplete or inadequate or its findings insufficiently explained in the record; CLI-19-10, 90 NRC 215 (2019)

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Exelon Generation Co., LLC (Early Site Permit for Clinton ESP Site), CLI-06-20, 64 NRC 15, 21-22 (2006)
Commission review and decision to authorize issuance of early site permit is based on the record in its entirety; CLI-19-10, 90 NRC 220 (2019)
presiding officer in a mandatory hearing must narrow its inquiry to topics or sections in NRC Staff documents that it deems most important and should concentrate on portions of the documents that do not on their face adequately explain the logic, underlying facts, and applicable regulations and guidance; CLI-19-10, 90 NRC 220 n.65 (2019)

Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 384 (2012)
rule waiver is required to litigate any new and significant information relating to a Category 1 issue because adjudicating Category 1 issues site by site based merely on a claim of new and significant information would defeat the purpose of resolving generic issues in a GEIS; LBP-19-8, 90 NRC 169 n.39 (2019)

Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 384 n.39 (2012)
any contention on a Category 1 issue amounts to a challenge to NRC's regulation that bars challenges to generic environmental findings; LBP-19-8, 90 NRC 167 n.37 (2019)

Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 207 (2013)
rule waiver standard is stringent by design; LBP-19-8, 90 NRC 151 (2019)
to challenge the generic application of a rule, petitioner seeking waiver must show that there is something extraordinary about the subject matter of the proceeding such that the rule should not apply; LBP-19-8, 90 NRC 151, 167 (2019)

Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 209 (2013)
waiver of a regulation must be necessary to reach a significant safety or environmental problem; LBP-19-8, 90 NRC 151 (2019)

Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 212-13 (2013)
designation of an environmental issue as Category 1 reflects NRC's expectations that its NEPA obligations have been satisfied with reference to its previously conducted environmental analysis in the GEIS; LBP-19-8, 90 NRC 169 (2019)

Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 213 (2013)
rule waiver petition must show that new and significant information, unique to a particular plant, exists such that the Category 1 finding in 10 C.F.R. Part 51, Subpart A, Appendix B should be waived to litigate the issue in a site-specific proceeding; LBP-19-8, 90 NRC 169 (2019)

Fansteel, Inc. (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003)
contention cannot be admitted on bare assertions and speculation alone; LBP-19-7, 90 NRC 90 (2019)
petitioner need not prove its contention at the admission stage, but mere notice pleading of proffered contentions is insufficient; LBP-19-7, 90 NRC 53 (2019)

FirstEnergy Nuclear Operating Co. (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 396 (2012)
contention admissibility rules properly reserve the hearing process for genuine, material controversies between knowledgeable litigants; LBP-19-7, 90 NRC 53 (2019)

Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Unit 1), LBP-88-10A, 27 NRC 452, 454-55, *aff'd,* ALAB-893, 27 NRC 627 (1988)
standing of individual living within 10 miles of spent fuel facility was granted; LBP-19-7, 90 NRC 49 n.83 (2019)

Florida Power & Light Co. (Turkey Point Nuclear Generating Units 3 and 4), ALAB-660, 14 NRC 987, 1014 (1981)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

supplementation of the EIS may be required when the absence of discussion in a final EIS is so fundamental an omission as to call for recirculation of the final EIS; LBP-19-10, 90 NRC 352-53 (2019)

Florida Power & Light Co. (Turkey Point Nuclear Generating Units 3 and 4), CLI-15-25, 82 NRC 389, 394 (2015)
intervention petition is construed in favor of the petitioner to determine standing; LBP-19-7, 90 NRC 47, 49, 52 (2019)
NRC applies contemporaneous judicial concepts of standing to determine whether a petitioner has a sufficient interest; LBP-19-7, 90 NRC 47 (2019)

Florida Power & Light Co. (Turkey Point Nuclear Generating Units 3 and 4), CLI-16-18, 84 NRC 167, 174-75 n.38 (2016)
licensee's past violations, standing alone, do not constitute sufficient information to give rise to a genuine dispute with the assumption that a state authority will enforce, and applicant will comply with, the legally mandated mitigation measures; LBP-19-8, 90 NRC 165 (2019)

Florida Power & Light Co. (Turkey Point Nuclear Generating Units 6 and 7), LBP-11-6, 73 NRC 149, 200 n.53 (2011)
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; LBP-19-6, 90 NRC 19-20 n.2 (2019); LBP-19-8, 90 NRC 147-48 (2019)

Florida Power & Light Co. (Turkey Point Nuclear Generating Units 6 and 7), LBP-17-6, 86 NRC 37, 48, *aff'd on other grounds,* CLI-17-12, 86 NRC 215 (2017)
"materially different" means significantly different from information that was previously available; LBP-19-9, 90 NRC 186 n.35 (2019)
"materially" in 10 C.F.R. 2.309(c)(1)(ii) describes the type or degree of difference between the new information and previously available information and is synonymous with, for example, "significantly," "considerably," or "importantly"; LBP-19-8, 90 NRC 149 n.13 (2019)

Friends of Capital Crescent Trail v. Fed. Transit Admin., 877 F.3d 1051, 1055 (D.C. Cir. 2017)
NEPA requires a federal agency to take a hard look at the environmental consequences of its proposed action; LBP-19-7, 90 NRC 101 (2019)

Friends of the River v. FERC, 720 F.2d 93, 106 (D.C. Cir. 1983)
court declined to require remand to prepare additional EIS when pertinent information had already been incorporated into a publicly accessible Commission opinion, given that to do so would treat the EIS as an end in itself and would not meaningfully serve NEPA's goals; LBP-19-10, 90 NRC 355 n.329 (2019)

Georgia Institute of Technology (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 116-17 (1995)
proximity-plus standard for standing to intervene is applied on a case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source; LBP-19-7, 90 NRC 47-48 (2019)

Ground Zero Ctr. for Non-Violent Action v. U.S. Navy, 383 F.3d 1083, 1089-90 (9th Cir. 2004)
NEPA gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries; LBP-19-10, 90 NRC 314 (2019)

Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 359 (2019)
there are substantial differences between the licensing and regulatory requirements for a consolidated interim storage facility and for the Yucca Mountain permanent repository; LBP-19-7, 90 NRC 41 (2019)

Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 368 (2019)
mere geographic proximity to potential transportation routes is insufficient to confer standing; LBP-19-7, 90 NRC 50 n.93 (2019)

Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 376-77 (2019)
DOE is precluded from taking title to spent fuel unless and until a permanent repository has opened; LBP-19-7, 90 NRC 57 (2019)

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Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 381 (2019)
business decision of whether to use a license has no bearing on a licensee's ability to safely conduct the activities the license authorizes; LBP-19-7, 90 NRC 91 (2019)

Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 415 (2019) *appeal pending*
independent spent fuel storage installation's environmental report must consider transportation impacts, it need not prove the safety of transportation packages because 10 C.F.R. Part 71 separately addresses these issues; LBP-19-11, 90 NRC 367 (2019)

Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 419-20 (2019)
screening test for merely filing a contention out of time should not be conflated with the requirements for admitting it; LBP-19-9, 90 NRC 187 n.38 (2019)

Holtec International (HI-STORE Consolidated Interim Storage Facility), LBP-19-4, 89 NRC 353, 420 (2019)
board does not demand that petitioner establish the admissibility of a contention before allowing it to be filed; LBP-19-9, 90 NRC 187 n.38 (2019)

Hydro Resources, Inc. (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-98-8, 47 NRC 314, 322-23 (1998)
in ruling on stay motions, the Commission does not presume that a statutory violation without more equates to a showing of irreparable injury; CLI-19-11, 90 NRC 274 (2019)

Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 48-49 (2001)
NRC is not in the business of regulating the market strategies of licensees or determining whether market strategies warrant commencing operations; LBP-19-7, 90 NRC 57-58 (2019)

Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 55 (2001)
site selection process is driven by the purpose and need specified in the application, and NRC may accord substantial weight to the preferences of applicant and/or sponsor in the siting and design of the project; LBP-19-7, 90 NRC 75-76 (2019)

Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 71 (2001)
if applicant's environmental report on its face comes to grips with all important considerations, nothing more need be done; LBP-19-7, 90 NRC 76 (2019)

Ind. Mich. Power Co. v. U.S. Dep't of Energy, 88 F.3d 1272, 1274 (D.C. Cir. 1996)
DOE has no authority under the Nuclear Waste Policy Act to provide interim storage in the absence of a facility that has been authorized, constructed, and licensed in accordance with the NWPA; LBP-19-7, 90 NRC 58 n.159 (2019)

Ind. Mich. Power Co. v. U.S. Dep't of Energy, 88 F.3d 1272, 1276-77 (D.C. Cir. 1996)
when a permanent repository failed to materialize, power plant licensees sued and began to recover from the federal government substantial damages to cover the cost of continuing to store spent fuel at their sites; LBP-19-7, 90 NRC 40 (2019)

Jicarilla Apache Tribe of Indians v. Morton, 471 F.2d 1275, 1280 & n.11 (9th Cir. 1973)
if NEPA barred agency action until necessary information became available, it is unlikely that any project requiring an environmental impact statement would ever be completed; LBP-19-10, 90 NRC 339 (2019)

Kleppe v. Sierra Club, 427 U.S. 390, 409 n.18 (1976)
NEPA goals are realized through a set of action-forcing procedures that require that agencies take a hard look at environmental consequences and disseminate that information to the public; LBP-19-10, 90 NRC 313 (2019)

Kleppe v. Sierra Club, 427 U.S. 390, 410 n.20 (1976)
EIS must include other related actions only when those actions have been formally proposed and are pending before an agency; LBP-19-7, 90 NRC 106 (2019)
NEPA does not mandate that an agency contemplate the possible environmental impacts of less imminent activities; LBP-19-7, 90 NRC 106 n.511 (2019)

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Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976)
NEPA requires agencies to take a hard look at environmental consequences of a proposed action; LBP-19-7, 90 NRC 54 (2019)

Limerick Ecology Action, Inc. v. NRC, 869 F.2d 719, 754-55 (3d Cir. 1989)
NRC need not perform analyses concerning events that would be considered remote and highly speculative; LBP-19-7, 90 NRC 54 (2019)

Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-90-8, 32 NRC 201, 206 (1990)
NRC may accord substantial weight to the preferences of the applicant and/or sponsor in siting and design of the project as long as the application is not so artificially narrow as to circumvent the requirement that reasonable alternatives must be considered; LBP-19-7, 90 NRC 75-76 (2019)

Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 101 (1998)
NEPA requires NRC to consider social and economic impacts ancillary to environmental impacts; LBP-19-7, 90 NRC 82 (2019)

Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 103 (1998)
NEPA does not requires a free-ranging inquiry into the site selection process to resolve allegations of racial discrimination; LBP-19-7, 90 NRC 84 n.359 (2019)

Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 103-04 (1998)
environmental justice assessment need only assess the disproportionately high and adverse human health or environmental impacts of the proposed action and its reasonable alternatives; LBP-19-7, 90 NRC 94 (2019)

Louisiana Energy Services, L.P. (Claiborne Enrichment Center), LBP-97-8, 45 NRC 367 (1997), *aff'd in part, rev'd in part,* CLI-98-3, 47 NRC 77 (1998)
applicant must ensure that the site selection process for storage of nuclear material does not have a disparate impact on a minority population; LBP-19-7, 90 NRC 82 (2019)
contention that environmental report improperly excludes an environmental justice analysis of potentially affected people who live near probable spent fuel and GTCC waste transportation routes to the storage facility is inadmissible; LBP-19-7, 90 NRC 94 (2019)

Louisiana Energy Services, L.P. (National Enrichment Facility), CLI-04-25, 60 NRC 223, 225, *reconsideration denied,* CLI-04-35, 60 NRC 619 (2004)
NRC regulations demand a level of discipline and preparedness on the part of petitioners, who are required by contention admissibility standards to set forth their claims in detail at the outset of a proceeding; LBP-19-7, 90 NRC 100 (2019)

Louisiana Energy Services, L.P. (National Enrichment Facility), CLI-04-35, 60 NRC 619, 626-27 (2004)
government entity cannot participate as an interested governmental participant without adopting an admitted contention pursuant to 10 C.F.R. 2.315(c); LBP-19-8, 90 NRC 147 n.6 (2019)

Louisiana Energy Services, L.P. (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005)
NEPA does not necessitate certainty or precision nor does it mandate particular results, but rather requires an estimate of anticipated (not unduly speculative) impacts; LBP-19-7, 90 NRC 54-55 (2019)

Louisiana Energy Services, L.P. (National Enrichment Facility), CLI-05-28, 62 NRC 721, 726 (2005)
NRC is not in the business of regulating the market strategies of licensees or determining whether market strategies warrant commencing operations; LBP-19-7, 90 NRC 57-58 (2019)

Maine Yankee Atomic Power Co. (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1013 (1973)
final environmental impact statement is subject to modification by the licensing board in light of other evidence in the record; LBP-19-10, 90 NRC 350-51 (2019)
final environmental impact statement is to be reevaluated in the context of the entire record of the proceeding and any necessary modifications are to be made through the vehicle of the initial decision; LBP-19-10, 90 NRC 350-51 (2019)

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Marsh v. Or. Nat. Res. Council, 490 U.S. 360, 371 (1989)
NEPA requires agencies to broadly disseminate information to permit the public and other government agencies to react to the effects of a proposed action at a meaningful time; LBP-19-8, 90 NRC 168 (2019)
preparation of an environmental impact statement is meant to ensure that federal agencies will not act on incomplete information, only to regret their decision after it is too late to correct; LBP-19-7, 90 NRC 54 (2019)

Massachusetts v. NRC, 522 F.3d 115, 120 (1st Cir. 2008)
NRC's divergent treatment of generic and site-specific issues is reasonable and permitted by NEPA; LBP-19-8, 90 NRC 169 n.39 (2019)

Massachusetts v. NRC, 708 F.3d 63, 67 (1st Cir. 2013)
NEPA seeks to guarantee process, not specific outcomes; LBP-19-7, 90 NRC 55 (2019)

Massachusetts v. Watt, 716 F.2d 946, 952 (1st Cir. 1983)
when a decision requiring a NEPA impacts analysis is made without the informed environmental consideration that NEPA requires, the harm that NEPA intends to prevent already has been suffered; CLI-19-11, 90 NRC 274 (2019)

Me. Yankee Atomic Power Co. v. United States, 225 F.3d 1336, 1341-42 (Fed. Cir. 2000)
when a permanent repository failed to materialize, power plant licensees sued and began to recover from the federal government substantial damages to cover the cost of continuing to store spent fuel at their sites; LBP-19-7, 90 NRC 40 (2019)

N. States Power Co. v. U.S. Dep't of Energy, 128 F.3d 754, 756 (D.C. Cir. 1997)
DOE lacks statutory authority under the Nuclear Waste Policy Act to provide interim storage; LBP-19-7, 90 NRC 58 n.159 (2019)

N.J. Dep't of Envtl. Prot. v. NRC, 561 F.3d 132, 142-43 (3d Cir. 2009)
only facilities within the jurisdiction of the United States Court of Appeals for the Ninth Circuit must conduct a NEPA analysis for terrorist attacks; LBP-19-7, 90 NRC 74, 107-08 (2019)

Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834 (D.C. Cir. 1972)
agency may limit its discussion of environmental impact to a brief statement when the alternative course involves no effect on the environment or that effect, briefly described, is simply not significant; LBP-19-8, 90 NRC 158 (2019)
it is the essence and thrust of NEPA that the pertinent EIS serve to gather in one place a discussion of the relative environmental impact of alternatives; LBP-19-8, 90 NRC 153 n.18 (2019)
NEPA hard look requirement is subject to a rule of reason; LBP-19-7, 90 NRC 54 (2019)

Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 837 (D.C. Cir. 1972)
responsibility for transportation of spent nuclear fuel from commercial reactors to the proposed consolidated interim storage facility lies with the title holders of the spent fuel, not with applicant; LBP-19-7, 90 NRC 89 (2019)

Nat. Res. Def. Council, Inc. v. NRC, 823 F.3d 641, 643 (D.C. Cir. 2016)
federal agencies must prepare an environmental impact statement before undertaking any major federal actions significantly affecting the quality of the human environment; LBP-19-7, 90 NRC 54 (2019)

Nat. Res. Def. Council, Inc. v. NRC, 823 F.3d 641, 652 (D.C. Cir. 2016)
NRC's rule waiver process for Category 1 issues comports with NEPA, which does not mandate particular hearing procedures and does not require hearings; LBP-19-8, 90 NRC 169 n.39 (2019)

Nat. Res. Def. Council, Inc. v. NRC, 879 F.3d 1202, 1209-12 (D.C. Cir. 2018)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Nat'l Ass'n of Regulatory Util. Comm'rs v. DOE, 736 F.3d 517, 520 (D.C. Cir. 2013)
contract damage lawsuits under the NWPA are commonplace, and the federal government pays out damages on a regular basis; LBP-19-7, 90 NRC 40 (2019)
when a permanent repository failed to materialize, power plant licensees sued and began to recover from the federal government substantial damages to cover the cost of continuing to store spent fuel at their sites; LBP-19-7, 90 NRC 40 (2019)

Nevada v. United States, 364 F. Supp. 3d 1146, 1151 (D. Nev. 2019)
court will not presume irreparable harm, but rather there must be a satisfactory showing; CLI-19-11, 90 NRC 274 n.63 (2019)

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New England Coal. on Nuclear Pollution v. NRC, 582 F.2d 87, 94 (1st Cir. 1978)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

New York v. NRC, 681 F.3d 471, 473, 483 (D.C. Cir. 2012)
NRC inadequately performed its NEPA evaluation by not considering the environmental effects of failing to secure permanent storage; LBP-19-7, 90 NRC 55 (2019)

New York v. NRC, 681 F.3d 471, 478 (D.C. Cir. 2012)
NRC must look at both the probabilities of potentially harmful events and the consequences if those events come to pass; LBP-19-7, 90 NRC 66, 85 (2019)

New York v. NRC, 681 F.3d 471, 483 (D.C. Cir. 2012)
Continued Storage GEIS generically analyzes the environmental impacts of storing spent nuclear fuel for certain lengths of time, including the indefinite time scenario where no repository is ever constructed; LBP-19-7, 90 NRC 67 (2019)

NextEra Energy Seabrook, LLC (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 323 (2012)
it may always be possible to conceive of alternative and more conservative inputs, whose use in the analysis could result in greater estimated accident consequences; LBP-19-7, 90 NRC 64 (2019)
proper question is not whether there are plausible alternative choices for use in the analysis, but whether the analysis that was done is reasonable under NEPA; LBP-19-7, 90 NRC 64 (2019)

NextEra Energy Seabrook, LLC (Seabrook Station, Unit 1), CLI-16-3, 83 NRC 52, 52-54 (2016)
no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 6 (2019)

NextEra Energy Seabrook, LLC (Seabrook Station, Unit 1), LBP-11-2, 73 NRC 28, 35 (2011)
no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 6 (2019)

NextEra Energy Seabrook, LLC (Seabrook Station, Unit 1), LBP-15-22, 82 NRC 49, 50 (2015)
no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 6 (2019)

Niagara Mohawk Power Corp. (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 371 (1975)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

No Gwen Alliance of Lane Cty., Inc. v. Aldridge, 855 F.2d 1380, 1385 (9th Cir. 1988)
NEPA gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries; LBP-19-10, 90 NRC 314 (2019)

Northeast Nuclear Energy Co. (Millstone Nuclear Power Station, Unit 3), LBP-00-2, 51 NRC 25, 28 (2000)
standing of individual with part-time residence located 10 miles from spent fuel facility was approved; LBP-19-7, 90 NRC 49 n.83 (2019)

Northern States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 496 (2010)
petitioner may not delay filing a contention until a document becomes available that collects, summarizes and places into context the facts supporting that contention; LBP-19-11, 90 NRC 364 n.37 (2019)

Nuclear Management Co. (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006)
petitioner's citation in its reply to a requirement that the ecological surveys referenced and summarized in the environmental report all must be publicly available constitutes a legitimate amplification of the argument in its original petition; LBP-19-7, 90 NRC 79, 118 n.572 (2019)

Oglala Sioux Tribe v. NRC, 896 F.3d 520, 527-38 (D.C. Cir. 2018)
byproduct materials license may remain in effect while the proceeding and NRC Staff's efforts to cure the NEPA-related deficiencies are ongoing; LBP-19-10, 90 NRC 312 n.113 (2019)

Oglala Sioux Tribe v. NRC, 896 F.3d 520, 530 (D.C. Cir. 2018)
adverse environmental effects include ecological, aesthetic, historic, cultural, economic, social, or health effects; LBP-19-10, 90 NRC 313 (2019)

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Oglala Sioux Tribe v. NRC, 896 F.3d 520, 538 (D.C. Cir. 2018)
although irreparable harm standard the Commission applied in determining whether to allow the license to become effective was contrary to NEPA, court nonetheless remanded to the Commission the question of whether to allow the license to remain in effect; LBP-19-10, 90 NRC 312 n.113 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-03-2, 57 NRC 19, 29 (2003)
absent evidence to the contrary, NRC will assume that licensee will comply with license obligations; LBP-19-8, 90 NRC 165 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 438, 444 (2011)
Commission has reformulated a contention to remove references to 40 C.F.R. 1502.22 requirements for developing a NEPA analysis when information is incomplete or unavailable; CLI-19-9, 90 NRC 135 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 443-44 (2011)
Commission may look to 40 C.F.R. 1502.22 for guidance, but it is not controlling; LBP-19-10, 90 NRC 315-16 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 443-44 & n.95 (2011)
NRC is not bound by Council on Environmental Quality regulations but looks to them for guidance; LBP-19-7, 90 NRC 79 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 444 (2011)
under section 1502.22, the terms "incomplete" and "unavailable" both refer to information that cannot be obtained because the overall costs are exorbitant or the means of obtaining it are not known; LBP-19-10, 90 NRC 339 n.262 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 444 & nn.94-95 (2011)
NRC, as an independent regulatory agency, is not bound by those portions of Council on Environmental Quality's NEPA regulations that have a substantive impact on the way in which the Commission performs its regulatory functions; LBP-19-10, 90 NRC 315 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-16-11, 83 NRC 524, 534 (2016)
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; LBP-19-8, 90 NRC 147-48 (2019)
contentions that argue for alternative analyses or refinements to an analysis might be characterized as contentions of adequacy; LBP-19-6, 90 NRC 19-20 n.2 (2019)
contentions that claim a failure to include an entire subject matter or study might be considered contentions of omission; LBP-19-6, 90 NRC 19-20 n.2 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1, 12 (2008)
Commission may look to 40 C.F.R. 1502.22 for guidance, but it is not controlling; LBP-19-10, 90 NRC 315-16 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 521 (2008)
for NRC Staff to prevail on the factual issues, the standard of proof that it must attain is preponderance of the evidence; LBP-19-10, 90 NRC 316 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 (2008)
consistent with longstanding NRC practice, an NRC adjudicatory decision becomes part of the environmental record of decision along with the environmental assessment itself; LBP-19-10, 90 NRC 314 n.131 (2019)

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Pacific Gas and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 429 (2002)
standing was approved for petitioners within 10 miles of proposed spent fuel facility expansions; LBP-19-7, 90 NRC 49 n.83 (2019)

Pacific Gas and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 434 (2002)
petitioners' standing claim denied for failing to show there would be any impact from the transport of radioactive materials to be imported; LBP-19-7, 90 NRC 50 (2019)

Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2), ALAB-262, 1 NRC 163, 196 n.54 (1975)
findings and conclusions of NRC tribunals are deemed to amend the final environmental impact statement insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 706-07 (1985)
findings and conclusions of NRC tribunals are deemed to amend the final environmental impact statement insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 707 (1985)
hearing process arguably allows for additional and more rigorous public scrutiny of the final environmental impact statement than does the usual circulation for comment; LBP-19-10, 90 NRC 353 n.321 (2019)

Power Authority of the State of New York (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 286 & n.1 (2000)
notwithstanding NRC Staff's orders approving the license transfers, the Commission could modify the license or require applicants to return the plant ownership to the status quo ante; CLI-19-11, 90 NRC 262-63 & n.12 (2019)
NRC Staff generally issues an immediately effective order approving a license transfer although a hearing on the application, or a Commission decision on petitions for hearing, remains pending; CLI-19-11, 90 NRC 262 n.10 (2019)

Power Authority of the State of New York (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-01-14, 53 NRC 488 (2001)
Commission declined, following a hearing on the merits, to disturb NRC Staff's approval of license transfers; CLI-19-11, 90 NRC 262 n.10 (2019)

Powertech (USA), Inc. (Dewey-Burdock In Situ Uranium Recovery Facility), CLI-16-20, 84 NRC 219, 231 (2016)
board analyzes contentions challenging the environmental report as if those contentions will migrate as challenges to NRC Staff's later-issued EIS; LBP-19-7, 90 NRC 55 (2019)
petitioners must file environmental contentions based on documents or other information available at the time the petition is to be filed; LBP-19-7, 90 NRC 55 (2019)

PPL Bell Bend, LLC (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 138-39 (2010)
in proceedings that involve construction or operation of a nuclear power plant, the zone of potential harm is deemed to be the area within a 50-mile radius of the site; LBP-19-7, 90 NRC 47 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-98-7, 47 NRC 307, 310 (1998)
board legal error that affected the basic structure of the proceeding in a pervasive and unusual manner has been found where a separate board was established for different contentions; CLI-19-9, 90 NRC 132 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002)
NEPA's hard look mandate notwithstanding, NRC is not obligated to analyze every conceivable aspect of the project before it; LBP-19-7, 90 NRC 54 (2019); LBP-19-10, 90 NRC 313-14 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 352 (2002)
NRC need not perform analyses concerning events that would be considered worst-case scenarios involving the project; LBP-19-7, 90 NRC 54 (2019)

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Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 392 (2002)
NRC has statutory authority under the Atomic Energy Act to issue away-from-reactor spent fuel storage installation licenses; LBP-19-7, 90 NRC 104 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 136-37 (2004)
cracked and leaking spent fuel canisters in storage, transport, or otherwise isare not a credible scenario; LBP-19-7, 90 NRC 80-81, 102 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 136-37, 138 (2004)
contention cannot be admitted on bare assertions and speculation alone; LBP-19-7, 90 NRC 90 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 138 (2004)
NRC-approved quality assurance programs ensure that a transportation accident or canister breach is not credible; LBP-19-7, 90 NRC 103 (2019)

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 138-39 (2004)
to show a genuine material dispute, petitioner's contention would have to give the board reason to believe that contamination from a defective canister could find its way outside of the cask; LBP-19-7, 90 NRC 74 (2019)

Progress Energy Florida, Inc. (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010)
on contention that challenges NRC Staff's final supplemental environmental impact statement, NRC Staff bears the burden of proof for demonstrating that it has satisfied its responsibilities under NEPA; LBP-19-10, 90 NRC 316 (2019)

Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 527 (1977)
finding of environmental acceptability made by a competent state authority pursuant to a thorough hearing is properly entitled to substantial weight in the conduct of NRC NEPA analysis; LBP-19-8, 90 NRC 165 (2019)

Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 29 n.43 (1978), *petitions for review denied sub nom. New England Coal. on Nuclear Pollution v. NRC,* 582 F.2d 87 (1st Cir. 1978)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-90-3, 31 NRC 219, 258 (1990)
most crucial stay factor to be considered is whether denying a stay will cause irreparable harm to the party requesting the stay; CLI-19-11, 90 NRC 264 (2019)

Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 785-86 (1979)
findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 786 (1979)
supplementation of the EIS may be required if the proposed project has been so changed by the board's decision as not to have been fairly exposed to public comments during the initial circulation of the final EIS; LBP-19-10, 90 NRC 353 (2019)

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 333, 352-53 (1989)
although a federal agency must analyze environmental consequences in its environmental review where it is reasonably possible to do so, NEPA's rule of reason acknowledges that in certain cases an agency may be unable to obtain information to support a complete analysis; LBP-19-10, 90 NRC 314 (2019)
while analysis of environmental consequences is an important ingredient of an EIS, NEPA does not impose a substantive duty on agencies to include a complete mitigation plan; LBP-19-10, 90 NRC 314 n.132 (2019)

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Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989)
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Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351 (1989)
one important ingredient of an environmental impact statement is the discussion of steps that can be taken to mitigate adverse environmental consequences; LBP-19-10, 90 NRC 313 (2019)

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989)
mitigation discussion in an environmental impact statement is important to show that the agency has taken a hard look; LBP-19-10, 90 NRC 313 (2019)

San Luis Obispo Mothers for Peace v. NRC, 449 F.3d 1016, 1032 (9th Cir. 2006)
only facilities within the jurisdiction of the United States Court of Appeals for the Ninth Circuit must conduct a NEPA analysis for terrorist attacks; LBP-19-7, 90 NRC 74, 107-08 (2019)

Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site), CLI-94-9, 40 NRC 1, 7 (1999)
absent a showing of irreparable injury, stay movants must demonstrate that success on the merits is a virtual certainty; CLI-19-11, 90 NRC 280 (2019)

Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site), CLI-94-11, 40 NRC 55, 61 (1994)
unsubstantiated claims that risks to a licensee's credit rating, ability to obtain financing, and ability to carry on its work do not constitute irreparable harm warranting interlocutory review; CLI-19-9, 90 NRC 131 n.81 (2019)

Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n.22 (1994)
presumption of standing based on geographic proximity is not confined solely to Part 50 reactor licenses, but is also applicable to materials cases where the potential for offsite consequences is obvious; LBP-19-7, 90 NRC 48 n.75 (2019)

Shaw Areva MOX Services, LLC (Mixed Oxide Fuel Fabrication Facility), CLI-09-2, 69 NRC 55, 62-63 (2009)
board legal error that affected the basic structure of the proceeding in a pervasive and unusual manner has been found where a board dismissed a contention conditionally; CLI-19-9, 90 NRC 132 (2019)

Shaw Areva MOX Services, LLC (Mixed Oxide Fuel Fabrication Facility), CLI-09-2, 69 NRC 55, 63 (2009)
board has no authority to direct the manner in which NRC Staff conducts its safety and environmental reviews; CLI-19-9, 90 NRC 133 (2019)

Shieldalloy Metallurgical Corp. (Decommissioning of the Newfield, New Jersey Site), CLI-10-8, 71 NRC 142, 154 (2010)
absent a showing of irreparable injury, stay movants must demonstrate that success on the merits is a virtual certainty; CLI-19-11, 90 NRC 280 (2019)

Shieldalloy Metallurgical Corp. (Decommissioning of the Newfield, New Jersey Site), CLI-10-8, 71 NRC 142, 163 (2010)
absent a showing of irreparable harm or likelihood of success on the merits, Commission need not make a determination on the remaining two stay factors; CLI-19-11, 90 NRC 283 (2019)

Sierra Club v. Sigler, 695 F.2d 957, 979 (5th Cir. 1983)
NEPA does not require a cost-benefit analysis, but an agency choosing to trumpet an action's benefits has a duty to disclose its costs; LBP-19-7, 90 NRC 99 (2019)

Southern Nuclear Operating Co. (Early Site Permit for Vogtle ESP Site), CLI-07-17, 65 NRC 392, 395 (2007)
NRC hearings on NEPA issues focus entirely on the adequacy of NRC Staff's work; LBP-19-10, 90 NRC 316 (2019)

Southern Nuclear Operating Co. (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 631 (2009)
NRC Staff need not address every impact that could possibly result, but rather only those that are reasonably foreseeable or have some likelihood of occurring; LBP-19-10, 90 NRC 314 n.128 (2019)

Southern Nuclear Operating Co. (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 529 (2012)
absent a showing of irreparable injury, stay movants must make an overwhelming showing of likely success on the merits; CLI-19-11, 90 NRC 280 (2019)

entity seeking a stay must show that it faces imminent, irreparable harm that is both certain and great; CLI-19-11, 90 NRC 264 (2019)

Southern Nuclear Operating Co. (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 530-31 (2012)

to qualify as irreparable harm justifying a stay, the asserted harm must be related to the underlying contention(s) before the NRC; CLI-19-11, 90 NRC 271 (2019)

Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 20-21 (1998)

board will use available case management tools to close this proceeding consistent with the established schedule; CLI-19-9, 90 NRC 134 (2019)

Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 21-22 (1998)

parties are expected to support the board in closing a proceeding consistent with the established schedule; CLI-19-9, 90 NRC 134 (2019)

Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 (1998)

it is a contention's proponent, not the licensing board, that is responsible for formulating the contention and providing the necessary information to satisfy its admission; LBP-19-8, 90 NRC 165-66, 171 (2019)

it is not up to licensing boards to search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves; LBP-19-8, 90 NRC 165-66 (2019)

Stewart Park & Reserve Coal., Inc. v. Slater, 352 F.3d 545, 559 (2d Cir. 2003)

claim that separation of the environmental impacts from spent fuel transportation and the storage itself comprises unlawful segmentation of the project is outside the scope of this proceeding; LBP-19-7, 90 NRC 88 (2019)

Strata Energy, Inc. (Ross In Situ Uranium Recovery Project), CLI-16-13, 83 NRC 566, 577 (2016)

possible future action must be in a sufficiently advanced stage to be considered a proposal for action that brings NEPA into play; LBP-19-7, 90 NRC 106 n.512 (2019)

Strata Energy, Inc. (Ross In Situ Recovery Uranium Project), CLI-16-13, 83 NRC 566, 595 (2016), *petition for review denied sub nom. Nat. Res. Def. Council v. NRC,* 879 F.3d 1202 (D.C. Cir. 2018)

findings and conclusions of NRC tribunals are deemed to amend the final EIS insofar as different therefrom; LBP-19-10, 90 NRC 351 (2019)

Strata Energy, Inc. (Ross In Situ Recovery Uranium Project), LBP-12-3, 75 NRC 164, 189 n.27, *aff'd,* CLI-12-12, 75 NRC 603 (2012)

it would seem desirable for the Commission to provide more specific guidance on how boards should balance the relevant considerations when standing to challenge a fuel storage facility is not based simply upon nearby residence; LBP-19-7, 90 NRC 52 n.107 (2019)

Strata Energy, Inc. (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC 65, 82 (2015), *aff'd,* CLI-16-13, 83 NRC 566 (2016), *petition for review denied sub nom. Nat. Res. Def. Council v. NRC,* 879 F.3d 1202 (D.C. Cir. 2018)

even if an EIS prepared by NRC Staff is found to be inadequate in certain respects, the Board's findings, as well as the adjudicatory record, become, in effect, part of the EIS; LBP-19-10, 90 NRC 314 (2019)

System Energy Resources, Inc. (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005)

boards do not flyspeck applicants' environmental reports, and provided its environmental report comes to grips with all important considerations, applicant need do nothing more; LBP-19-7, 90 NRC 76 (2019); LBP-19-9, 90 NRC 191 (2019)

contentions that amount to flyspecking of the environmental report are inadmissible; LBP-19-7, 90 NRC 76 (2019)

System Energy Resources, Inc. (Early Site Permit for Grand Gulf ESP Site), CLI-07-14, 65 NRC 216, 218-19 (2007)

authorization of an early site permit does not constitute authorization to construct or operate a reactor at the site and would require consideration of any safety and environmental issues not resolved in the ESP proceeding; CLI-19-10, 90 NRC 220 (2019)

NRC Staff's analysis and conclusion on NEPA requirement on electrical output may be updated in a supplement to the final EIS if and when it receives an application for a construction permit or COL

referencing the ESP that contains cost-benefit and need-for-power information; CLI-19-10, 90 NRC 275 (2019)

Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Unit 2), CLI-93-4, 37 NRC 156, 162-63 (1993)
petitioner denied reintervention in a proceeding in which its most recent filing had been submitted well over 4 years ago; LBP-19-11, 90 NRC 361 n.11 (2019)

Town of Winthrop v. FAA, 535 F.3d 1, 4 (1st Cir. 2008)
NEPA seeks to guarantee process, not specific outcomes; LBP-19-7, 90 NRC 55 (2019)

Town of Winthrop v. FAA, 535 F.3d 1, 11-13 (1st Cir. 2008)
in seeking to assess environmental impacts, agencies are free to select their own methodology so long as that methodology is reasonable; LBP-19-10, 90 NRC 314 (2019)

U.S. Department of Energy (High-Level Waste Repository), LBP-11-24, 74 NRC 368 (2011)
Congress stopped funding the Yucca Mountain project, and a pending adjudication before a licensing board was suspended in September 2011; LBP-19-7, 90 NRC 40 (2019)

U.S. Department of Energy (Plutonium Export License), CLI-04-17, 59 NRC 357, 364 n.11 (2004)
mere geographic proximity to potential transportation routes is insufficient to confer standing; LBP-19-7, 90 NRC 50 (2019)

Union Electric Co. d/b/a Ameren Missouri (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141 (2011)
Commission may exercise its discretionary authority to consider petitions for stay of effectiveness; CLI-19-7, 90 NRC 10 (2019)

Union Electric Co. d/b/a Ameren Missouri (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 158 (2011)
regulation explicitly authorizing stay applications is available only to parties to adjudicatory proceedings seeking stays of decisions or actions of a presiding officer pending the filing and resolution of a petition for review; CLI-19-7, 90 NRC 10 n.57 (2019)
state's interest in potentially resolving its concerns more efficiently outside of the adjudicatory process does not present a compelling basis for the Commission to suspend NRC Staff's activities or its decision on the application; CLI-19-8, 90 NRC 28 (2019)
suspension of licensing proceedings is a drastic action, generally unwarranted absent an immediate threat to public health and safety or other compelling ground; CLI-19-8, 90 NRC 28 n.5 (2019)

United Keetoowah Band of Cherokee Indians v. FCC, 933 F.3d 728, 749 (D.C. Cir. 2019)
federal agency is not precluded from taking action in the exercise of its NEPA responsibilities once a reasonable effort has been made to procure the cooperation and input from a tribe; LBP-19-10, 90 NRC 355-56 (2019)
federal agency must make a reasonable and good faith effort to carry out appropriate identification efforts relative to tribal cultural resources in the context of NHPA and NEPA review of impacts of small cell towers and ACHP regulations; LBP-19-10, 90 NRC 356 n.331 (2019)

United States v. Armstrong, 517 U.S. 456, 464 (1996)
presumption of regularity applies to federal agencies, which should be assumed to act properly in the absence of evidence to the contrary; LBP-19-7, 90 NRC 58 n.158 (2019)

United States v. Chem. Found., Inc., 272 U.S. 1, 14-15 (1926)
presumption of regularity applies to federal agencies, which should be assumed to act properly in the absence of evidence to the contrary; LBP-19-7, 90 NRC 58 n.158 (2019)

USEC Inc. (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 439 (2006)
Commission will not permit, in a reply, the filing of new arguments or new legal theories that opposing parties have not had an opportunity to address; LBP-19-7, 90 NRC 100 (2019)

USEC Inc. (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 444 (2006)
when missing information is later supplied by applicant or considered by NRC Staff in a draft environmental impact statement, the contention is moot and should be dismissed; LBP-19-6, 90 NRC 21 (2019); LBP-19-9, 90 NRC 185 (2019)

USEC Inc. (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 457 (2006)
it is a contention's proponent, not the licensing board, that is responsible for formulating the contention and providing the necessary information to satisfy its admission; LBP-19-8, 90 NRC 165-66, 171 (2019)
it is not up to licensing boards to search through pleadings or other materials to uncover arguments and support never advanced by petitioners themselves; LBP-19-8, 90 NRC 165-66 (2019)

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Vermont Yankee Nuclear Power Corp. and AmerGen Vermont, LLC (Vermont Yankee Nuclear Power Station), CLI-00-17, 52 NRC 79, 83 (2000)
- license transfer applicants may rely on an NRC Staff order approving an application, but both transferor and transferee do so at their own risk in the event that the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-19-11, 90 NRC 262-63 (2019)
- license transfer application will lack the agency's final approval until and unless the Commission concludes the adjudication in applicant's favor; CLI-19-8, 90 NRC 28-29 n.6 (2019); CLI-19-11, 90 NRC 262 (2019)
- most crucial stay factor to be considered is whether denying a stay will cause irreparable harm to the party requesting the stay; CLI-19-11, 90 NRC 264 (2019)
- NRC Staff issued order approving license transfer despite pendency of intervention petitions before the Commission; CLI-19-11, 90 NRC 262 n.10 (2019)

Village of False Pass v. Watt, 565 F. Supp. 1123, 1149 (D. Alaska 1983)
- if NEPA barred agency action until necessary information became available, it is unlikely that any project requiring an environmental impact statement would ever be completed; LBP-19-10, 90 NRC 339 (2019)

Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc., 435 U.S. 519, 553 (1978)
- NEPA imposes a duty on an agency to consider every significant aspect of the environmental impact of a proposed action and to inform the public of its analysis and conclusion; LBP-19-7, 90 NRC 54 (2019)

Weinberger v. Catholic Action of Haw./Peace Educ. Project, 454 U.S. 139, 143 (1981)
- NEPA imposes a duty on an agency to both consider every significant aspect of the environmental impact of a proposed action and inform the public of its analysis and conclusion; LBP-19-7, 90 NRC 54 (2019)

WildEarth Guardians v. U.S. Forest Serv., 828 F. Supp. 2d 1223, 1240 (D. Colo. 2011)
- information necessary for the preparation of an environmental review document was found to be unavailable; LBP-19-10, 90 NRC 338-39 (2019)

Winter v. Nat. Res. Def. Council, Inc., 555 U.S. 7, 22 (2008)
- possibility of some irreparable injury occurring in the remote future does not constitute the imminent likely harm that justifies granting a stay; CLI-19-11, 90 NRC 265 (2019)

Wisconsin Gas Co. v. FERC, 758 F.2d 669, 674 (D.C. Cir. 1985)
- entity seeking a stay must show that it faces imminent, irreparable harm that is both certain and great; CLI-19-11, 90 NRC 264 (2019)
- injury warranting grant of a stay must be of such imminence that there is a clear and present need for equitable relief to prevent irreparable harm from occurring pending a decision on the merits; CLI-19-11, 90 NRC 265 (2019)
- irreparable injury warranting grant of a stay is not merely injury that is feared as liable to occur at some indefinite time; CLI-19-11, 90 NRC 264-65 (2019)
- irreparable injury warranting grant of a stay must be actual and not theoretical; CLI-19-11, 90 NRC 264 (2019)

Yankee Atomic Electric Co. (Yankee Rowe Nuclear Power Station), CLI-91-11, 34 NRC 3, 5-6, 12 (1991)
- Commission elected to take a direct role in an emergency enforcement action related to pressure vessel requirements instead of delegating to NRC Staff; CLI-19-7, 90 NRC 11 n.66 (2019)

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10 C.F.R. 2.206
petitioner who seeks to challenge the ongoing operation of a nuclear power plant may file a petition for enforcement action; CLI-19-7, 90 NRC 14 (2019)
request that NRC require that the plant's current licensing basis explicitly include flooding caused by local intense precipitation/probable maximum precipitation events is denied; DD-19-2, 90 NRC 198-207 (2019)
10 C.F.R. 2.206(b)
director of the NRC office with responsibility for the subject matter shall either institute the requested proceeding to modify, suspend, or revoke a license or advise the person who made the request in writing that no proceeding will be instituted, in whole or in part, with respect to the request and give the reason for the decision; DD-19-2, 90 NRC 200 (2019)
10 C.F.R. 2.309(a)
in addition to demonstrating standing, intervention petitioner must proffer at least one admissible contention; LBP-19-7, 90 NRC 52 (2019)
10 C.F.R. 2.309(b)
three-factor good cause standard in section 2.309(c) governs timeliness of contentions that are proffered after the deadline for submitting initial hearing petitions; LBP-19-8, 90 NRC 149 (2019)
10 C.F.R. 2.309(c)
intervenor has not sought to amend its original contention in response to applicant's concession that, at present, it may not lawfully contract for DOE to take title to spent fuel; LBP-19-7, 90 NRC 59 (2019)
three-factor good cause standard governs timeliness of contentions that are proffered after the deadline for submitting initial hearing petitions in section 2.309(b); LBP-19-8, 90 NRC 149 (2019)
10 C.F.R. 2.309(c)(1)
late-filed contention will not be entertained absent a showing of good cause; LBP-19-9, 90 NRC 185 (2019)
motion for leave to file a late-filed contention is denied for failure to meet pleading requirements; LBP-19-11, 90 NRC 359 (2019)
petitioner must demonstrate that late-filed contention is based on new and materially different information; LBP-19-11, 90 NRC 365 (2019)
petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so; LBP-19-9, 90 NRC 185 (2019); LBP-19-11, 90 NRC 362 (2019)
10 C.F.R. 2.309(c)(1)(i)
challenge to new information and analysis that is based on information that was not previously available and is materially different from previously available information in the environmental report satisfies the good cause standard for late filing; LBP-19-8, 90 NRC 155 n.23 (2019)
10 C.F.R. 2.309(c)(1)(i)-(iii)
good cause for late filing exists if litigant shows that information on which the new or amended contention is based was not previously available and is materially different from information previously available and has been timely submitted based on availability of the subsequent information; LBP-19-8, 90 NRC 149, 160 (2019); LBP-19-11, 90 NRC 362 (2019)
to establish good cause for late filing, petitioner must meet three criteria; LBP-19-9, 90 NRC 185-86 (2019)

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10 C.F.R. 2.309(c)(1)(ii)
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"materially" describes the type or degree of difference between the new information and previously available information and is synonymous with, for example, "significantly," "considerably," or "importantly"; LBP-19-8, 90 NRC 149 n.13 (2019)
"materially different" means significantly different from information that was previously available; LBP-19-9, 90 NRC 186 n.35 (2019)
to establish good cause for filing a contention after the initial deadline for submitting contentions, intervenor must show that the new information on which the amended contention is based is materially different from previously available information; LBP-19-9, 90 NRC 193 (2019)
10 C.F.R. 2.309(c)(1)(iii)
contention submitted within the deadline established by the board's scheduling order satisfies the timeliness requirement; LBP-19-8, 90 NRC 155 n.23 (2019)
10 C.F.R. 2.309(d)
information that petitioner should include in its intervention petition to establish standing is provided but regulation does not set a standard that a licensing board must apply when deciding whether that information is sufficient; LBP-19-7, 90 NRC 47 (2019)
10 C.F.R. 2.309(f)(1)
amended contention filed after the initial deadline must also satisfy the usual requirements for contention admissibility; LBP-19-9, 90 NRC 187 (2019)
analysis of admissibility of contention that is not actually based on any of the recently available, materially different information is more appropriately conducted under the contention admissibility criteria than under section 2.309(c)(1); LBP-19-9, 90 NRC 187 n.38 (2019)
contention that draft supplemental environmental impact statement fails to adequately analyze mechanical draft cooling towers as a reasonable alternative that could mitigate adverse impacts of the cooling canal system is inadmissible; LBP-19-8, 90 NRC 152 (2019)
contention that petitioner seeks to adopt must also be admissible; LBP-19-7, 90 NRC 87 (2019)
motion for leave to file a late-filed contention is denied for failure to meet pleading requirements; LBP-19-11, 90 NRC 359 (2019)
petitioner must demonstrate good cause for proffering a contention after the initial deadline for filing a hearing petition as well as satisfy NRC's usual requirements for contention admissibility; LBP-19-11, 90 NRC 365 (2019)
10 C.F.R. 2.309(f)(1)(i)-(vi)
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10 C.F.R. 2.309(f)(1)(iii)
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claims that impermissibly challenge the Continued Storage Rule are outside the scope of the proceeding; LBP-19-7, 90 NRC 67 (2019)
complaints about the procedure for accessing sensitive unclassified non-safeguards information are not within the scope of an independent spent fuel storage installation proceeding; LBP-19-7, 90 NRC 69 (2019)
contention must raise an issue that is within the scope of the proceeding; LBP-19-11, 90 NRC 365 (2019)
contention that because hundreds of spent nuclear fuel transport trips will come through the Ninth Circuit's geographical area on route to Texas, Ninth Circuit law must be applied and thus applicant must conduct a terrorism analysis in its environmental report is inadmissible; LBP-19-7, 90 NRC 108 (2019)
terrorism issue is outside the scope of an independent spent fuel storage facility licensing proceeding; LBP-19-7, 90 NRC 65 (2019)

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10 C.F.R. 2.309(f)(1)(iv)
area for assessment of environmental justice impacts is based on location of the proposed facility itself, not proximity to possible transportation routes and thus contention is inadmissible; LBP-19-7, 90 NRC 94 (2019)
claims that try to expand a Part 72 application process into a dispute over the adequacy of the NRC's Part 71 requirements are outside the scope of this Part 72 proceeding; LBP-19-11, 90 NRC 368 (2019)
contention that there is no purpose and need for the consolidated interim storage facility if spent fuel can be safely stored at the reactor site indefinitely is not material to the findings the NRC must make; LBP-19-7, 90 NRC 63 (2019)
10 C.F.R. 2.309(f)(1)(v)
admissible contention must show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; LBP-19-9, 90 NRC 187 (2019); LBP-19-11, 90 NRC 365 (2019)
any disagreement concerning the location of the Ogallala Aquifer or the water saturation point at the interim storage facility site is only material to the findings the NRC must make if it is possible for groundwater to be contaminated from a cracked or ruptured cask; LBP-19-7, 90 NRC 73 (2019)
at admission stage, contention must state the alleged facts or expert opinions that support petitioner's position; LBP-19-11, 90 NRC 365 (2019)
boards do not adjudicate disputed facts at the contention admission stage; LBP-19-11, 90 NRC 365 (2019)
claim that a rejected cask will lead to a cascade of stranded and neglected spent fuel across the country is speculative and inadmissible; LBP-19-7, 90 NRC 90 (2019)
contention advocating for a free-range inquiry into the site selection process under NEPA is inadmissible; LBP-19-7, 90 NRC 83-84 (2019)
contention that 5,000 metric tons of spent nuclear fuel could not possibly be moved to the facility within the term of the license requested is inadmissible; LBP-19-11, 90 NRC 366 (2019)
contention that a pathway to groundwater contamination could be established in the event of an impact from large, fully fueled aircraft is inadmissible; LBP-19-7, 90 NRC 115 (2019)
contention that applicant's effort to reduce the cooling canal system salinity is not working and is unlikely to work in the future is inadmissible; LBP-19-8, 90 NRC 176-77 (2019)
contention that different analytic treatment of species is not justified by differing circumstances of the different species and their habitats is inadmissible; LBP-19-8, 90 NRC 158 (2019)
contention that draft supplemental environmental impact statement is deficient in its analysis of potential impacts of ammonia releases during renewal period on threatened and endangered species and their critical habitat is inadmissible; LBP-19-8, 90 NRC 158 (2019)
contention that environmental report must discuss the efforts of the oil and gas companies to save and conserve the dunes sagebrush lizard, the lesser prairie chicken, and their respective habitats is inadmissible; LBP-19-7, 90 NRC 115 (2019)
contention that groundwater mitigation goals will be difficult to achieve under the current plan does not establish a genuine dispute of material fact; LBP-19-8, 90 NRC 177, 178 (2019)
contention that NRC Staff relied on unreliable modeling when it concluded that the cooling canal system's impacts on adjacent surface water bodies via the groundwater pathway will be small during the SLR term is inadmissible; LBP-19-8, 90 NRC 163-64 (2019)
contention that NRC Staff unlawfully substitutes existence of state and county requirements and oversight for a proper NEPA analysis is inadmissible; LBP-19-8, 90 NRC 173-74 (2019)
contention that NRC Staff's conclusion in the draft supplemental environmental impact statement that canal cooling system's impacts on adjacent surface water bodies via the groundwater pathway will be small improperly substitutes the existence of permit requirements and oversight for a proper NEPA analysis is inadmissible; LBP-19-8, 90 NRC 164 (2019)
contention that phosphorus loadings from cooling canal system are impacting seagrass communities via the groundwater pathway is inadmissible; LBP-19-8, 90 NRC 166 (2019)
contention that relies on unidentified new reports and an expert opinion is inadmissible; LBP-19-8, 90 NRC 165 (2019)
contention that safety analysis report fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the WCS site is inadmissible; LBP-19-7, 90 NRC 113 (2019)

passing and nondescript reference to a lengthy section in petitioner's motion fails to satisfy requirement to provide a concise statement of the alleged facts or expert opinions that support the contention, along with references to the specific sources and documents; LBP-19-8, 90 NRC 171 n.41 (2019)
petitioner fails to cite any facts or expert opinions to suggest that applicant's conclusion is not a reasonable one; LBP-19-9, 90 NRC 191 (2019)
10 C.F.R. 2.309(f)(1)(vi)
at admission stage, contention must show that a genuine dispute exists on a material issue of law or fact by referring to specific disputed portions of the application and state the alleged facts or expert opinions that support petitioner's position; LBP-19-9, 90 NRC 187 (2019); LBP-19-11, 90 NRC 365 (2019)
because information that petitioners claim is missing from the environmental report in fact appears there, contention fails to demonstrate a genuine dispute with the application; LBP-19-7, 90 NRC 100 (2019)
boards do not adjudicate disputed facts at the contention admission stage; LBP-19-11, 90 NRC 365 (2019)
contention about commercial viability of applicant's option of contracting directly with nuclear plant owners that currently hold title to their spent fuel is not an admissible issue; LBP-19-7, 90 NRC 57 (2019)
contention challenging the groundwater modeling of the recovery well system operation projecting retraction of hypersaline plume migration is inadmissible; LBP-19-8, 90 NRC 173 (2019)
contention claiming that applicant's emergency response plan fails to establish that its proposed storage facility will effectively perform its safety functions under all credible fire and explosion conditions is inadmissible; LBP-19-7, 90 NRC 114 (2019)
contention fails to raise a genuine dispute with application because it does not show any contradiction between applicant's environmental report and the continued storage rule or GEIS; LBP-19-7, 90 NRC 62 (2019)
contention focusing on applicant's request for an exemption from the requirements regarding reasonable assurance that funds will be available to decommission the proposed storage facility is not admissible; LBP-19-7, 90 NRC 72 (2019)
contention of omission fails to raise a genuine dispute with the application; LBP-19-7, 90 NRC 68 (2019)
contention proposing alternative inputs or methodologies must present some factual or expert basis for why the proposed changes in the analysis are warranted; LBP-19-7, 90 NRC 64 (2019)
contention that applicant's effort to reduce the cooling canal system salinity is not working and is unlikely to work in the future is inadmissible; LBP-19-8, 90 NRC 176-77 (2019)
contention that applicant's environmental report fails to consider other alternatives to the consolidated interim storage facility does not demonstrate a genuine dispute on a material issue; LBP-19-7, 90 NRC 98 (2019)
contention that attacks NRC Staff's consideration of the enforcement and oversight activities of state and local authorities is inadmissible; LBP-19-8, 90 NRC 165 (2019)
contention that different analytic treatment of species is not justified by differing circumstances of the different species and their habitats is inadmissible; LBP-19-8, 90 NRC 158 (2019)
contention that draft supplemental environmental impact statement fails to consider how cooling tower alternative could mitigate adverse impacts to groundwater use conflicts is inadmissible; LBP-19-8, 90 NRC 154 (2019)
contention that draft supplemental environmental impact statement fails to take the requisite hard look at impacts to groundwater use conflicts is inadmissible; LBP-19-8, 90 NRC 176 n.46 (2019)
contention that draft supplemental environmental impact statement is deficient in its analysis of potential impacts of ammonia releases during renewal period on threatened and endangered species and their critical habitat is inadmissible; LBP-19-8, 90 NRC 158 (2019)
contention that environmental justice impact from transportation of nuclear waste to the consolidated interim storage facility should be considered is inadmissible; LBP-19-7, 90 NRC 84 (2019)
contention that fails to directly contradict the application on the likelihood of transportation accidents fails to raise a genuine dispute; LBP-19-7, 90 NRC 65 (2019)
contention that groundwater mitigation goals will be difficult to achieve under the current plan does not establish a genuine dispute of material fact; LBP-19-8, 90 NRC 177, 178 (2019)
contention that mounts a generalized attack on adequacy of NRC's regulations fails to raise a genuine dispute on a material issue of law or fact; LBP-19-11, 90 NRC 368 (2019)

contention that NRC Staff relied on unreliable modeling when it concluded that the cooling canal system's impacts on adjacent surface water bodies via the groundwater pathway will be small during the subsequent license renewal term is inadmissible; LBP-19-8, 90 NRC 163-64 (2019)
contention that NRC Staff unlawfully substitutes existence of state and county requirements and oversight for a proper NEPA analysis is inadmissible; LBP-19-8, 90 NRC 173-74 (2019)
contention that phosphorus loadings from cooling canal system are impacting seagrass communities via the groundwater pathway is inadmissible; LBP-19-8, 90 NRC 166 (2019)
contention that raises environmental concerns about high burnup fuel is inadmissible in independent spent fuel storage installation proceeding; LBP-19-7, 90 NRC 86 (2019)
contention that safety analysis report fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the WCS site is inadmissible; LBP-19-7, 90 NRC 113 (2019)
contention that speculates about the potential for or benefits of future reprocessing activities at the consolidated interim storage facility fails to demonstrate a genuine dispute with the application; LBP-19-7, 90 NRC 107 (2019)
contention that storage and transportation of containers loaded with high heat output will be likely to leak radioactive material into the environment in a transportation accident is inadmissible; LBP-19-7, 90 NRC 77 (2019)
contentions that amount to flyspecking of the environmental report generate no genuine material dispute with a license application; LBP-19-7, 90 NRC 76 (2019)
failure to contest conclusions about beneficial impacts on special species and habitat if the cooling canals were no longer used as a heat sink renders contention inadmissible; LBP-19-8, 90 NRC 154 (2019)
petitioner fails to cite any facts or expert opinions to suggest that applicant's conclusion is not a reasonable one; LBP-19-9, 90 NRC 191 (2019)
petitioner fails to raise a genuine dispute as to whether the studies adequately support applicant's description of the affected environment for the dunes sagebrush lizard and the Texas horned lizard; LBP-19-9, 90 NRC 188 (2019)
petitioners fail to acknowledge or dispute relevant portions of the application that address their concerns and thus do not raise a genuine dispute with the application; LBP-19-7, 90 NRC 96 (2019)
10 C.F.R. 2.309(f)(2)
petitioners must file environmental contentions based on documents or other information available at the time the petition is to be filed; LBP-19-7, 90 NRC 55 (2019)
10 C.F.R. 2.323(b)
ISFSI applicant certified with its motion to dismiss contention that NRC Staff agrees that the documents and references provided cure the omission in the environmental report identified in the board's order; LBP-19-9, 90 NRC 184 n.18 (2019)
10 C.F.R. 2.323(c)
moving party has no right to reply, except as permitted when compelling circumstances exist; CLI-19-7, 90 NRC 7 n.40 (2019)
to justify a reply, petitioner must demonstrate compelling circumstances that it could not reasonably have anticipated the arguments to which it seeks leave to reply; CLI-19-7, 90 NRC 7 n.40 (2019)
10 C.F.R. 2.323(f)(1)
presiding officer or board may refer a ruling to the Commission for immediate review if in the presiding officer's judgment, the ruling presents significant and novel legal or policy issues; CLI-19-9, 90 NRC 134 (2019)
10 C.F.R. 2.323(f)(2)
party may request that the board certify a ruling for immediate Commission review; CLI-19-9, 90 NRC 134 (2019)
10 C.F.R. 2.325
for contentions asserting failure to comply with NEPA, the burden of proof is on NRC Staff; LBP-19-10, 90 NRC 316 (2019)
10 C.F.R. 2.326(a)
to reopen a record, petitioner must show that its motion was timely filed, concerns a significant safety or environmental issue, and demonstrates that a materially different result would be or would have been likely had the newly proffered evidence been considered initially; CLI-19-7, 90 NRC 9 (2019)

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10 C.F.R. 2.335
board must determine whether petitioners have satisfied the substantial burden for a rule waiver to litigate a Category 1 issue; LBP-19-8, 90 NRC 167 (2019)
Category 1 issue is not subject to challenge in an NRC adjudicatory proceeding unless petitioner obtains rule waiver; LBP-19-8, 90 NRC 158 n.27, 167 n.36 (2019)
certificates of compliance are designated by NRC rulemaking as approved storage systems, and any challenge to them is an impermissible challenge to NRC regulations; LBP-19-7, 90 NRC 74 (2019)
claim that applicant grossly underestimates the concrete low-level radioactive waste in its environmental report also challenges the Continued Storage Rule and GEIS and is thus inadmissible; LBP-19-7, 90 NRC 92 (2019)
contention challenging NRC-approved storage cask design that has been incorporated by reference in a spent fuel storage facility application is barred; LBP-19-7, 90 NRC 77 (2019)
contention criticizing lack of a dry transfer system because its absence allegedly may complicate eventual shipment of spent fuel to a permanent repository is an impermissible challenge to NRC's Continued Storage Rule; LBP-19-7, 90 NRC 103 (2019)
contention that any away-from-reactor interim storage facility is necessarily unlawful constitutes an impermissible challenge to NRC regulations; LBP-19-7, 90 NRC 60 (2019)
contention that further environmental analysis is needed beyond the proposed facility's 40-year licensing period and its challenge to the lack of a dry transfer system at the facility improperly challenge the Continued Storage Rule and GEIS; LBP-19-7, 90 NRC 81 (2019)
litigant who petitions for a rule waiver is not permitted to file a reply; LBP-19-8, 90 NRC 148-49 n.12 (2019)
litigant who seeks to challenge a Commission regulation must meet the rule waiver criteria; LBP-19-8, 90 NRC 149 (2019)
no NRC rule or regulation may be challenged in a contention unless petitioner seeks and obtains a waiver from the Commission; LBP-19-7, 90 NRC 53, 101 (2019); LBP-19-11, 90 NRC 368 (2019)
unlawful segmenting argument is outside the scope of the proceeding because it challenges the NRC's Part 72 and NEPA-implementing regulations under Part 51; LBP-19-7, 90 NRC 89 (2019)
10 C.F.R. 2.335(a)
challenges to a regulation in an adjudicatory proceeding are prohibited absent a waiver of the regulation; CLI-19-7, 90 NRC 12 n.70 (2019); LBP-19-8, 90 NRC 150 (2019)
10 C.F.R. 2.335(a)-(b)
petitioner is barred from challenging the Continued Storage Rule unless petitioner obtains a waiver from the Commission; LBP-19-7, 90 NRC 56 (2019)
10 C.F.R. 2.335(b)
litigant may petition that the application of a specified Commission rule or regulation be waived or an exception be made for the particular proceeding; LBP-19-8, 90 NRC 150-51 (2019)
litigant's petition for rule waiver must be accompanied by an affidavit demonstrating that four factors are satisfied; LBP-19-8, 90 NRC 151 (2019)
special circumstances may exist in a particular proceeding such that the application of the rule or regulation or a provision of it would not serve the purposes for which the rule or regulation was adopted; LBP-19-8, 90 NRC 150 (2019)
10 C.F.R. 2.335(d)
if a licensing board concludes that the petitioner has made a prima facie showing that section 2.335(b) is satisfied, the board shall, before ruling on the petition, certify the matter directly to the Commission for a determination as to whether the rule should be waived or an exception made; LBP-19-8, 90 NRC 151 (2019)
mandatory disclosure obligations associated with moot contentions are terminated; LBP-19-6, 90 NRC 26 n.17 (2019)
10 C.F.R. 2.340(a)(2)(ii)
renewed license could be revoked or modified, if necessary, to reflect the outcome of the hearing process; CLI-19-7, 90 NRC 9 (2019)

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10 C.F.R. 2.341(f)(2)(i)-(ii)
interlocutory review is allowed only where the party requesting review can show that it is threatened with immediate and serious irreparable impact or the board's decision affects the basic structure of the proceeding in a pervasive and unusual manner; CLI-19-9, 90 NRC 130-31 (2019)
10 C.F.R. 2.341(f)(2)(ii)
board legal error that affected the basic structure of the proceeding in a pervasive and unusual manner has been found only in rare situations; CLI-19-9, 90 NRC 132 (2019)
10 C.F.R. 2.342(e)
four factors must be considered in requests to stay the decision or action of a presiding officer; CLI-19-8, 90 NRC 28 (2019); CLI-19-11, 90 NRC 264 n.20 (2019)
10 C.F.R. 2.712(b)
intervenor's failure to file proposed findings of fact does not constitute default so as to preclude seeking appeal unless presiding officer requires such findings to be submitted in Subpart G proceeding; LBP-19-10, 90 NRC 311 n.107 (2019)
10 C.F.R. 2.802
if petitioner believes that new regulations need to be developed, then it may submit a petition for rulemaking; CLI-19-7, 90 NRC 12 (2019)
if petitioner believes that the NWTRB Report warrants revisions in the NRC's rules and regulations, it may petition the Commission; LBP-19-11, 90 NRC 368 (2019)
10 C.F.R. 2.1202(a)
prior to a hearing on admitted contentions, NRC Staff may issue a Part 40 source materials license; LBP-19-10, 90 NRC 299 (2019)
10 C.F.R. 2.1209
in Part 2, Subpart L proceeding, each party shall file proposed findings; LBP-19-10, 90 NRC 311 n.107 (2019)
10 C.F.R. 2.1213(b)(2)
application for a stay must contain a statement of the grounds for a stay, with reference to the factors in 2.1213(d); CLI-19-7, 90 NRC 9 (2019)
10 C.F.R. 2.1213(c)
petitioner has no right to reply even to an application for a stay; CLI-19-7, 90 NRC 7 n.40 (2019)
10 C.F.R. 2.1213(d)
stay petitioner must meet the irreparable injury, likelihood of prevailing on the merits, harm to other participants, and public interest criteria; CLI-19-7, 90 NRC 9 (2019)
10 C.F.R. 2.1213(f)
although petitioner does not refer to its request for review of the Staff's no significant hazards consideration determination as an application for a stay, it is essentially asking for a stay of Staff's action by requesting that the amendment not take effect until the hearing is complete; CLI-19-7, 90 NRC 8 (2019)
stays are not available on matters limited to whether a no significant hazards consideration determination was proper in proceedings on power reactor license amendments; CLI-19-7, 90 NRC 8-9 (2019)
10 C.F.R. 2.1315
license amendment that only conforms the license to reflect the transfer action involves no significant hazards consideration; CLI-19-11, 90 NRC 263 (2019)
10 C.F.R. 2.1316(a)
despite a pending adjudicatory proceeding, NRC Staff is expected to promptly issue approval or denial of an application, consistent with the findings in its safety evaluation report; CLI-19-11, 90 NRC 262 (2019)
NRC Staff may issue an order on a license transfer application before the Commission has concluded the adjudication; CLI-19-8, 90 NRC 28 n.6 (2019)
10 C.F.R. 2.1327(b)(2)
petitioner must address the factors that are weighed when considering whether to grant a request to stay the effectiveness of a Staff order on a license transfer application; CLI-19-8, 90 NRC 28 (2019)
10 C.F.R. 2.1327(d)
in determining whether to grant or deny a stay, four factors are considered; CLI-19-11, 90 NRC 264 (2019)

petitioner must address the factors that are weighed when considering whether to grant a request to stay the effectiveness of a Staff order on a license transfer application; CLI-19-8, 90 NRC 28 (2019)
10 C.F.R. 40.4
byproduct material includes discrete surface wastes resulting from uranium solution extraction processes; LBP-19-10, 90 NRC 312 n.111 (2019)
section 11e(2) byproduct material is the waste and tailings generated by the processing of ore for its uranium or thorium content; LBP-19-10, 90 NRC 312 n.111 (2019)
10 C.F.R. 50.2
design basis information is an important subset of the current licensing basis and includes the specific functions and reference bounds for the design of plant structures, systems, and components; DD-19-2, 90 NRC 201 (2019)
10 C.F.R. 50.12
exemptions from rules in 10 C.F.R. Part 50 may be granted when authorized by law, they will not present undue risk to public health and safety, and are consistent with the common defense and security and special circumstances are present; CLI-19-10, 90 NRC 232 (2019)
proposed regulatory exemptions from EPZ requirements meet regulatory standards; CLI-19-10, 90 NRC 247 (2019)
standards are met for requested exemptions for a potential 2-mile EPZ; CLI-19-10, 90 NRC 254 (2019)
10 C.F.R. 50.12(a)(2)(ii)
small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 233 (2019)
special circumstances for exemption from rules are present when application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve that purpose; CLI-19-10, 90 NRC 232 (2019)
10 C.F.R. 50.33(g)
development of the 10-mile EPZ explicitly relied on the EPA protective action guides to determine where to draw that boundary; CLI-19-10, 90 NRC 227 n.119 (2019)
nuclear power plants must have an emergency planning zone that extends about 10 miles out from the site; CLI-19-10, 90 NRC 254 (2019)
plume exposure pathway emergency planning zone is about 10 miles from a power reactor site and ingestion pathway EPZ is about 50 miles from a power reactor site; CLI-19-10, 90 NRC 216 n.31 (2019)
small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 233 (2019)
10 C.F.R. 50.36(c)(2)(ii)(C)
safety-related structures, systems, and components typically have associated technical specification requirements; DD-19-2, 90 NRC 201 (2019)
10 C.F.R. 50.40
decision on an amendment request requires reasonable assurance of adequate protection of the health and safety of the public and the common defense and security, while a determination on the significant hazards consideration addresses whether a hearing must be held before, rather than after, issuance of an amendment; CLI-19-7, 90 NRC 8 (2019)
10 C.F.R. 50.43(a)
notices of applications must be published in the Federal Register as well as other newspapers; CLI-19-10, 90 NRC 247 n.251 (2019)
10 C.F.R. 50.43(a)(1)
Tennessee Valley Authority is the regulatory agency that has jurisdiction over the rates and service incident to the proposed activities; CLI-19-10, 90 NRC 246 n.251 (2019)
10 C.F.R. 50.47(a)(1)(iv)
early site permit cannot be issued unless NRC makes a finding that the major features of the emergency plan meet the regulatory requirements; CLI-19-10, 90 NRC 256 (2019)

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10 C.F.R. 50.47(a)(2)
in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of emergency plan adequacy and implementation capability; CLI-19-10, 90 NRC 256 (2019)
10 C.F.R. 50.47(b)
small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 233 (2019)
10 C.F.R. 50.47(c)(2)
determination of EPZ size on a case-by-case basis is allowed for gas-cooled reactors and reactors with an authorized power level less than 250 MW thermal; CLI-19-10, 90 NRC 235 n.174 (2019)
NRC facilities such as research and test reactors have smaller sized or no EPZs; CLI-19-10, 90 NRC 235 n.177 (2019)
small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 233 (2019)
10 C.F.R. 50.49
"design-basis event" is defined; DD-19-2, 90 NRC 201 (2019)
10 C.F.R. 50.54(f)
current regulatory approach, and resultant plant capabilities, give NRC confidence to conclude that an accident with consequences similar to the Fukushima accident is unlikely to occur in the United States; DD-19-2, 90 NRC 202 (2019)
in response to the Fukushima Dai-ichi accident, NRC required licensees to reevaluate seismic and flooding hazards using present-day standards and guidance and provide that information to NRC; DD-19-2, 90 NRC 202 (2019)
10 C.F.R. 50.58(b)(6)
challenges to no significant hazards consideration determinations and exclusion of such challenges from the stay provisions is consistent with federal case law treating NSHCDs as final agency actions; CLI-19-7, 90 NRC 9 (2019)
no petition or other request for review of or hearing on NRC Staff's significant hazards consideration determination will be entertained by the Commission; CLI-19-7, 90 NRC 8 (2019)
NRC Staff's significant hazards consideration determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination; CLI-19-7, 90 NRC 8 (2019); CLI-19-11, 90 NRC 264 (2019)
10 C.F.R. 50.63
licensees and applicants must address potential for station blackout events and loss of all alternating current power; DD-19-2, 90 NRC 202 (2019)
10 C.F.R. 50.82(a)(1)(i)
licensee must submit a letter certifying permanent cessation of power operations; DD-19-2, 90 NRC 204 (2019)
10 C.F.R. 50.82(a)(1)(ii)
licensee must certify that fuel has been permanently removed from the reactor vessel and placed in the spent fuel pool; DD-19-2, 90 NRC 204 (2019)
10 C.F.R. 50.82(a)(4)(i)
licensee in decommissioning must describe in its post-shutdown decommissioning activities report the reasons why it has concluded that the environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements; CLI-19-11, 90 NRC 273 (2019)
10 C.F.R. 50.82(a)(5)
licensee that has submitted certifications of permanent cessation of operations and permanent removal of fuel may begin major decommissioning activities 90 days after NRC has received its post-shutdown decommissioning activities report; CLI-19-11, 90 NRC 273 n.60 (2019)
10 C.F.R. 50.82(a)(6)(ii)
if licensee plans to conduct any decommissioning activity that may result in significant environmental impacts not previously reviewed, it would need to provide a supplemental environmental analysis and would need to request a license amendment; CLI-19-11, 90 NRC 282 (2019)

licensee is prohibited from performing any decommissioning activities that result in significant environmental impacts not previously reviewed; CLI-19-11, 90 NRC 282 (2019)
10 C.F.R. 50.82(a)(8)(v)
through required annual status reports, NRC monitors the status of decommissioning funding and spent fuel management funding; CLI-19-11, 90 NRC 279 (2019)
10 C.F.R. 50.82(a)(8)(vi)
if decommissioning funds remaining in the trust do not cover the cost to complete decommissioning, the financial assurance status report must include additional financial assurance to cover the estimated cost of completion; CLI-19-11, 90 NRC 279 n.87 (2019)
10 C.F.R. 50.82(a)(8)(vii)
through required annual status reports, NRC monitors the status of decommissioning funding and spent fuel management funding; CLI-19-11, 90 NRC 279 (2019)
10 C.F.R. 50.82(a)(9)
license termination plan must include a site characterization, plans for site remediation, an updated decommissioning cost estimate, and detailed plans for the final radiation survey; CLI-19-11, 90 NRC 277 (2019)
licensee must submit to NRC a license termination plan at least 2 years before termination of the non-ISFSI portion of the license; CLI-19-11, 90 NRC 277 (2019)
10 C.F.R. 50.91(a)(4)
if a hearing on a license amendment request is sought and granted, that hearing must take place before the Staff's action on the request; CLI-19-7, 90 NRC 8 (2019)
reactor license amendment may be authorized during the pendency of a hearing on the amendment, as long as NRC has first determined that the amendment involves no significant hazards consideration; CLI-19-7, 90 NRC 8 (2019)
10 C.F.R. 50.92
decision on an amendment request requires reasonable assurance of adequate protection of the health and safety of the public and the common defense and security, while a determination on the significant hazards consideration addresses whether a hearing must be held before, rather than after, issuance of an amendment; CLI-19-7, 90 NRC 8 (2019)
deletion of financial conditions does not involve any safety concerns that would render a license amendment unsuitable for a no significant hazards consideration determination; CLI-19-11, 90 NRC 264 n.19 (2019)
reactor license amendment may be authorized during the pendency of a hearing on the amendment, as long as NRC has first determined that the amendment involves no significant hazards consideration; CLI-19-7, 90 NRC 8 (2019)
10 C.F.R. 50.92(c)
if a proposed license amendment meets any of the three criteria listed, a significant hazards consideration exists; CLI-19-7, 90 NRC 8 (2019)
10 C.F.R. 50.155(b)(2)
licensees and applicants must address potential for loss of large areas of the plant because of explosions or fires; DD-19-2, 90 NRC 202 (2019)
10 C.F.R. Part 50, Appendix A, Criterion 2
nuclear power plant structures, systems, and components important to safety must be designed to withstand effects of earthquakes and other natural phenomena without loss of ability to perform their safety functions; CLI-19-7, 90 NRC 5 (2019)
10 C.F.R. Part 50, Appendix E
purpose of 10-mile EPZ is to ensure that its size is sufficient to provide dose savings to the population in areas where the projected dose from design basis accidents could be expected to exceed the applicable EPA early phase protective action guides under unfavorable atmospheric conditions; CLI-19-10, 90 NRC 233 (2019)
10 C.F.R. Part 51
there are no specific regulatory findings for an applicant's site selection criteria, but rather, the criteria are examined for reasonableness; LBP-19-7, 90 NRC 75 (2019)

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10 C.F.R. 51.10
NRC is obliged to consider the impacts its actions on environmental values; CLI-19-10, 90 NRC 214 (2019)
NRC's policy is to take account of CEQ regulations voluntarily, subject to certain conditions; LBP-19-7, 90 NRC 79 n.320 (2019)
10 C.F.R. 51.10(a)
Council on Environmental Quality regulations do not bind the NRC, but they are given substantial deference, subject to certain conditions; CLI-19-9, 90 NRC 127 n.37 (2019)
10 C.F.R. 51.20(b)(1)
NRC Staff is required to prepare an environmental impact statement for early site permit applications; CLI-19-10, 90 NRC 236 (2019)
10 C.F.R. 51.21
license transfer action and the associated license amendment meet the criteria of the NRC's categorical exclusion rule; CLI-19-11, 90 NRC 274 (2019)
10 C.F.R. 51.21(c)(21)
absent special circumstances, approvals of direct and indirect license transfers and any associated amendments required to reflect the approvals, do not individually or cumulatively have a significant effect on the environment; CLI-19-11, 90 NRC 263 n.14 (2019)
to the extent that petitioners claim that NRC Staff's order approving a license transfer required an environmental impact statement, they would appear to impermissibly challenge the categorical exclusion provision; CLI-19-11, 90 NRC 281 (2019)
where deletion of license condition was not required to reflect approval of a license transfer, the license amendment is not covered by the categorical exclusion; CLI-19-11, 90 NRC 281 (2019)
10 C.F.R. 51.23
contention criticizing lack of a dry transfer system because its absence allegedly may complicate eventual shipment of spent fuel to a permanent repository is an impermissible challenge to NRC's Continued Storage Rule; LBP-19-7, 90 NRC 103 (2019)
10 C.F.R. 51.23(a)
Continued Storage GEIS considers, among other things, environmental impacts of short-term storage (60 years beyond the cessation of reactor operations), long-term storage (100 years after that period), and indefinite storage of spent nuclear fuel for both at-reactor and away-from-reactor sites; LBP-19-7, 90 NRC 56 (2019)
10 C.F.R. 51.23(b)
applicants for reactor or spent fuel storage facility licenses are not required to discuss the environmental impacts of spent nuclear fuel storage for the period following the term of their license; LBP-19-7, 90 NRC 56 (2019)
consolidated interim storage facility's environmental report is not required to evaluate impacts of storage beyond the term of the license it is requesting; LBP-19-7, 90 NRC 103 (2019)
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Continued Storage Rule expressly provides that license applicants' environmental reports are not required to discuss the environmental impacts of spent nuclear fuel storage in an independent spent fuel storage installation for the period following the term of the ISFSI license; LBP-19-7, 90 NRC 67, 103 (2019)
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10 C.F.R. 51.45
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applicant's environmental report must contain a discussion of the affected environment and of the environmental impact of the proposed project; LBP-19-9, 90 NRC 187 (2019)
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10 C.F.R. 51.45(b)
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10 C.F.R. 51.53(c)
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10 C.F.R. 51.61
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10 C.F.R. 51.70
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10 C.F.R. 51.71(b)
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10 C.F.R. 51.71(d)
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10 C.F.R. 51.75(b)
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10 C.F.R. 51.92
NRC Staff will prepare a supplement to a final EIS if there are substantial changes in the proposed action and new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; LBP-19-10, 90 NRC 352 n.316 (2019)
10 C.F.R. 51.102(c)
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10 C.F.R. 51.105(a)
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10 C.F.R. 51.105(a)(1)-(3)
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10 C.F.R. Part 51, Appendix A, § 1(a)(7)
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10 C.F.R. Part 51, Appendix A, § 5
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10 C.F.R. Part 51, Subpart A, Appendix B
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10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1
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10 C.F.R. 52.1(a)
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10 C.F.R. 52.17
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10 C.F.R. 52.17(c)
early site permit applicants may request a limited work authorization in conjunction with an ESP; CLI-19-10, 90 NRC 212 n.5 (2019)
10 C.F.R. 52.18
NRC Staff is required to prepare an environmental impact statement for early site permit applications; CLI-19-10, 90 NRC 236 (2019)
10 C.F.R. 52.21
early site permit application is subject to all procedural requirements in 10 C.F.R. Part 2; CLI-19-10, 90 NRC 214 (2019)
10 C.F.R. 52.24
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10 C.F.R. 52.24(a)
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10 C.F.R. 52.24(a)(5), (a)(7)
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10 C.F.R. 52.26
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10 C.F.R. 54.3
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10 C.F.R. 54.31(c)
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10 C.F.R. 63.302
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10 C.F.R. 71.17(a)
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10 C.F.R. 72.30(e)
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10 C.F.R. 72.32
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10 C.F.R. 72.32(a)
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10 C.F.R. 72.34
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10 C.F.R. 72.42(a)
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10 C.F.R. 72.44(c)(1)(i)
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10 C.F.R. 72.46(d)
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10 C.F.R. 72.46(e)
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10 C.F.R. 72.90, 72.94
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10 C.F.R. 72.103(a)(1)
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10 C.F.R. 72.103(e), 72.103(f)
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10 C.F.R. 72.103(f)(1)
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10 C.F.R. 72.103(f)(2)(iv)
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10 C.F.R. 72.108
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10 C.F.R. 72.122(c)
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10 C.F.R. 72.122(h)(5)
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10 C.F.R. 72.214
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10 C.F.R. Part 100, Appendix A, III(c)
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36 C.F.R. 800.16(y)
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36 C.F.R. 800.4(b)(1)
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36 C.F.R. 800.4(b)(2)
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36 C.F.R. 800.8(a)(1)
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36 C.F.R. 800.14(b)
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40 C.F.R. 1500.1(b)
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40 C.F.R. 1502.14(f), 1502.16(h)
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40 C.F.R. 1502.22
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Commission may look to this regulation for guidance, but it is not controlling; LBP-19-10, 90 NRC 315-16 (2019)

Council on Environmental Quality outlines a mechanism for instances when an agency is unable to obtain complete information to fully assess foreseeable significant adverse effects on the human environment; LBP-19-10, 90 NRC 315 (2019)
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40 C.F.R. 1502.22(a)
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40 C.F.R. 1502.22(b)
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40 C.F.R. 1502.22(b)(1)
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40 C.F.R. 1502.24
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40 C.F.R. 1505.2(c)
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40 C.F.R. 1508.7
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40 C.F.R. 1508.8
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40 C.F.R. 1508.25(b)
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National Environmental Policy Act, 102(2)(C)(iv), 42 U.S.C. § 4332(2)(C)(iv)
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National Environmental Policy Act, 102(2)(E), 42 U.S.C. § 4332(2)(E)
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findings and conclusions of NRC tribunals are deemed to amend the final environmental impact statement insofar as different therefrom; LBP-19-10, 90 NRC 287 (2019)
See also License Amendments; Operating License Amendments
AMENDMENT OF CONTENTIONS
filings after the initial deadline must also satisfy the usual requirements for contention admissibility; LBP-19-9, 90 NRC 181 (2019)
intervenor did not seek to amend its original contention in response to applicant's concession that, at present, it may not lawfully contract for the Department of Energy to take title to spent fuel; LBP-19-7, 90 NRC 31 (2019)
APPEALS
no petition or other request for review of or hearing on NRC Staff's significant hazards consideration determination will be entertained by the Commission; CLI-19-7, 90 NRC 1 (2019)
whether intervenors' failure to provide proposed findings is fatal to their ability to take an appeal from a final initial decision will be a matter for Commission determination; LBP-19-10, 90 NRC 287 (2019)
APPELLATE REVIEW
Commission is more likely to take review when there will otherwise not be any further Commission review; CLI-19-7, 90 NRC 1 (2019)
Commission may exercise its discretion to take review to address a novel or important issue, but its decision to do so stems from its inherent supervisory authority over adjudications and in no way implies that parties have a right to seek interlocutory review on that same ground; CLI-19-7, 90 NRC 1 (2019)
Commission may exercise its discretionary authority to consider petitions for stay of effectiveness; CLI-19-7, 90 NRC 1 (2019)
NRC Staff's significant hazards consideration determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination; CLI-19-7, 90 NRC 1 (2019)
See also Review, Discretionary; Review, Interlocutory
APPROVAL OF LICENSE
Commission declined, following a hearing on the merits, to disturb NRC Staff's approval of license transfers; CLI-19-11, 90 NRC 258 (2019)
Commission has inherent supervisory authority to stay NRC Staff's action or rescind a license amendment; CLI-19-11, 90 NRC 258 (2019)
despite a pending adjudicatory proceeding, NRC Staff is expected to promptly issue approval or denial of an application, consistent with the findings in its safety evaluation report; CLI-19-11, 90 NRC 258 (2019)
immediate effectiveness of NRC Staff's order will not limit Commission ability through license transfer proceeding to address and, if warranted, to remedy asserted deficiencies that petitioners have raised; CLI-19-11, 90 NRC 258 (2019)
license transfer applicants may rely on an NRC Staff order approving an application, but both transferor and transferee do so at their own risk in the event that the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-19-11, 90 NRC 258 (2019)
license transfer application will lack NRC's final approval until and unless the Commission concludes the adjudication and approves the transfer; CLI-19-8, 90 NRC 27 (2019); CLI-19-11, 90 NRC 258 (2019)
notwithstanding its finding that NRC improperly allowed the license to remain effective after concluding that a significant NEPA deficiency existed, without vacating that agency decision the court remanded

the matter to the Commission to consider further whether and under what circumstances the license should remain effective; LBP-19-10, 90 NRC 287 (2019)
notwithstanding NRC Staff's orders approving the license transfers, the Commission could modify the license or require applicants to return the plant ownership to the status quo ante; CLI-19-11, 90 NRC 258 (2019)
NRC Staff may issue an order on a license transfer application before the Commission has concluded the adjudication; CLI-19-8, 90 NRC 27 (2019)
prior to a hearing on admitted contentions, NRC Staff may issue a Part 40 source materials license; LBP-19-10, 90 NRC 287 (2019)
ASSUMPTION OF COMPLIANCE
absent evidence to the contrary, NRC will assume that licensee will comply with license obligations; LBP-19-8, 90 NRC 139 (2019)
licensee's past violations, standing alone, do not constitute sufficient information to give rise to a genuine dispute with the assumption that a state authority will enforce, and applicant will comply with, the legally mandated mitigation measures; LBP-19-8, 90 NRC 139 (2019)
ATOMIC ENERGY ACT
Advisory Committee on Reactor Safeguards operates independently of NRC Staff and reports directly to the Commission; CLI-19-7, 90 NRC 1 (2019)
hearing must be held on each application to construct a nuclear power plant; CLI-19-10, 90 NRC 209 (2019)
independent spent fuel storage facility under Part 72 is neither a production nor a utilization facility as defined in section 11; LBP-19-7, 90 NRC 31 (2019)
NRC must grant a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-19-7, 90 NRC 31 (2019)
sections 103 and 104 are violated where a power reactor license applicant's parent company is foreign owned; LBP-19-7, 90 NRC 31 (2019)
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assessment in an environmental impact statement of economic, technical, or need for power and costs of the proposed action or evaluation of alternative energy sources is precluded if such issues are not addressed in the early site permit environmental report; CLI-19-10, 90 NRC 209 (2019)
economic, technical, and other benefits and costs of the proposed action and its alternatives must be considered; LBP-19-7, 90 NRC 31 (2019)
failure to contest conclusions about beneficial impacts on special species and habitat if the cooling canals were no longer used as a heat sink renders contention inadmissible; LBP-19-8, 90 NRC 139 (2019)
NEPA does not require a cost-benefit analysis, but an agency choosing to trumpet an action's benefits has a duty to disclose its costs; LBP-19-7, 90 NRC 31 (2019)
BOILING-WATER REACTORS
Certificate of Compliance for NUHOMS MP-187 only authorizes pressurized water reactor fuel to be loaded into the cask, not boiling water reactor fuel; LBP-19-7, 90 NRC 31 (2019)
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it is petitioner's burden to demonstrate that standing requirements are met; LBP-19-7, 90 NRC 31 (2019)
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applicant generally has the burden in a licensing proceeding but statutory obligation of complying with NEPA rests with NRC; LBP-19-10, 90 NRC 287 (2019)
for contentions asserting failure to comply with NEPA, the burden is on NRC Staff; LBP-19-10, 90 NRC 287 (2019)
See also Standard of Proof
BYPRODUCT MATERIALS
material includes discrete surface wastes resulting from uranium solution extraction processes; LBP-19-10, 90 NRC 287 (2019)
BYPRODUCT MATERIALS LICENSES
license may remain in effect while the proceeding and NRC Staff's efforts to cure the NEPA-related deficiencies are ongoing; LBP-19-10, 90 NRC 287 (2019)
NRC is authorized to issue licenses for the possession and use of source material and Atomic Energy Act section 11e(2) byproduct material; LBP-19-10, 90 NRC 287 (2019)

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CASE MANAGEMENT
board will use available case management tools to close the proceeding consistent with the established schedule; CLI-19-9, 90 NRC 121 (2019)
CATEGORICAL EXCLUSION
license transfer action and the associated license amendment meet the criteria of the NRC's categorical exclusion rule; CLI-19-11, 90 NRC 258 (2019)
NRC has established a sufficient administrative record to show that the subject actions do not, either individually or collectively, have a significant effect on the environment; CLI-19-11, 90 NRC 258 (2019)
to the extent that petitioners claim that NRC Staff's order approving a license transfer required an environmental impact statement, they would appear to impermissibly challenge the categorical exclusion provision; CLI-19-11, 90 NRC 258 (2019)
where deletion of license condition was not required to reflect approval of a license transfer, the license amendment is not covered by the categorical exclusion; CLI-19-11, 90 NRC 258 (2019)
CERTIFICATE OF COMPLIANCE
only pressurized water reactor spent fuel is authorized for NUHOMS MP-187 storage casks
CERTIFICATION
if a licensing board concludes that the petitioning litigant has made a prima facie showing that section 2.335(b) is satisfied, the board shall, before ruling on the petition, certify the matter directly to the Commission to determine whether the rule should be waived or an exception made; LBP-19-8, 90 NRC 139 (2019)
ISFSI applicant certified with its motion to dismiss contention that NRC Staff agrees that the documents and references provided cure the omission in the environmental report identified in the board's order; LBP-19-9, 90 NRC 181 (2019)
licensee must certify that fuel has been permanently removed from the reactor vessel and placed in the spent fuel pool; DD-19-2, 90 NRC 197 (2019)
licensee must submit a letter certifying permanent cessation of power operations; DD-19-2, 90 NRC 197 (2019)
party may request that the board certify a ruling for immediate Commission review; CLI-19-9, 90 NRC 121 (2019)
CLEAN WATER ACT
prior to construction, applicant must obtain any necessary permits and certifications from the state and U.S. Army Corps of Engineers for construction and use of its water intake structure for small modular reactors; CLI-19-10, 90 NRC 209 (2019)
state is required to adopt water quality standards to restore and maintain the chemical, physical, and biological integrity of the Nation's waters; LBP-19-6, 90 NRC 17 (2019)
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applicant considers the early site permit application, the COLA, and construction of two or more small modular reactors as sequential parts of a single, complex undertaking; CLI-19-10, 90 NRC 209 (2019)
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contract damage lawsuits under the Nuclear Waste Policy Act are commonplace, and the federal government pays out damages on a regular basis; LBP-19-7, 90 NRC 31 (2019)
when a permanent repository failed to materialize, power plant licensees sued and began to recover from the federal government substantial damages to cover the cost of continuing to store spent fuel at their sites; LBP-19-7, 90 NRC 31 (2019)
COMPLIANCE
applicant generally has the burden of proof in a licensing proceeding but statutory obligation of complying with NEPA rests with NRC; LBP-19-10, 90 NRC 287 (2019)
See also Certificate of Compliance
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no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 1 (2019)

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CONNECTED ACTIONS
applicant considers the early site permit application, the combined license application, and construction of two or more small modular reactors as sequential parts of a single, complex undertaking; CLI-19-10, 90 NRC 209 (2019)
CONSIDERATION OF ALTERNATIVES
agencies must study, develop, and describe appropriate alternatives to proposed actions; CLI-19-10, 90 NRC 209 (2019)
agency environmental impact statement will include analysis of mitigating actions in discussing alternatives to the proposed action and the consequences of that action; LBP-19-10, 90 NRC 287 (2019)
agency may limit its discussion of environmental impact to a brief statement when the alternative course involves no effect on the environment or that effect, briefly described, is simply not significant; LBP-19-8, 90 NRC 139 (2019)
alternatives analysis is the heart of the environmental impact statement; CLI-19-10, 90 NRC 209 (2019)
assessment in an environmental impact statement of economic, technical, or need for power and costs of the proposed action or evaluation of alternative energy sources is precluded if such issues are not addressed in the early site permit environmental report; CLI-19-10, 90 NRC 209 (2019)
contention that draft supplemental environmental impact statement fails to adequately analyze mechanical draft cooling towers as a reasonable alternative that could mitigate adverse impacts of the cooling canal system is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that draft supplemental environmental impact statement fails to consider how cooling tower alternative could mitigate adverse impacts to groundwater use conflicts is inadmissible; LBP-19-8, 90 NRC 139 (2019)
economic, technical, and other benefits and costs of the proposed action and its alternatives must be considered; LBP-19-7, 90 NRC 31 (2019)
it is the essence and thrust of the National Environmental Policy Act that the pertinent environmental impact statement serve to gather in one place a discussion of the relative environmental impact of alternatives; LBP-19-8, 90 NRC 139 (2019)
NRC may accord substantial weight to the preferences of the applicant and/or sponsor in siting and design of the project as long as the application is not so artificially narrow as to circumvent the requirement that reasonable alternatives must be considered; LBP-19-7, 90 NRC 31 (2019)
proper question is not whether there are plausible alternative choices for use in the analysis, but whether the analysis that was done is reasonable under NEPA; LBP-19-7, 90 NRC 31 (2019)
CONSTRUCTION
applicant considers the early site permit application, the combined license application, and construction of two or more small modular reactors as sequential parts of a single, complex undertaking; CLI-19-10, 90 NRC 209 (2019)
authorization of an early site permit does not constitute authorization to construct or operate a reactor at the site and would require consideration of any safety and environmental issues not resolved in the ESP proceeding; CLI-19-10, 90 NRC 209 (2019)
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intervention petition is construed in favor of petitioner to determine standing; LBP-19-7, 90 NRC 31 (2019)
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federal agency is not precluded from taking action in the exercise of its NEPA responsibilities once a reasonable effort has been made to procure the cooperation and input from a tribe; LBP-19-10, 90 NRC 287 (2019)
formal consultation is not required for an early site permit because it will not authorize activities that may affect listed species; CLI-19-10, 90 NRC 209 (2019)
NRC Staff's environmental impact statement must include an analysis of significant problems and objections raised by any affected Indian tribes and by other interested persons; LBP-19-10, 90 NRC 287 (2019)
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arguments for alternative analyses or refinements to an analysis might be characterized as contentions of adequacy; LBP-19-6, 90 NRC 17 (2019)

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claims that NRC Staff's draft supplemental environmental impact statement improperly fails to analyze potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is dismissed; LBP-19-6, 90 NRC 17 (2019)
contention is moot because environmental report omission is cured because draft supplemental environmental impact statement expressly considers mechanical draft cooling towers as an alternative to the canal cooling system, as well as capacity of cooling towers to reduce adverse impacts on the American crocodile and its habitat; LBP-19-6, 90 NRC 17 (2019)
contention of adequacy raises a specific substantive challenge to how particular information or issues have been discussed in the application; LBP-19-6, 90 NRC 17 (2019); LBP-19-8, 90 NRC 139 (2019)
contention of omission alleges that an application suffers from an improper omission; LBP-19-6, 90 NRC 17 (2019); LBP-19-8, 90 NRC 139 (2019)
mandatory disclosure obligations associated with moot contentions are terminated; LBP-19-6, 90 NRC 17 (2019)
no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 1 (2019)
petitioners must file environmental contentions based on documents or other information available at the time the petition is to be filed; LBP-19-7, 90 NRC 31 (2019)
when missing information is later supplied by applicant or considered by NRC Staff in a draft environmental impact statement, the contention is moot and should be dismissed; LBP-19-6, 90 NRC 17 (2019)
See also Adoption of Contentions; Amendment of Contentions
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admissible contention must meet six pleading requirements; LBP-19-7, 90 NRC 31 (2019)
admissible contention must show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; LBP-19-9, 90 NRC 181 (2019)
admissible contention must state the alleged facts or expert opinions that support the petitioner's position; LBP-19-9, 90 NRC 181 (2019)
amended contention filed after the initial deadline must also satisfy the usual requirements for contention admissibility; LBP-19-9, 90 NRC 181 (2019)
analysis of admissibility of contention that is not actually based on any of the recently available, materially different information is more appropriately conducted under the contention admissibility criteria than under 10 C.F.R. 2.309(c)(1); LBP-19-9, 90 NRC 181 (2019)
any disagreement over location of the Ogallala Aquifer or the water saturation point at the CISF site is only material to the findings NRC must make if it is possible for groundwater to be contaminated from a cracked or ruptured cask; LBP-19-7, 90 NRC 31 (2019)
approximately 30-60 days is generally considered as the limit for timely filings based on new information; LBP-19-8, 90 NRC 139 (2019)
area for assessment of environmental justice impacts is based on location of the proposed facility itself, not proximity to possible transportation routes and thus contention is inadmissible; LBP-19-7, 90 NRC 31 (2019)
at admission stage, contention must show that a genuine dispute exists on a material issue of law or fact by referring to specific disputed portions of the application and state the alleged facts or expert opinions that support petitioner's position; LBP-19-11, 90 NRC 358 (2019)
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board analyzes contentions challenging the environmental report as if those contentions will migrate as challenges to NRC Staff's later-issued EIS; LBP-19-7, 90 NRC 31 (2019)
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claim that applicant grossly underestimates the concrete low-level radioactive waste in its environmental report also challenges the Continued Storage Rule and Continued Storage GEIS and is thus inadmissible; LBP-19-7, 90 NRC 31 (2019)
claim that applicant's emergency response plan fails to establish that its proposed storage facility will effectively perform its safety functions under all credible fire and explosion conditions is inadmissible; LBP-19-7, 90 NRC 31 (2019)
claim that applicant's request for an exemption from the reasonable assurance requirements that funds will be available to decommission the proposed storage facility is not admissible; LBP-19-7, 90 NRC 31 (2019)
claim that because hundreds of spent nuclear fuel transport trips will come through the Ninth Circuit's geographical area in route to Texas, applicant must conduct a terrorism analysis in its environmental report is inadmissible; LBP-19-7, 90 NRC 31 (2019)
claim that draft supplemental environmental impact statement fails to take the requisite hard look at cumulative impacts on water resources is inadmissible; LBP-19-8, 90 NRC 139 (2019)
claim that environmental report dismisses the likelihood of earthquakes from increased drilling in the area and does not mention any environmental impacts from earthquakes is inadmissible; LBP-19-7, 90 NRC 31 (2019)
claim that environmental report must discuss efforts of the oil and gas companies to save and conserve the dunes sagebrush lizard, lesser prairie chicken, and their respective habitats is inadmissible; LBP-19-7, 90 NRC 31 (2019)
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contention must raise an issue that is within the scope of the proceeding; LBP-19-11, 90 NRC 358 (2019)
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contention that draft supplemental environmental impact statement is deficient in its analysis of the potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that draft supplemental environmental impact statement fails to adequately analyze mechanical draft cooling towers as a reasonable alternative that could mitigate adverse impacts of the cooling canal system is inadmissible; LBP-19-8, 90 NRC 139 (2019)

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contention that NEPA requires a cumulative impacts analysis of reprocessing spent nuclear fuel at the proposed facility because such action falls within the realm of cumulative actions delineated in the CEQ regulations is inadmissible; LBP-19-7, 90 NRC 31 (2019)
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contention that NRC Staff relied on unreliable modeling when it concluded that the cooling canal system's impacts on adjacent surface water bodies via the groundwater pathway will be small during the SLR term is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that NRC Staff's conclusion in the draft supplemental environmental impact statement improperly substitutes the existence of permit requirements and oversight for a proper NEPA analysis is inadmissible; LBP-19-8, 90 NRC 139 (2019)
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passing and nondescript reference to a lengthy section in petitioner's motion fails to satisfy requirement to provide a concise statement of the alleged facts or expert opinions that support the contention, along with references to the specific sources and documents; LBP-19-8, 90 NRC 139 (2019)
petitioner fails to raise a genuine dispute as to whether the studies adequately support applicant's description of the affected environment for the dunes sagebrush lizard and the Texas horned lizard; LBP-19-9, 90 NRC 181 (2019)

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six-factor standard of 10 C.F.R. 2.309(f)(1)(i)-(vi) must be satisfied; LBP-19-8, 90 NRC 139 (2019)
to challenge the adequacy of new information, intervenor must timely file a new contention that addresses the factors in 10 C.F.R. 2.309(f)(1); LBP-19-6, 90 NRC 17 (2019)
to show a genuine material dispute, petitioner's contention would have to give the board reason to believe that contamination from a defective canister could find its way outside of the cask; LBP-19-7, 90 NRC 31 (2019)
to the extent that petitioners claim that NRC Staff's order approving a license transfer required an environmental impact statement, they would appear to impermissibly challenge the categorical exclusion provision; CLI-19-11, 90 NRC 258 (2019)
unlawful segmenting argument is outside the scope of the proceeding because it challenges the NRC's Part 72 and NEPA-implementing regulations under Part 51; LBP-19-7, 90 NRC 31 (2019)
CONTENTIONS, LATE-FILED
analysis of admissibility of contention that is not actually based on any of the recently available, materially different information is more appropriately conducted under the contention admissibility criteria than under 10 C.F.R. 2.309(c)(1); LBP-19-9, 90 NRC 181 (2019)
approximately 30-60 days is generally considered as the limit for timely filings based on new information; LBP-19-8, 90 NRC 139 (2019)
good cause for late filing exists if litigant shows that information on which the new or amended contention is based was not previously available and is materially different from information previously available and has been timely submitted based on availability of the subsequent information; LBP-19-8, 90 NRC 139 (2019)

"materially" describes the type or degree of difference between the new information and previously available information and is synonymous with, for example, "significantly," "considerably," or "importantly"; LBP-19-8, 90 NRC 139 (2019)
motion for leave to file a late-filed contention is denied for failure to meet pleading requirements; LBP-19-11, 90 NRC 358 (2019)
petitioner may not delay filing a contention until a document becomes available that collects, summarizes and places into context the facts supporting that contention; LBP-19-11, 90 NRC 358 (2019)
petitioner must demonstrate good cause for proffering a contention after the initial deadline for filing a hearing petition as well as satisfy NRC's usual requirements for contention admissibility; LBP-19-11, 90 NRC 358 (2019)
petitioner must demonstrate that contention is based on new and materially different information; LBP-19-11, 90 NRC 358 (2019)
petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so; LBP-19-9, 90 NRC 181 (2019); LBP-19-11, 90 NRC 358 (2019)
premising a newly proffered contention on previously available information renders the contention impermissibly late; LBP-19-9, 90 NRC 181 (2019)
three-factor good cause standard governs timeliness of contentions that are proffered after the deadline for submitting initial hearing petitions in section 2.309(b); LBP-19-8, 90 NRC 139 (2019)
to challenge the adequacy of new information, intervenor must timely file a new contention that addresses the factors in 10 C.F.R. 2.309(f)(1); LBP-19-6, 90 NRC 17 (2019)
to establish good cause for late filing, petitioner must meet the three criteria of 10 C.F.R. 2.309(c)(1)(i)-(iii); LBP-19-9, 90 NRC 181 (2019)
to establish good cause, petitioner must show that information on which new or amended contention is based was not previously available and is materially different from information previously available and the contention has been timely submitted after the new information became available; LBP-19-11, 90 NRC 358 (2019)
CONTINUED STORAGE RULE
contention fails to raise a genuine dispute with application because it does not show any contradiction between applicant's environmental report and the continued storage rule or GEIS; LBP-19-7, 90 NRC 31 (2019)
contention that further environmental analysis is needed beyond the proposed facility's 40-year licensing period and its challenge to the lack of a dry transfer system at the facility improperly challenge the Continued Storage Rule and GEIS; LBP-19-7, 90 NRC 31 (2019)
generic environmental impact statement considers environmental impacts of short-term storage (60 years beyond the cessation of reactor operations), long-term storage (100 years after that period), and indefinite storage of spent nuclear fuel for both at-reactor and away-from-reactor sites; LBP-19-7, 90 NRC 31 (2019)
generic environmental impact statement has evaluated environmental impacts of long-term spent fuel storage, analyzing three scenarios; LBP-19-7, 90 NRC 31 (2019)
generic environmental impact statement mandates an independent evaluation of the environmental impacts of the proposed facility where there are differences as to size, operational characteristics, and location of the facility; LBP-19-7, 90 NRC 31 (2019)
license applicants' environmental reports are not required to discuss the environmental impacts of spent nuclear fuel storage in an independent spent fuel storage installation for the period following the term of the ISFSI license; LBP-19-7, 90 NRC 31 (2019)
petitioner is barred from challenging the Continued Storage Rule unless petitioner obtains a waiver from the Commission; LBP-19-7, 90 NRC 31 (2019)
COOLING POND
water quality impacts on adjacent water bodies from plants with cooling ponds in salt marshes is not a Category 1 issue; LBP-19-8, 90 NRC 139 (2019)
COOLING SYSTEMS
contention that draft supplemental environmental impact statement fails to adequately analyze mechanical draft cooling towers as a reasonable alternative that could mitigate adverse impacts of the cooling canal system is inadmissible; LBP-19-8, 90 NRC 139 (2019)

contention that draft supplemental environmental impact statement fails to consider how cooling tower alternative could mitigate adverse impacts to groundwater use conflicts is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that phosphorus loadings from cooling canal system are impacting seagrass communities via the groundwater pathway is inadmissible; LBP-19-8, 90 NRC 139 (2019)
failure to contest conclusions about beneficial impacts on special species and habitat if the cooling canals were no longer used as a heat sink renders contention inadmissible; LBP-19-8, 90 NRC 139 (2019)
rule waiver petition in not necessary for contention challenging draft supplemental environmental impact statement conclusion that canal cooling system impacts on adjacent surface waters via the groundwater pathway will be small; LBP-19-8, 90 NRC 139 (2019)
COOLING TOWERS
contention is moot because environmental report omission is cured because draft supplemental environmental impact statement expressly considers mechanical draft cooling towers as an alternative to the canal cooling system, as well as capacity of cooling towers to reduce adverse impacts on the American crocodile and its habitat; LBP-19-6, 90 NRC 17 (2019)
COSTS
if information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant, the agency shall include specific information in the environmental impact statement; CLI-19-9, 90 NRC 121 (2019)
"overall costs" encompasses financial costs and other costs such as costs in terms of time (delay) and personnel; LBP-19-10, 90 NRC 287 (2019)
under section 1502.22, the terms "incomplete" and "unavailable" both refer to information that cannot be obtained because the overall costs are exorbitant or the means of obtaining it are not known; LBP-19-10, 90 NRC 287 (2019)
See also Decommissioning Costs
COUNCIL ON ENVIRONMENTAL QUALITY
CEQ regulations do not bind the NRC, but they are given substantial deference, subject to certain conditions; CLI-19-9, 90 NRC 121 (2019); LBP-19-7, 90 NRC 31 (2019)
NRC, as an independent regulatory agency, is not bound by those portions of CEQ's NEPA regulations that have a substantive impact on the way in which the Commission performs its regulatory functions; LBP-19-10, 90 NRC 287 (2019)
COUNCIL ON ENVIRONMENTAL QUALITY GUIDELINES
Commission may look to 40 C.F.R. 1502.22 for guidance, but it is not controlling; LBP-19-10, 90 NRC 287 (2019)
mechanism is outlined for instances when an agency is unable to obtain complete information to fully assess foreseeable significant adverse effects on the human environment; LBP-19-10, 90 NRC 287 (2019)
CULTURAL RESOURCES
agency must make a reasonable and good faith effort to carry out appropriate identification efforts relative to tribal cultural resources in the context of NHPA and NEPA review of impacts of small cell towers and ACHP regulations; LBP-19-10, 90 NRC 287 (2019)
federal agencies are encouraged to coordinate compliance with National Historic Preservation Act § 106 and the procedures in Part 800 with any steps taken to meet the requirements of the National Environmental Policy Act; CLI-19-10, 90 NRC 209 (2019)
federal agency is not precluded from taking action in the exercise of its NEPA responsibilities once a reasonable effort has been made to procure the cooperation and input from a tribe; LBP-19-10, 90 NRC 287 (2019)
goals of NEPA are to protect and promote environmental quality as well as to preserve important historic, cultural, and natural aspects of our national heritage; LBP-19-10, 90 NRC 287 (2019)
if applicant seeking tribal cultural resources information to present to NRC is unable to agree on a fee with the tribe, applicant may seek other means to fulfill its obligation; LBP-19-10, 90 NRC 287 (2019)
if NRC Staff chooses a methodology that does not include complete information about adverse effects on a tribe's cultural resources, Staff would need to include an explanation that satisfies the requirements of 40 C.F.R. 1502.22; LBP-19-10, 90 NRC 287 (2019)

in conducting a site survey to identify cultural resources, use of a facilitator, along the lines of a cultural anthropologist who would provide logistics support, documentation, recording support, and report preparation, has usually been the best approach; LBP-19-10, 90 NRC 287 (2019)
NRC Staff fulfills its responsibilities using the NEPA process; CLI-19-10, 90 NRC 209 (2019)
programmatic agreement was established to govern cultural resources matters that might arise during post-licensing construction and operations at the in situ uranium recovery facility; LBP-19-10, 90 NRC 287 (2019)
to the extent the board has focused its analysis on whether NRC Staff advanced a reasonable proposal to conduct a cultural survey and whether its determination to discontinue the survey was reasonable, Commission could not see a legal error with respect to 40 C.F.R. 1502.22; CLI-19-9, 90 NRC 121 (2019)
CUMULATIVE IMPACTS ANALYSIS
consistent with NEPA's rule of reason, projects that are merely contemplated and not concrete or reasonably certain do not warrant consideration in a cumulative impact analysis; LBP-19-7, 90 NRC 31 (2019)
contention that draft supplemental environmental impact statement fails to take the requisite hard look at cumulative impacts on water resources is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that NEPA requires a cumulative impacts analysis of reprocessing spent nuclear fuel at the proposed facility because such action falls within the realm of cumulative actions delineated in the CEQ regulations is inadmissible; LBP-19-7, 90 NRC 31 (2019)
under NEPA, an EIS must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of 'past, present, and reasonably foreseeable future actions; LBP-19-7, 90 NRC 31 (2019)
CURRENT LICENSING BASIS
design basis information is an important subset of the CLB and includes the specific functions and reference bounds for the design of plant structures, systems, and components; DD-19-2, 90 NRC 197 (2019)
request that NRC require that the plant's CLB explicitly include flooding caused by local intense precipitation/probable maximum precipitation events is denied; DD-19-2, 90 NRC 197 (2019)
DAMAGES
See Compensatory Damages
DEADLINES
approximately 30-60 days is generally considered as the limit for timely filings based on new information; LBP-19-8, 90 NRC 139 (2019)
DOE was to begin disposing of the nuclear power plants' spent fuel no later than January 31, 1998; LBP-19-7, 90 NRC 31 (2019)
licensee must submit to NRC a license termination plan at least 2 years before the termination of the non-ISFSI portion of the license; CLI-19-11, 90 NRC 258 (2019)
DECISION ON THE MERITS
absent a showing of irreparable injury, stay movants must make an overwhelming showing of likely success on the merits; CLI-19-11, 90 NRC 258 (2019)
decision on an amendment request requires reasonable assurance of adequate protection of the health and safety of the public and the common defense and security, while a determination on the significant hazards consideration addresses whether a hearing must be held before, rather than after, issuance of an amendment; CLI-19-7, 90 NRC 1 (2019)
See also Initial Decisions; Record of Decision
DECOMMISSIONING
if licensee cannot conclude that the environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements, it must prepare and provide the necessary additional environmental analysis, describing and evaluating the additional environmental impacts; CLI-19-11, 90 NRC 258 (2019)
licensee that has submitted certifications of permanent cessation of operations and permanent removal of fuel may begin major decommissioning activities 90 days after NRC has received its post-shutdown decommissioning activities report; CLI-19-11, 90 NRC 258 (2019)

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DECOMMISSIONING COSTS
if decommissioning funds remaining in the trust (plus calculated earnings at no greater than a 2% annual real rate of return) do not cover the cost to complete decommissioning, the financial assurance status report must include additional financial assurance to cover the estimated cost of completion; CLI-19-11, 90 NRC 258 (2019)
license termination plan must include a site characterization, plan for site remediation, an updated decommissioning cost estimate, and detailed plans for the final radiation survey; CLI-19-11, 90 NRC 258 (2019)
DECOMMISSIONING FUND DISBURSEMENTS
through required annual status reports, NRC monitors the status of the decommissioning funding and the spent fuel management funding; CLI-19-11, 90 NRC 258 (2019)
DECOMMISSIONING FUNDING
contention focusing on applicant's request for an exemption from the requirements regarding reasonable assurance that funds will be available to decommission the proposed storage facility is not admissible; LBP-19-7, 90 NRC 31 (2019)
if funds remaining in the trust (plus calculated earnings at no greater than a 2% annual real rate of return) do not cover the cost to complete decommissioning, the financial assurance status report must include additional financial assurance to cover the estimated cost of completion; CLI-19-11, 90 NRC 258 (2019)
NRC may prescribe such regulations or order as it may deem necessary to ensure that sufficient funds will be available for the decommissioning of any production or utilization facility; CLI-19-11, 90 NRC 258 (2019)
DECOMMISSIONING PLANS
claims regarding a potential need to alter the decommissioning approach or to change the licensee that are premised on uncertain events do not pose an imminent irreparable injury; CLI-19-11, 90 NRC 258 (2019)
licensee in decommissioning must describe in its post-shutdown decommissioning activities report the reasons why it has concluded that the environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements; CLI-19-11, 90 NRC 258 (2019)
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byproduct materials license may remain in effect while the proceeding and NRC Staff's efforts to cure the NEPA-related deficiencies are ongoing; LBP-19-10, 90 NRC 287 (2019)
even if an EIS prepared by NRC Staff is found to be inadequate in certain respects, the board's findings, as well as the adjudicatory record, become, in effect, part of the EIS; LBP-19-10, 90 NRC 287 (2019)
factual showing supporting NRC Staff's NEPA analysis is considered inadequate if the evidentiary record establishes that Staff has unduly ignored or minimized pertinent environmental effects; LBP-19-10, 90 NRC 287 (2019)
if NEPA barred agency action until necessary information became available, it is unlikely that any project requiring an environmental impact statement would ever be completed; LBP-19-10, 90 NRC 287 (2019)
notwithstanding its finding that NRC improperly allowed the license to remain effective after concluding that a significant NEPA deficiency existed, without vacating that agency decision the court remanded the matter to the Commission to consider further whether and under what circumstances the license should remain effective; LBP-19-10, 90 NRC 287 (2019)
supplementation of the EIS may be required when the absence of discussion in a final EIS is so fundamental an omission as to call for recirculation of the final EIS; LBP-19-10, 90 NRC 287 (2019)
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adverse environmental effects include ecological, aesthetic, historic, cultural, economic, social, or health effects; LBP-19-10, 90 NRC 287 (2019)
byproduct material includes discrete surface wastes resulting from uranium solution extraction processes; LBP-19-10, 90 NRC 287 (2019)
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; LBP-19-6, 90 NRC 17 (2019); LBP-19-8, 90 NRC 139 (2019)
"current licensing basis" is defined; DD-19-2, 90 NRC 197 (2019)

"design-basis event" is defined; DD-19-2, 90 NRC 197 (2019)
"overall costs" encompass financial costs and other costs such as costs in terms of time (delay) and personnel; LBP-19-10, 90 NRC 287 (2019)
"undertaking" includes a project, activity, or program requiring a federal license, permit, or approval; CLI-19-10, 90 NRC 209 (2019)
DELAY OF PROCEEDING
argument that truly exceptional delay or expense, resulting from contention potentially requiring production of thousands of documents, constituted irreparable harm warranting interlocutory review has been rejected; CLI-19-9, 90 NRC 121 (2019)
DEPARTMENT OF ENERGY
DOE is precluded from taking title to spent fuel unless and until a permanent repository has opened; LBP-19-7, 90 NRC 31 (2019)
DOE lacks statutory authority under the Nuclear Waste Policy Act to provide interim storage; LBP-19-7, 90 NRC 31 (2019)
DOE was to begin disposing of the nuclear power plants' spent fuel no later than January 31, 1998; LBP-19-7, 90 NRC 31 (2019)
statutory responsibility to store the nation's spent nuclear fuel at a permanent repository and hence eventually to implement a national transportation program for nuclear waste is DOEs responsibility, not a private applicant's responsibility; LBP-19-11, 90 NRC 358 (2019)
DESIGN
aircraft crash is not a credible event for purposes of the design requirements of a consolidated interim storage facility; LBP-19-7, 90 NRC 31 (2019)
contention challenging an NRC-approved storage cask design that has been incorporated by reference in a spent fuel storage facility application is barred; LBP-19-7, 90 NRC 31 (2019)
section 72.122(c) is a facility design requirement; LBP-19-7, 90 NRC 31 (2019)
structures, systems, and components important to safety must be designed and located so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions; LBP-19-7, 90 NRC 31 (2019)
See also Reactor Design; Seismic Design
DESIGN BASIS
design information is an important subset of the current licensing basis and includes the specific functions and reference bounds for the design of plant structures, systems, and components; DD-19-2, 90 NRC 197 (2019)
nuclear power plant structures, systems, and components important to safety must be designed to withstand effects of earthquakes and other natural phenomena without loss of ability to perform their safety functions; CLI-19-7, 90 NRC 1 (2019)
DISCLOSURE
mandatory disclosure obligations associated with moot contentions are terminated; LBP-19-6, 90 NRC 17 (2019)
DOCUMENTARY MATERIAL
ISFSI applicant certified with its motion to dismiss contention that NRC Staff agrees that the documents and references provided cure the omission in the environmental report identified in the board's order; LBP-19-9, 90 NRC 181 (2019)
DOCUMENTATION
because Congress did not enact NEPA to generate paperwork or impose rigid documentary specifications, federal courts are unwilling to give a hyper-technical reading of regulations such as 40 C.F.R. 1502.22; LBP-19-10, 90 NRC 287 (2019)
Commission has reformulated a contention to remove references to 40 C.F.R. 1502.22 requirements for developing a NEPA analysis when information is incomplete or unavailable; CLI-19-9, 90 NRC 121 (2019)
if information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant, the agency shall include specific information in the environmental impact statement; CLI-19-9, 90 NRC 121 (2019)
when the required information is incomplete or unavailable, the agency shall always make clear that such information is lacking; LBP-19-10, 90 NRC 287 (2019)

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DRAFT ENVIRONMENTAL IMPACT STATEMENT
NRC Staff must issue a draft supplemental environmental impact statement for subsequent renewal of an operating license; LBP-19-8, 90 NRC 139 (2019)
EARLY SITE PERMIT APPLICATION
notices of applications must be published in the Federal Register as well as other newspapers; CLI-19-10, 90 NRC 209 (2019)
EARLY SITE PERMIT PROCEEDINGS
application is subject to all procedural requirements in 10 C.F.R. Part 2; CLI-19-10, 90 NRC 209 (2019)
Commission considers whether NRC Staff's review of ESP application for small modular reactors has been adequate to support regulatory requirements; CLI-19-10, 90 NRC 209 (2019)
Commission considers whether the safety and environmental record is adequate to support issuance of the early site permit and whether NRC Staff's findings are reasonably supported in logic and fact; CLI-19-10, 90 NRC 209 (2019)
Commission does not review early site permit application de novo in an uncontested proceeding, but rather considers the sufficiency of NRC Staff's review of the application on both safety and environmental matters; CLI-19-10, 90 NRC 209 (2019)
presiding officer in a mandatory hearing must narrow its inquiry to topics or sections in NRC Staff documents that it deems most important and should concentrate on portions of the documents that do not on their face adequately explain the logic, underlying facts, and applicable regulations and guidance; CLI-19-10, 90 NRC 209 (2019)
EARLY SITE PERMITS
applicant considers the ESP application, the combined license application, and construction of two or more small modular reactors as sequential parts of a single, complex undertaking; CLI-19-10, 90 NRC 209 (2019)
applicant need not reference a specific reactor design in its application; CLI-19-10, 90 NRC 209 (2019)
applicants may request a limited work authorization in conjunction with an ESP; CLI-19-10, 90 NRC 209 (2019)
assessment in an environmental impact statement of economic, technical, or need for power and costs of the proposed action or evaluation of alternative energy sources is precluded if such issues are not addressed in the early site permit environmental report; CLI-19-10, 90 NRC 209 (2019)
authorization of an early site permit does not constitute authorization to construct or operate a reactor at the site and would require consideration of any safety and environmental issues not resolved in the ESP proceeding; CLI-19-10, 90 NRC 209 (2019)
Commission review and decision to authorize issuance of early site permit is based on the record in its entirety; CLI-19-10, 90 NRC 209 (2019)
ESP cannot be issued unless NRC makes a finding that the major features of the emergency plan meet the regulatory requirements; CLI-19-10, 90 NRC 209 (2019)
formal consultation is not required for an ESP because it will not authorize activities that may affect listed species; CLI-19-10, 90 NRC 209 (2019)
future applicant for a construction permit and operating license or COL may seek early NRC review and approval of certain siting and environmental issues and to bank a site for up to 20 years in anticipation of its future reference in an application for a construction permit or COL; CLI-19-10, 90 NRC 209 (2019)
lack of resolution on such issues as need for power, alternative energy sources, and severe accident mitigation alternatives, did not prevent issuance of ESP; CLI-19-10, 90 NRC 209 (2019)
NRC Staff is required to prepare an environmental impact statement for ESP applications; CLI-19-10, 90 NRC 209 (2019)
purpose is to provide for the early resolution of certain safety and environmental issues relating to the suitability of a proposed site; CLI-19-10, 90 NRC 209 (2019)
safety matters that must be determined for an ESP for small modular reactors are outlined; CLI-19-10, 90 NRC 209 (2019)
sections 52.24(a)(5) and (a)(7) of 10 C.F.R. are not applicable to the ESP application because applicant did not propose inspections, tests, analyses, and acceptance criteria under 10 C.F.R. 52.17(b)(3), nor did it request a limited work authorization under 10 C.F.R. 52.17(c); CLI-19-10, 90 NRC 209 (2019)
standards are met for requested exemptions for a potential 2-mile EPZ; CLI-19-10, 90 NRC 209 (2019)

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contention that environmental report dismisses the likelihood of earthquakes from increased drilling in the area and does not mention any environmental impacts from earthquakes is inadmissible; LBP-19-7, 90 NRC 31 (2019)
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byproduct materials license may remain in effect while the proceeding and NRC Staff's efforts to cure the NEPA-related deficiencies are ongoing; LBP-19-10, 90 NRC 287 (2019)
notwithstanding its finding that NRC improperly allowed the license to remain effective after concluding that a significant NEPA deficiency existed, without vacating that agency decision the court remanded the matter to the Commission to consider further whether and under what circumstances the license should remain effective; LBP-19-10, 90 NRC 287 (2019)
See also Immediate Effectiveness; Stay of Effectiveness
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licensees and applicants must address potential for station blackout events and loss of all alternating current power; DD-19-2, 90 NRC 197 (2019)
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determination of EPZ size on a case-by-case basis is allowed for gas-cooled reactors and reactors with an authorized power level less than 250 MW thermal; CLI-19-10, 90 NRC 209 (2019)
development of the 10-mile EPZ explicitly relied on the EPA protective action guides to determine where to draw that boundary; CLI-19-10, 90 NRC 209 (2019)
NRC facilities such as research and test reactors have smaller sized or no EPZs; CLI-19-10, 90 NRC 209 (2019)
purpose of 10-mile EPZ is to ensure that its size is sufficient to provide dose savings to the population in areas where the projected dose from design basis accidents could be expected to exceed the applicable EPA early phase protective action guides under unfavorable atmospheric conditions; CLI-19-10, 90 NRC 209 (2019)
small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 209 (2019)
standards are met for requested exemptions for a potential 2-mile EPZ; CLI-19-10, 90 NRC 209 (2019)
EMERGENCY PLANS
early site permit cannot be issued unless NRC makes a finding that the major features of the emergency plan meet the regulatory requirements; CLI-19-10, 90 NRC 209 (2019)
in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of emergency plan adequacy and implementation capability; CLI-19-10, 90 NRC 209 (2019)
EMERGENCY RESPONSE PLANS
contention that applicant's plan fails to establish that its proposed storage facility will effectively perform its safety functions under all credible fire and explosion conditions is inadmissible; LBP-19-7, 90 NRC 31 (2019)
ENDANGERED SPECIES
agency, in consultation with and with assistance of the Secretary of the Interior or of Commerce, must ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of critical habitat of such species; CLI-19-10, 90 NRC 209 (2019)
contention alleging that NRC Staff's draft supplemental environmental impact statement improperly fails to analyze potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is dismissed; LBP-19-6, 90 NRC 17 (2019)
contention is moot because environmental report omission is cured because draft supplemental environmental impact statement expressly considers mechanical draft cooling towers as an alternative to the canal cooling system, as well as capacity of cooling towers to reduce adverse impacts on the American crocodile and its habitat; LBP-19-6, 90 NRC 17 (2019)
contention that environmental report must discuss efforts of the oil and gas companies to save and conserve the dunes sagebrush lizard, lesser prairie chicken, and their respective habitats is inadmissible; LBP-19-7, 90 NRC 31 (2019)

if waters inhabited by manatees meet water quality criteria for ammonia, NRC Staff assumes that there would be no lethal effects or impairment to their growth, survival, or reproduction; LBP-19-6, 90 NRC 17 (2019)
neither the dunes sagebrush lizard nor the Texas horned lizard is a threatened or endangered species under federal law, and only the Texas horned lizard is considered threatened under Texas state law; LBP-19-9, 90 NRC 181 (2019)
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formal consultation is not required for an early site permit because it will not authorize activities that may affect listed species; CLI-19-10, 90 NRC 209 (2019)
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Commission elected to take a direct role in an emergency enforcement action related to pressure vessel requirements instead of delegating to NRC Staff; CLI-19-7, 90 NRC 1 (2019)
if petitioner seeks to challenge the ongoing operation of a nuclear power plant, it may file a petition for enforcement action; CLI-19-7, 90 NRC 1 (2019)
ENFORCEMENT PROCEEDINGS
director of the NRC office with responsibility for the subject matter shall either institute the requested proceeding to modify, suspend, or revoke a license or advise the person who made the request in writing that no proceeding will be instituted, in whole or in part, with respect to the request and give the reason for the decision; DD-19-2, 90 NRC 197 (2019)
ENVIRONMENTAL ANALYSIS
agencies must use a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in decision-making that may impact the environment; CLI-19-10, 90 NRC 209 (2019)
Commission has reformulated a contention to remove references to 40 C.F.R. 1502.22 requirements for developing a NEPA analysis when information is incomplete or unavailable; CLI-19-9, 90 NRC 121 (2019)
contention proposing alternative inputs or methodologies must present some factual or expert basis for why the proposed changes in the analysis are warranted; LBP-19-7, 90 NRC 31 (2019)
factual showing supporting NRC Staff's NEPA analysis is considered inadequate if the evidentiary record establishes that Staff has unduly ignored or minimized pertinent environmental effects; LBP-19-10, 90 NRC 287 (2019)
federal agencies must, in their environmental analyses, identify any methodologies used and make explicit reference by footnote to the scientific and other sources relied upon for conclusions; LBP-19-7, 90 NRC 31 (2019)
finding of environmental acceptability made by a competent state authority pursuant to a thorough hearing is properly entitled to substantial weight in the conduct of NRC NEPA analysis; LBP-19-8, 90 NRC 139 (2019)
if licensee cannot conclude that the environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements, it must prepare and provide the necessary additional environmental analysis, describing and evaluating the additional environmental impacts; CLI-19-11, 90 NRC 258 (2019)
it may always be possible to conceive of alternative and more conservative inputs, whose use in the analysis could result in greater estimated accident consequences; LBP-19-7, 90 NRC 31 (2019)
NEPA does not require agencies to analyze every conceivable aspect of a proposed project; LBP-19-10, 90 NRC 287 (2019)
NEPA gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries; LBP-19-10, 90 NRC 287 (2019)
NEPA goals are realized through a set of action-forcing procedures that require that agencies take a hard look at environmental consequences; LBP-19-10, 90 NRC 287 (2019)
NRC must consider radiological and nonradiological environmental impacts as part of the agency's licensing process; LBP-19-10, 90 NRC 287 (2019)
proper question is not whether there are plausible alternative choices for use in the analysis, but whether the analysis that was done is reasonable under NEPA; LBP-19-7, 90 NRC 31 (2019)

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ENVIRONMENTAL ASSESSMENT
consistent with longstanding NRC practice, an NRC adjudicatory decision becomes part of the environmental record of decision along with the environmental assessment itself; LBP-19-10, 90 NRC 287 (2019)
ENVIRONMENTAL EFFECTS
absent special circumstances, approvals of direct and indirect license transfers and any associated amendments required to reflect the approvals, do not individually or cumulatively have a significant effect on the environment; CLI-19-11, 90 NRC 258 (2019)
adverse environmental effects include ecological, aesthetic, historic, cultural, economic, social, or health effects; LBP-19-10, 90 NRC 287 (2019)
categorial exclusion indicates that NRC has established a sufficient administrative record to show that the subject actions do not, either individually or collectively, have a significant effect on the environment; CLI-19-11, 90 NRC 258 (2019)
goals of NEPA are to protect and promote environmental quality as well as to preserve important historic, cultural, and natural aspects of our national heritage; LBP-19-10, 90 NRC 287 (2019)
licensee in decommissioning must describe in its post-shutdown decommissioning activities report the reasons why it has concluded that the environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements; CLI-19-11, 90 NRC 258 (2019)
waste shipment-related environmental impact claims that are not pending before the Commission as part of the hearing request cannot be used to justify a stay; CLI-19-11, 90 NRC 258 (2019)
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agencies may defer certain issues in an EIS for a multistage project when detailed useful information on a given topic is not meaningfully possible to obtain, and the unavailable information is not essential to determination at the earlier stage; CLI-19-10, 90 NRC 209 (2019)
agency may limit its discussion of environmental impact to a brief statement when the alternative course involves no effect on the environment or that effect, briefly described, is simply not significant; LBP-19-8, 90 NRC 139 (2019)
agency should discuss possible mitigation measures in defining the scope of the EIS; LBP-19-10, 90 NRC 287 (2019)
agency will include analysis of mitigating actions in discussing alternatives to the proposed action and the consequences of that action; LBP-19-10, 90 NRC 287 (2019)
alternatives analysis is the heart of the EIS; CLI-19-10, 90 NRC 209 (2019)
any proposed agency action significantly affecting the quality of the human environment requires a detailed EIS; LBP-19-10, 90 NRC 287 (2019)
assessment in an EIS of economic, technical, or need for power and costs of the proposed action or evaluation of alternative energy sources is precluded if such issues are not addressed in the early site permit environmental report; CLI-19-10, 90 NRC 209 (2019)
because Congress did not enact NEPA to generate paperwork or impose rigid documentary specifications, federal courts are unwilling to give a hyper-technical reading of regulations such as 40 C.F.R. 1502.22; LBP-19-10, 90 NRC 287 (2019)
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contention that draft supplemental EIS fails to consider how cooling tower alternative could mitigate adverse impacts to groundwater use conflicts is inadmissible; LBP-19-8, 90 NRC 139 (2019)
Council on Environmental Quality outlines a mechanism for instances when an agency is unable to obtain complete information to fully assess foreseeable significant adverse effects on the human environment; LBP-19-10, 90 NRC 287 (2019)

economic, technical, and other benefits and costs of the proposed action and its alternatives must be considered; LBP-19-7, 90 NRC 31 (2019)
even if an EIS prepared by NRC Staff is found to be inadequate in certain respects, the Board's findings, as well as the adjudicatory record, become, in effect, part of the EIS; LBP-19-10, 90 NRC 287 (2019)
federal agencies must prepare an EIS before undertaking any major federal actions significantly affecting the quality of the human environment; LBP-19-7, 90 NRC 31 (2019)
federal courts are unwilling to require the inclusion of a separate, formal statement in the EIS to the effect that information is incomplete or unavailable where the record in the proceeding supplies the relevant information; LBP-19-10, 90 NRC 287 (2019)
if information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant, the agency shall include specific information in the EIS; CLI-19-9, 90 NRC 121 (2019)
if NEPA barred agency action until necessary information became available, it is unlikely that any project requiring an EIS would ever be completed; LBP-19-10, 90 NRC 287 (2019)
if NRC Staff chooses a methodology that does not include complete information about adverse effects on a tribe's cultural resources, Staff would need to include an explanation that satisfies the requirements of 40 C.F.R. 1502.22; LBP-19-10, 90 NRC 287 (2019)
it is NRC Staff's responsibility to comply with NEPA in its later-issued EIS; LBP-19-7, 90 NRC 31 (2019)
it is the essence and thrust of the National Environmental Policy Act that the pertinent EIS serve to gather in one place a discussion of the relative environmental impact of alternatives; LBP-19-8, 90 NRC 139 (2019)
mitigation discussion in an EIS is important to show that the agency has taken a hard look; LBP-19-10, 90 NRC 287 (2019)
NEPA does not mandate particular results; LBP-19-10, 90 NRC 287 (2019)
NEPA does not mandate that an agency contemplate the possible environmental impacts of less imminent activities; LBP-19-7, 90 NRC 31 (2019)
NEPA does not necessitate certainty or precision nor does it mandate particular results, but rather requires an estimate of anticipated (not unduly speculative) impacts; LBP-19-7, 90 NRC 31 (2019)
NEPA requires that an EIS must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of past, present, and reasonably foreseeable future actions; LBP-19-7, 90 NRC 31 (2019)
NRC is not obligated to analyze every conceivable aspect of the project before it; LBP-19-7, 90 NRC 31 (2019)
NRC must assess the relationship between short-term uses and long-term productivity of the environment, consider alternatives, and describe unavoidable adverse environmental impacts and the irreversible and irretrievable commitments of resources associated with the proposed action; CLI-19-10, 90 NRC 209 (2019)
NRC must look at both the probabilities of potentially harmful events and the consequences if those events come to pass; LBP-19-7, 90 NRC 31 (2019)
NRC need not perform analyses concerning events that would be considered remote and highly speculative; LBP-19-7, 90 NRC 31 (2019)
NRC need not perform analyses concerning events that would be considered worst-case scenarios involving the project; LBP-19-7, 90 NRC 31 (2019)
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NRC Staff must include an analysis of significant problems and objections raised by any affected Indian tribes and by other interested persons; LBP-19-10, 90 NRC 287 (2019)
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preparation of an EIS is meant to ensure that federal agencies will not act on incomplete information, only to regret their decision after it is too late to correct; LBP-19-7, 90 NRC 31 (2019)

related actions mist be included only when those actions have been formally proposed and are pending before an agency; LBP-19-7, 90 NRC 31 (2019)
standard format for agency EIS will include analysis of mitigating actions; LBP-19-10, 90 NRC 287 (2019)
when a decision requiring a NEPA impacts analysis is made without the informed environmental consideration that NEPA requires, the harm that NEPA intends to prevent already has been suffered; CLI-19-11, 90 NRC 258 (2019)
when the required information is incomplete or unavailable, the agency shall always make clear that such information is lacking; LBP-19-10, 90 NRC 287 (2019)
while analysis of environmental consequences is an important ingredient of an EIS, NEPA does not impose a substantive duty on agencies to include a complete mitigation plan; LBP-19-10, 90 NRC 287 (2019)
See also Draft Environmental Impact Statement; Final Environmental Impact Statement; Generic Environmental Impact Statement; Supplemental Environmental Impact Statement
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applicant must ensure that the site selection process for storage of nuclear material does not have a disparate impact on a minority population; LBP-19-7, 90 NRC 31 (2019)
area for assessment of environmental justice impacts is based on location of the proposed facility itself, not proximity to possible transportation routes and thus contention is inadmissible; LBP-19-7, 90 NRC 31 (2019)
Commission must reach its own independent determination on whether the cited NEPA requirements have been met, the final balance among conflicting factors is appropriate, and whether the early site permit should be issued, denied, or appropriately conditioned; CLI-19-10, 90 NRC 209 (2019)
contention of omission claiming that an environmental report fails to include required information can be cured by applicant supplying the missing information in a revised environmental report or by NRC Staff supplying the missing information in an environmental impact statement; LBP-19-6, 90 NRC 17 (2019)
contention that risks from transportation of the nuclear waste to the consolidated interim storage facility should be another environmental justice impact to be considered is inadmissible; LBP-19-7, 90 NRC 31 (2019)
environmental impact statement need only assess the disproportionately high and adverse human health or environmental impacts of the proposed action and its reasonable alternatives; LBP-19-7, 90 NRC 31 (2019)
federal agencies must identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations; LBP-19-7, 90 NRC 31 (2019)
for contentions asserting failure to comply with NEPA, the burden of proof is on NRC Staff; LBP-19-10, 90 NRC 287 (2019)
petitioners must file environmental contentions based on documents or other information available at the time the petition is to be filed; LBP-19-7, 90 NRC 31 (2019)
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applicant's ER must contain a discussion of the affected environment and of the environmental impact of the proposed project; LBP-19-9, 90 NRC 181 (2019)
applicants for reactor or spent fuel storage facility licenses are not required to discuss the environmental impacts of spent nuclear fuel storage for the period following the term of their license; LBP-19-7, 90 NRC 31 (2019)
assessment in an environmental impact statement of economic, technical, or need for power and costs of the proposed action or evaluation of alternative energy sources is precluded if such issues are not addressed in the early site permit environmental report; CLI-19-10, 90 NRC 209 (2019)
boards do not flyspeck applicants' ERs, and provided its ER comes to grips with all important considerations, applicant need do nothing more; LBP-19-9, 90 NRC 181 (2019)

challenge to the adequacy of NRC regulations establishing the requirements for applicants' ERs is inadmissible; LBP-19-7, 90 NRC 31 (2019)
claim that applicant grossly underestimates the concrete low-level radioactive waste in its ER also challenges the Continued Storage Rule and GEIS and is thus inadmissible; LBP-19-7, 90 NRC 31 (2019)
contention fails to raise a genuine dispute with application because it does not show any contradiction between applicant's ER and the continued storage rule or GEIS; LBP-19-7, 90 NRC 31 (2019)
contention migrates when a board construes a contention challenging an ER as a challenge to a subsequently issued NRC Staff National Environmental Policy Act document without petitioner amending the contention; LBP-19-6, 90 NRC 17 (2019)
contentions that amount to flyspecking of the ER are inadmissible; LBP-19-7, 90 NRC 31 (2019)
continued storage rule expressly provides that license applicants' ERs are not required to discuss the environmental impacts of spent nuclear fuel storage in an independent spent fuel storage installation for the period following the term of the ISFSI license; LBP-19-7, 90 NRC 31 (2019)
if applicant's ER on its face comes to grips with all important considerations, nothing more need be done; LBP-19-7, 90 NRC 31 (2019)
independent spent fuel storage installation applicant certified with its motion to dismiss contention that NRC Staff agrees that the documents and references provided cure the omission in the environmental report identified in the Board's order; LBP-19-9, 90 NRC 181 (2019)
independent spent fuel storage installation's ER must consider transportation impacts, but it need not prove the safety of transportation packages because 10 C.F.R. Part 71 separately addresses these issues; LBP-19-11, 90 NRC 358 (2019)
interim storage facility application must discuss the affected environment and impacts to that environment from the project, including animal habitats in the area and those likely impacts upon them by the proposed action; LBP-19-7, 90 NRC 31 (2019)
petitioner fails to raise a genuine dispute as to whether the studies adequately support applicant's description of the affected environment for the dunes sagebrush lizard and the Texas horned lizard; LBP-19-9, 90 NRC 181 (2019)
subsequent operating license renewal applicant must submit an ER with its application; LBP-19-8, 90 NRC 139 (2019)
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although a federal agency must analyze environmental consequences in its environmental review where it is reasonably possible to do so, NEPA's rule of reason acknowledges that in certain cases an agency may be unable to obtain information to support a complete analysis; LBP-19-10, 90 NRC 287 (2019)
Commission does not review early site permit application de novo in an uncontested proceeding, but rather considers the sufficiency of NRC Staff's review of the application on both safety and environmental matters; CLI-19-10, 90 NRC 209 (2019)
Commission will not second-guess NRC Staff's underlying technical or factual findings unless it finds that Staff's review is incomplete or inadequate or its findings insufficiently explained in the record; CLI-19-10, 90 NRC 209 (2019)
contention migrates when a licensing board construes an admitted contention challenging applicant's environmental review document as a challenge to a subsequently issued NRC Staff environmental review document without petitioner amending the contention; LBP-19-10, 90 NRC 287 (2019)
findings required by subpart A of 10 C.F.R. Part 51 reflect NRC's obligations to consider the impacts of NRC actions on environmental values; CLI-19-10, 90 NRC 209 (2019)
for NRC Staff to prevail on the factual issues, the standard of proof that it must attain is preponderance of the evidence; LBP-19-10, 90 NRC 287 (2019)
in seeking to assess environmental impacts, agencies are free to select their own methodology so long as that methodology is reasonable; LBP-19-10, 90 NRC 287 (2019)
licensing boards may look beyond the face of NRC Staff's NEPA document and examine the entire administrative record to determine whether Staff's underlying review was sufficiently detailed to qualify as reasonable and a hard look under NEPA even if Staff's description of that review in the NEPA document was not; LBP-19-10, 90 NRC 287 (2019)
NRC hearings on NEPA issues focus entirely on the adequacy of the NRC Staff's work; LBP-19-10, 90 NRC 287 (2019)

NRC Staff need not address every impact that could possibly result, but rather only those that are reasonably foreseeable or have some likelihood of occurring; LBP-19-10, 90 NRC 287 (2019)
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presumption of irreparable damage is contrary to traditional equitable principles; CLI-19-11, 90 NRC 258 (2019)
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board dismissed a contention conditionally affected the basic structure of the proceeding in a pervasive and unusual manner; CLI-19-9, 90 NRC 121 (2019)
board legal error that affected the basic structure of the proceeding in a pervasive and unusual manner has been found only in rare situations; CLI-19-9, 90 NRC 121 (2019)
establishment of a separate board for different contentions affected the basic structure of the proceeding in a pervasive and unusual manner; CLI-19-9, 90 NRC 121 (2019)
to the extent the board has focused its analysis on whether NRC Staff advanced a reasonable proposal to conduct a cultural survey and whether its determination to discontinue the survey was reasonable, Commission could not see a legal error with respect to 40 C.F.R. 1502.22; CLI-19-9, 90 NRC 121 (2019)
EXEMPTIONS
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small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 209 (2019)
special circumstances are present when application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve that purpose; CLI-19-10, 90 NRC 209 (2019)
standards are met for requested exemptions for a potential 2-mile EPZ; CLI-19-10, 90 NRC 209 (2019)
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if applicant seeking tribal cultural resources information to present to NRC is unable to agree on a fee with the tribe, applicant may seek other means to fulfill its obligation; LBP-19-10, 90 NRC 287 (2019)
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NRC Staff conclusion on the no significant hazards consideration is final, subject only to the Commission's discretion, on its own initiative, to review the determination; CLI-19-11, 90 NRC 258 (2019)
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DOE lacks statutory authority under the Nuclear Waste Policy Act to provide interim storage; LBP-19-7, 90 NRC 31 (2019)
DOE was to begin disposing of the nuclear power plants' spent fuel no later than January 31, 1998; LBP-19-7, 90 NRC 31 (2019)
power reactor licensees were required to pay into a nuclear waste fund for construction of the waste repository; LBP-19-7, 90 NRC 31 (2019)
private company is not prohibited from seeking a license to construct a consolidated interim storage facility at any time; LBP-19-7, 90 NRC 31 (2019)
NUCLEAR WASTE TECHNICAL REVIEW BOARD
if petitioner believes the NWTRB Report warrants revisions in the NRC's rules and regulations, it may petition the Commission; LBP-19-11, 90 NRC 358 (2019)
responsibility under the Nuclear Waste Policy Amendments Act of 1987 to evaluate technical and scientific validity of activities undertaken by the Secretary of Energy including activities relating to the packaging or transportation of high-level radioactive waste or spent nuclear fuel is NWTRB's; LBP-19-11, 90 NRC 358 (2019)
OPERATING LICENSE AMENDMENT PROCEEDINGS
if a hearing on a license amendment request is sought and granted, that hearing must take place before NRC Staff's action on the request; CLI-19-7, 90 NRC 1 (2019)
reactor license amendment may be authorized during pendency of a hearing on the amendment if NRC has first determined that the amendment involves no significant hazards consideration; CLI-19-7, 90 NRC 1 (2019)
OPERATING LICENSE AMENDMENTS
although petitioner does not refer to its request for review of NRC Staff's no significant hazards consideration determination as an application for a stay, it is essentially asking for a stay of Staff's action by requesting that the amendment not take effect until the hearing is complete; CLI-19-7, 90 NRC 1 (2019)
amendment may be authorized during pendency of a hearing on the amendment if NRC has first determined that the amendment involves no significant hazards consideration; CLI-19-7, 90 NRC 1 (2019)
decision on an amendment request requires reasonable assurance of adequate protection of the health and safety of the public and the common defense and security, while a determination on the significant hazards consideration addresses whether a hearing must be held before, rather than after, issuance of an amendment; CLI-19-7, 90 NRC 1 (2019)
if a proposed license amendment meets any of the three criteria listed in 10 C.F.R. 50.92(c), a significant hazards consideration exists; CLI-19-7, 90 NRC 1 (2019)
OPERATING LICENSE RENEWAL
renewed license could be revoked or modified, if necessary, to reflect the outcome of the hearing process; CLI-19-7, 90 NRC 1 (2019)
See also Subsequent Operating License Renewal

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OPERATING LICENSE RENEWAL PROCEEDINGS
no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 1 (2019)
PENDENCY OF PROCEEDINGS
despite a pending adjudicatory proceeding, NRC Staff is expected to promptly issue approval or denial of an application, consistent with the findings in its safety evaluation report; CLI-19-11, 90 NRC 258 (2019)
license transfer applicants may rely on an NRC Staff order approving an application, but both transferor and transferee do so at their own risk in the event that the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-19-11, 90 NRC 258 (2019)
NRC Staff generally issues an immediately effective order approving a license transfer although a hearing on the application, or a Commission decision on petitions for hearing, remains pending; CLI-19-11, 90 NRC 258 (2019)
prior to a hearing on admitted contentions, NRC Staff may issue a Part 40 source materials license; LBP-19-10, 90 NRC 287 (2019)
reactor license amendment may be authorized during pendency of a hearing on the amendment, as long as NRC has first determined that the amendment involves no significant hazards consideration; CLI-19-7, 90 NRC 1 (2019)
PERMANENT REPOSITORY
DOE is precluded from taking title to spent fuel unless and until a permanent repository has opened; LBP-19-7, 90 NRC 31 (2019)
PERMITS
prior to construction, applicant must obtain any necessary permits and certifications from the state and U.S. Army Corps of Engineers for construction and use of its water intake structure for small modular reactors; CLI-19-10, 90 NRC 209 (2019)
See also Early Site Permits
PLEADINGS
admissible contention must show that a genuine dispute exists on a material issue of law or fact by referring to specific portions of the application that the petitioner disputes; LBP-19-9, 90 NRC 181 (2019)
admissible contention must state the alleged facts or expert opinions that support petitioner's position; LBP-19-9, 90 NRC 181 (2019)
contention that relies on unidentified new reports and an expert opinion is inadmissible; LBP-19-8, 90 NRC 139 (2019)
it is not up to licensing boards to search through pleadings or other materials to uncover arguments and support never advanced by petitioners themselves; LBP-19-8, 90 NRC 139 (2019)
passing and nondescript reference to a lengthy section in petitioner's motion fails to satisfy requirement to provide a concise statement of the alleged facts or expert opinions that support the contention, along with references to the specific sources and documents; LBP-19-8, 90 NRC 139 (2019)
POWER UPRATE
NRC Staff's analysis and conclusion on NEPA requirement on electrical output may be updated in a supplement to the final EIS if and when it receives an application for a construction permit or combined license referencing the early site permit that contains cost-benefit and need-for-power information; CLI-19-10, 90 NRC 209 (2019)
PRESSURIZED-WATER REACTOR
Certificate of Compliance for NUHOMS MP-187 only authorizes pressurized water reactor fuel to be loaded into the cask, not boiling water reactor fuel; LBP-19-7, 90 NRC 31 (2019)
PRESUMPTION
court will not presume irreparable harm, but rather there must be a satisfactory showing; CLI-19-11, 90 NRC 258 (2019)
in ruling on stay motions, the Commission does not presume that a statutory violation without more equates to a showing of irreparable injury; CLI-19-11, 90 NRC 258 (2019)

irreparable damage that is presumed is contrary to traditional equitable principles; CLI-19-11, 90 NRC 258 (2019)
PRESUMPTION OF REGULARITY
federal agencies are assumed to act properly in the absence of evidence to the contrary; LBP-19-7, 90 NRC 31 (2019)
PROBABILISTIC RISK ASSESSMENT
NRC must look at both the probabilities of potentially harmful events and the consequences if those events come to pass; LBP-19-7, 90 NRC 31 (2019)
PROTECTIVE ACTION GUIDES
development of the 10-mile EPZ explicitly relied on the EPA PAGs to determine where to draw that boundary; CLI-19-10, 90 NRC 209 (2019)
PROXIMITY PRESUMPTION
mere geographic proximity to potential transportation routes is insufficient to confer standing; LBP-19-7, 90 NRC 31 (2019)
proximity plus standard for standing to intervene is applied on a case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source; LBP-19-7, 90 NRC 31 (2019)
relevant distance from a consolidated interim storage facility to establish proximity-based standing is likely less than 50 miles because such a storage facility is essentially a passive structure rather than an operating facility, and therefore has less chance of widespread radioactive release; LBP-19-7, 90 NRC 31 (2019)
standing based on geographic proximity is not confined solely to Part 50 reactor licenses, but is also applicable to materials cases where the potential for offsite consequences is obvious; LBP-19-7, 90 NRC 31 (2019)
standing has been approved for petitioners within 10 miles of proposed spent fuel facility expansions; LBP-19-7, 90 NRC 31 (2019)
standing of individual with part-time residence located 10 miles from spent fuel facility has been approved; LBP-19-7, 90 NRC 31 (2019)
QUALITY ASSURANCE
NRC-approved QA programs ensure that a transportation accident or canister breach is not credible; LBP-19-7, 90 NRC 31 (2019)
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NEPA does not require a free-ranging inquiry into the site selection process to resolve allegations of discrimination; LBP-19-7, 90 NRC 31 (2019)
RADIATION SURVEYS
license termination plan must include a site characterization, plans for site remediation, an updated decommissioning cost estimate, and detailed plans for the final radiation survey; CLI-19-11, 90 NRC 258 (2019)
RADIOACTIVE WASTE, LOW-LEVEL
claim that applicant grossly underestimates the concrete low-level radioactive waste in its environmental report also challenges the Continued Storage Rule and Continued Storage GEIS and is thus inadmissible; LBP-19-7, 90 NRC 31 (2019)
RADIOACTIVE WASTE STORAGE
Yucca Mountain was authorized by statute to store 70,000 metric tons of high-level waste; LBP-19-7, 90 NRC 31 (2019)
See also High-Level Waste Repository; Permanent Repository
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early site permit applicant need not reference a specific reactor design in its application; CLI-19-10, 90 NRC 209 (2019)
REACTORS
See Boiling-Water Reactors; Pressurized-Water Reactor; Research Reactors; Small Modular Reactors
REASONABLE ASSURANCE
decision on an amendment request requires reasonable assurance of adequate protection of the health and safety of the public and the common defense and security, while a determination on the significant

hazards consideration addresses whether a hearing must be held before, rather than after, issuance of an amendment; CLI-19-7, 90 NRC 1 (2019)
REASONABLENESS STANDARD
there are no specific regulatory findings for an applicant's site selection criteria, but rather, the criteria are examined for reasonableness; LBP-19-7, 90 NRC 31 (2019)
REBUTTABLE PRESUMPTION
in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of emergency plan adequacy and implementation capability; CLI-19-10, 90 NRC 209 (2019)
RECORD OF DECISION
Commission review and decision to authorize issuance of early site permit is based on the record in its entirety; CLI-19-10, 90 NRC 209 (2019)
consistent with longstanding NRC practice, an NRC adjudicatory decision becomes part of the environmental ROD along with the environmental assessment itself; LBP-19-10, 90 NRC 287 (2019)
even if an EIS prepared by NRC Staff is found to be inadequate in certain respects, the board's findings, as well as the adjudicatory record, become, in effect, part of the EIS; LBP-19-10, 90 NRC 287 (2019)
final environmental impact statement is subject to modification by the licensing board in light of other evidence in the record; LBP-19-10, 90 NRC 287 (2019)
REFERRAL OF RULING
presiding officer or board may refer a ruling to the Commission for immediate review if in the presiding officer's judgment, the ruling presents significant and novel legal or policy issues; CLI-19-9, 90 NRC 121 (2019)
REGULATIONS
Council on Environmental Quality regulations do not bind NRC, but they are given substantial deference, subject to certain conditions; CLI-19-9, 90 NRC 121 (2019); LBP-19-7, 90 NRC 31 (2019)
no NRC rule or regulation may be challenged in a contention unless petitioner seeks and obtains a waiver from the Commission; CLI-19-7, 90 NRC 1 (2019); LBP-19-7, 90 NRC 31 (2019); LBP-19-8, 90 NRC 139 (2019); LBP-19-11, 90 NRC 358 (2019)
NRC may prescribe such regulations or order as it may deem necessary to ensure that sufficient funds will be available for the decommissioning of any production or utilization facility; CLI-19-11, 90 NRC 258 (2019)
NRC, as an independent regulatory agency, is not bound by those portions of Council on Environmental Quality's NEPA regulations that have a substantive impact on the way in which the Commission performs its regulatory functions; LBP-19-10, 90 NRC 287 (2019)
REGULATIONS, INTERPRETATION
because Congress did not enact NEPA to generate paperwork or impose rigid documentary specifications, federal courts are unwilling to give a hyper-technical reading of regulations such as 40 C.F.R. 1502.22; LBP-19-10, 90 NRC 287 (2019)
"materially" in 10 C.F.R. 2.309(c)(1)(ii) describes the type or degree of difference between the new information and previously available information and is synonymous with, for example, "significantly," "considerably," or "importantly"; LBP-19-8, 90 NRC 139 (2019)
"materially different" in 10 C.F.R. 2.309(c)(1)(ii) means significantly different from information that was previously available; LBP-19-9, 90 NRC 181 (2019)
section 72.122(c) is a facility design requirement; LBP-19-7, 90 NRC 31 (2019)
sections 52.24(a)(5) and 52.24(a)(7) are not applicable to the early site permit because applicant did not propose inspections, tests, analyses, and acceptance criteria under 10 C.F.R. 52.17(b)(3), nor did it request a limited work authorization under 10 C.F.R. 52.17(c); CLI-19-10, 90 NRC 209 (2019)
under section 1502.22, the terms "incomplete" and "unavailable" both refer to information that cannot be obtained because the overall costs are exorbitant or the means of obtaining it are not known; LBP-19-10, 90 NRC 287 (2019)
REMAND
court declined to require remand to prepare additional EIS when pertinent information had already been incorporated into a publicly accessible Commission opinion, given that to do so would treat the EIS as an end in itself and would not meaningfully serve NEPA's goals; LBP-19-10, 90 NRC 287 (2019)
notwithstanding its finding that NRC improperly allowed the license to remain effective after concluding that a significant NEPA deficiency existed, without vacating that agency decision the court remanded

the matter to the Commission to consider further whether and under what circumstances the license should remain effective; LBP-19-10, 90 NRC 287 (2019)
REOPENING A RECORD
petitioner must show that its motion was timely filed, concerns a significant safety or environmental issue, and demonstrates that a materially different result would be or would have been likely had the newly proffered evidence been considered initially; CLI-19-7, 90 NRC 1 (2019)
reopening is considered to be an extraordinary action; CLI-19-7, 90 NRC 1 (2019)
REPLY BRIEFS
Commission will not permit, in a reply, the filing of new arguments or new legal theories that opposing parties have not had an opportunity to address; LBP-19-7, 90 NRC 31 (2019)
litigant who petitions for a rule waiver is not permitted to file a reply; LBP-19-8, 90 NRC 139 (2019)
moving party has no right to reply, except as permitted when compelling circumstances exist; CLI-19-7, 90 NRC 1 (2019)
petitioner has no right to reply even to an application for a stay; CLI-19-7, 90 NRC 1 (2019)
petitioner's citation in its reply to a requirement that the ecological surveys referenced and summarized in the environmental report all must be publicly available constitutes a legitimate amplification of the argument in its original petition; LBP-19-7, 90 NRC 31 (2019)
to justify a reply, petitioner must demonstrate compelling circumstances that it could not reasonably have anticipated the arguments to which it seeks leave to reply; CLI-19-7, 90 NRC 1 (2019)
REPORTING REQUIREMENTS
if decommissioning funds remaining in the trust do not cover the cost to complete decommissioning, the financial assurance status report must include additional financial assurance to cover the estimated cost of completion; CLI-19-11, 90 NRC 258 (2019)
licensee in decommissioning must describe in its post-shutdown decommissioning activities report the reasons why it has concluded that environmental impacts associated with site-specific decommissioning will be bounded by appropriate previously issued environmental impact statements; CLI-19-11, 90 NRC 258 (2019)
licensee that has submitted certifications of permanent cessation of operations and permanent removal of fuel may begin major decommissioning activities 90 days after NRC has received its post-shutdown decommissioning activities report; CLI-19-11, 90 NRC 258 (2019)
through required annual status reports, NRC monitors the status of decommissioning funding and spent fuel management funding; CLI-19-11, 90 NRC 258 (2019)
REPROCESSING OF RADIOACTIVE MATERIALS
contention that NEPA requires a cumulative impacts analysis of reprocessing spent nuclear fuel at the proposed facility because such action falls within the realm of cumulative actions delineated in the CEQ regulations is inadmissible; LBP-19-7, 90 NRC 31 (2019)
REQUEST FOR ACTION
if petitioner seeks to challenge the ongoing operation of a nuclear power plant, it may file a petition seeking enforcement action; CLI-19-7, 90 NRC 1 (2019)
request that NRC require that the plant's current licensing basis explicitly include flooding caused by local intense precipitation/probable maximum precipitation events is denied; DD-19-2, 90 NRC 197 (2019)
RESEARCH REACTORS
NRC facilities such as research and test reactors have smaller sized or no emergency planning zone; CLI-19-10, 90 NRC 209 (2019)
REVIEW
See Appellate Review; Environmental Review; NRC Staff Review; Safety Review; Standard of Review
REVIEW, DISCRETIONARY
Commission may exercise its discretion to take review of a matter to address a novel or important issue, but its decision to do so stems from its inherent supervisory authority over adjudications and in no way implies that parties have a right to seek interlocutory review on that same ground; CLI-19-7, 90 NRC 1 (2019)
Commission may exercise its discretionary authority to consider petitions for stay of effectiveness; CLI-19-7, 90 NRC 1 (2019)

NRC Staff conclusion on the no significant hazards consideration is final, subject only to the Commission's discretion, on its own initiative, to review the determination; CLI-19-7, 90 NRC 1 (2019); CLI-19-11, 90 NRC 258 (2019)
whether intervenors' failure to provide proposed findings is fatal to their ability to take an appeal from a final initial decision will be a matter for Commission determination; LBP-19-10, 90 NRC 287 (2019)
REVIEW, INTERLOCUTORY
argument that truly exceptional delay or expense, resulting from contention potentially requiring production of thousands of documents, constituted irreparable harm warranting interlocutory review has been rejected; CLI-19-9, 90 NRC 121 (2019)
if the party requesting review can show that it is threatened with immediate and serious irreparable impact or the board's decision affects the basic structure of the proceeding in a pervasive and unusual manner, review is allowed; CLI-19-9, 90 NRC 121 (2019)
party does not have the right to solicit Commission review directly on a claim of a novel issue of law; CLI-19-9, 90 NRC 121 (2019)
protracted litigation in itself provides no grounds for review; CLI-19-9, 90 NRC 121 (2019)
unsubstantiated claims that risks to a licensee's credit rating, ability to obtain financing, and ability to carry on its work do not constitute irreparable harm warranting interlocutory review; CLI-19-9, 90 NRC 121 (2019)
RISK ANALYSIS
contention that NEPA requires significant security risk analyses for the spent nuclear fuel and greater-than-Class-C wastes proposed for interim storage, and associated transportation component is inadmissible; LBP-19-7, 90 NRC 31 (2019)
See also Probabilistic Risk Assessment
RULE OF REASON
although a federal agency must analyze environmental consequences in its environmental review where it is reasonably possible to do so, in certain cases an agency may be unable to obtain information to support a complete analysis; LBP-19-10, 90 NRC 287 (2019)
consistent with NEPA, projects that are merely contemplated and not concrete or reasonably certain do not warrant consideration in a cumulative impact analysis; LBP-19-7, 90 NRC 31 (2019)
hard-look requirement is subject to a rule of reason; LBP-19-7, 90 NRC 31 (2019)
RULEMAKING
if petitioner believes the NWTRB Report warrants revisions in the NRC's rules and regulations, it may petition the Commission; LBP-19-11, 90 NRC 358 (2019)
where petitioner is dissatisfied with the Commission's generic approach to a technical issue, the rulemaking process is more appropriate than the adjudicatory process; CLI-19-7, 90 NRC 1 (2019)
RULES OF PRACTICE
admissible contention must meet six pleading standards; LBP-19-7, 90 NRC 31 (2019)
analysis of admissibility of contention that is not actually based on any of the recently available, materially different information is more appropriately conducted under the contention admissibility criteria than under 10 C.F.R. 2.309(c)(1); LBP-19-9, 90 NRC 181 (2019)
application for a stay must contain a statement of the grounds for a stay, with reference to the factors in 2.1213(d); CLI-19-7, 90 NRC 1 (2019)
challenges to a regulation in an adjudicatory proceeding are prohibited absent a waiver of the regulation; CLI-19-7, 90 NRC 1 (2019); LBP-19-7, 90 NRC 31 (2019); LBP-19-11, 90 NRC 358 (2019)
contention must raise an issue that is within the scope of the proceeding; LBP-19-11, 90 NRC 358 (2019)
contention that mounts a generalized attack on adequacy of NRC's regulations fails to raise a genuine dispute on a material issue of law or fact; LBP-19-11, 90 NRC 358 (2019)
contention that petitioner seeks to adopt must also be admissible; LBP-19-7, 90 NRC 31 (2019)
director of the NRC office responsible for the subject matter shall either institute the requested proceeding to modify, suspend, or revoke a license or advise the person who made the request in writing that no proceeding will be instituted, in whole or in part, with respect to the request and give the reason for the decision; DD-19-2, 90 NRC 197 (2019)
early site permit application is subject to all procedural requirements in 10 C.F.R. Part 2; CLI-19-10, 90 NRC 209 (2019)

four factors must be considered in requests to stay the decision or action of a presiding officer; CLI-19-8, 90 NRC 27 (2019); CLI-19-11, 90 NRC 258 (2019)
good cause for late filing exists if litigant shows that information on which the new or amended contention is based was not previously available and is materially different from information previously available and has been timely submitted based on availability of the subsequent information; LBP-19-8, 90 NRC 139 (2019)
government entity cannot participate as an interested governmental participant without adopting an admitted contention pursuant to 10 C.F.R. 2.315(c); LBP-19-8, 90 NRC 139 (2019)
in addition to demonstrating standing, intervention petitioner must proffer at least one admissible contention; LBP-19-7, 90 NRC 31 (2019)
in Part 2, Subpart L proceeding, each party shall file proposed findings; LBP-19-10, 90 NRC 287 (2019)
information that petitioner should include in its intervention petition to establish standing is provided, but 10 C.F.R. 2.309(d) does not set a standard that a licensing board must apply when deciding whether that information is sufficient; LBP-19-7, 90 NRC 31 (2019)
interlocutory review is allowed only where the party requesting review can show that it is threatened with immediate and serious irreparable impact or the board's decision affects the basic structure of the proceeding in a pervasive and unusual manner; CLI-19-9, 90 NRC 121 (2019)
litigant who seeks to challenge a Commission regulation must meet the rule waiver criteria; LBP-19-8, 90 NRC 139 (2019)
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party may request that the board certify a ruling for immediate Commission review; CLI-19-9, 90 NRC 121 (2019)
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petitioner that proffers a new or amended contention after the initial deadline for hearing requests must demonstrate good cause for doing so; LBP-19-11, 90 NRC 358 (2019)
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six-factor contention admissibility standard of 10 C.F.R. 2.309(f)(1)(i)-(vi) must be satisfied; LBP-19-8, 90 NRC 139 (2019)
stay petitioner must address the factors that are weighed when considering whether to grant a request to stay the effectiveness of a Staff order on a license transfer application; CLI-19-8, 90 NRC 27 (2019)
stay petitioner must meet the irreparable injury, likelihood of prevailing on the merits, harm to other participants, and public interest criteria; CLI-19-7, 90 NRC 1 (2019)
three-factor good cause standard governs timeliness of contentions that are proffered after the deadline for submitting initial hearing petitions in section 2.309(b); LBP-19-8, 90 NRC 139 (2019)
to challenge the adequacy of new information, intervenor must timely file a new contention that addresses the factors in 10 C.F.R. 2.309(f)(1); LBP-19-6, 90 NRC 17 (2019)
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license termination plan must include a site characterization, plans for site remediation, an updated decommissioning cost estimate, and detailed plans for the final radiation survey; CLI-19-11, 90 NRC 258 (2019)
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applicant must ensure that the process for storage of nuclear material does not have a disparate impact on a minority population; LBP-19-7, 90 NRC 31 (2019)
NEPA does not require a free-ranging inquiry into the process to resolve allegations of racial discrimination; LBP-19-7, 90 NRC 31 (2019)
NRC may accord substantial weight to preferences of applicant and/or sponsor in the siting and design of the project as long as the application is not so artificially narrow as to circumvent the requirement that reasonable alternatives must be considered; LBP-19-7, 90 NRC 31 (2019)
process is driven by the purpose and need specified in the application; LBP-19-7, 90 NRC 31 (2019)

there are no specific regulatory findings for an applicant's site selection criteria, but rather, the criteria are examined for reasonableness; LBP-19-7, 90 NRC 31 (2019)
SITE SUITABILITY
purpose of early site permit is to provide for the early resolution of certain safety and environmental issues relating to the suitability of a proposed site; CLI-19-10, 90 NRC 209 (2019)
SITE SURVEY
in conducting a site survey to identify cultural resources, use of a facilitator, along the lines of a cultural anthropologist who would provide logistics support, documentation, recording support, and report preparation, has usually been the best approach; LBP-19-10, 90 NRC 287 (2019)
SMALL MODULAR REACTORS
applicant considers the early site permit application, the combined license application, and construction of two or more SMRs as sequential parts of a single, complex undertaking; CLI-19-10, 90 NRC 209 (2019)
Commission considers whether NRC Staff's review of early site permit application for SMRs has been adequate to support regulatory requirements; CLI-19-10, 90 NRC 209 (2019)
design offers increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 209 (2019)
NRC Staff's analysis and conclusion on NEPA requirement on electrical output may be updated in a supplement to the final EIS if and when it receives an application for a construction permit or combined license referencing the ESP that contains cost-benefit and need-for-power information; CLI-19-10, 90 NRC 209 (2019)
prior to construction, applicant must obtain any necessary permits and certifications from the state and U.S. Army Corps of Engineers for construction and use of its water intake structure for SMRs; CLI-19-10, 90 NRC 209 (2019)
safety matters that must be determined for an early site permit for SMRs are outlined; CLI-19-10, 90 NRC 209 (2019)
standards are met for requested exemptions for a potential 2-mile EPZ; CLI-19-10, 90 NRC 209 (2019)
SOURCE MATERIALS LICENSES
NRC is authorized to issue licenses for possession and use of source material and AEA section 11e(2) byproduct material; LBP-19-10, 90 NRC 287 (2019)
prior to a hearing on admitted contentions, NRC Staff may issue a Part 40 license; LBP-19-10, 90 NRC 287 (2019)
SPECIAL CIRCUMSTANCES
exemption from rules may be granted when application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve that purpose; CLI-19-10, 90 NRC 209 (2019)
small modular reactor designs offer increased safety, including a reduced likelihood of accidents, slower accident progression, and reduced accident consequences presenting special circumstances for exemption from 10-mile EPZ rule; CLI-19-10, 90 NRC 209 (2019)
SPENT FUEL MANAGEMENT
contention that NEPA requires a cumulative impacts analysis of reprocessing spent nuclear fuel at the proposed facility because such action falls within the realm of cumulative actions delineated in the CEQ regulations is inadmissible; LBP-19-7, 90 NRC 31 (2019)
through required annual status reports, NRC monitors the status of the decommissioning funding and the spent fuel management funding; CLI-19-11, 90 NRC 258 (2019)
See also Transportation of Spent Fuel
SPENT FUEL POOLS
safety of fuel located in the spent fuel pool is assured for an extended period through maintenance of pool structural integrity, which preserves coolant inventory and maintains margin to prevent criticality; DD-19-2, 90 NRC 197 (2019)
SPENT FUEL STORAGE
claim that separation of the environmental impacts from spent fuel transportation and the storage itself comprises unlawful segmentation of the project is outside the scope of independent spent fuel storage installation proceedings; LBP-19-7, 90 NRC 31 (2019)

DOE is precluded from taking title to spent fuel unless and until a permanent repository has opened; LBP-19-7, 90 NRC 31 (2019)
DOE lacks statutory authority under the Nuclear Waste Policy Act to provide interim storage; LBP-19-7, 90 NRC 31 (2019)
DOE was to begin disposing of the nuclear power plants' spent fuel no later than January 31, 1998; LBP-19-7, 90 NRC 31 (2019)
DOE's statutory responsibility to store the nation's spent nuclear fuel at a permanent repository and hence eventually to implement a national transportation program for nuclear waste is not a private applicant's responsibility; LBP-19-11, 90 NRC 358 (2019)
NRC inadequately performed its NEPA evaluation by not considering the environmental effects of failing to secure permanent storage; LBP-19-7, 90 NRC 31 (2019)
packaging must allow handling and retrievability without the release of radioactive materials to the environment; LBP-19-7, 90 NRC 31 (2019)
when a permanent repository failed to materialize, power plant licensees sued and began to recover from the federal government substantial damages to cover the cost of continuing to store spent fuel at their sites; LBP-19-7, 90 NRC 31 (2019)
See also Continued Storage Rule; Independent Spent Fuel Storage Installation; Interim Storage Facility; Temporary Storage Rule
SPENT FUEL STORAGE CASKS
Certificate of Compliance for NUHOMS MP-187 authorizes only pressurized water reactor fuel to be loaded into the cask, not boiling water reactor fuel; LBP-19-7, 90 NRC 31 (2019)
certificates of compliance are designated by NRC rulemaking as approved storage systems, and any challenge to them is an impermissible challenge to NRC regulations; LBP-19-7, 90 NRC 31 (2019)
challenge to safety of NRC-approved transportation packages is outside the scope of an independent spent fuel storage installation proceeding; LBP-19-11, 90 NRC 358 (2019)
claim that a rejected cask will lead to a cascade of stranded and neglected spent fuel across the country is speculative and inadmissible; LBP-19-7, 90 NRC 31 (2019)
contention challenging an NRC-approved storage cask design that has been incorporated by reference in a spent fuel storage facility application is barred; LBP-19-7, 90 NRC 31 (2019)
contention that storage and transportation of containers loaded with high heat output will be likely to leak radioactive material into the environment in a transportation accident is inadmissible; LBP-19-7, 90 NRC 31 (2019)
independent spent fuel storage installation's environmental report must consider transportation impacts, but it need not prove the safety of transportation packages because 10 C.F.R. Part 71 separately addresses these issues; LBP-19-11, 90 NRC 358 (2019)
responsibility for transporting spent nuclear fuel to a proposed facility, including any repackaging required, would lie with the title holders of the fuel; LBP-19-11, 90 NRC 358 (2019)
to show a genuine material dispute, petitioner's contention would have to give the board reason to believe that contamination from a defective canister could find its way outside of the cask; LBP-19-7, 90 NRC 31 (2019)
STANDARD OF PROOF
for NRC Staff to prevail on the factual issues, the standard of proof that it must attain is preponderance of the evidence; LBP-19-10, 90 NRC 287 (2019)
STANDARD OF REVIEW
Commission considers whether the safety and environmental record is adequate to support issuance of the early site permit and whether NRC Staff's findings are reasonably supported in logic and fact; CLI-19-10, 90 NRC 209 (2019)
Commission does not review early site permit application de novo in an uncontested proceeding, but rather considers the sufficiency of NRC Staff's review of the application on both safety and environmental matters; CLI-19-10, 90 NRC 209 (2019)
presiding officer in a mandatory hearing must narrow its inquiry to topics or sections in NRC Staff documents that it deems most important and should concentrate on portions of the documents that do not on their face adequately explain the logic, underlying facts, and applicable regulations and guidance; CLI-19-10, 90 NRC 209 (2019)

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STANDING TO INTERVENE
in addition to demonstrating standing, intervention petitioner must proffer at least one admissible contention; LBP-19-7, 90 NRC 31 (2019)
in proceedings that involve construction or operation of a nuclear power plant, the zone of potential harm is deemed to be the area within a 50-mile radius of the site; LBP-19-7, 90 NRC 31 (2019)
information that petitioner should include in its intervention petition to establish standing is provided but 10 C.F.R. 2.309(d) does not set a standard that a licensing board must apply when deciding whether that information is sufficient; LBP-19-7, 90 NRC 31 (2019)
intervention petition is construed in favor of the petitioner to determine standing; LBP-19-7, 90 NRC 31 (2019)
it is petitioner's burden to demonstrate that standing requirements are met; LBP-19-7, 90 NRC 31 (2019)
mere geographic proximity to potential transportation routes is insufficient to confer standing; LBP-19-7, 90 NRC 31 (2019)
NRC applies contemporaneous judicial concepts of standing to determine whether a petitioner has a sufficient interest; LBP-19-7, 90 NRC 31 (2019)
petitioner may show traditional standing by showing that a person or organization has suffered or might suffer a concrete and particularized injury that is fairly traceable to the challenged action, likely redressable by a favorable decision, and arguably within the zone of interests protected by the governing statutes; LBP-19-7, 90 NRC 31 (2019)
petitioner was denied reintervention in a proceeding in which its most recent filing had been submitted well over 4 years ago; LBP-19-11, 90 NRC 358 (2019)
presumption of standing based on geographic proximity is not confined solely to Part 50 reactor licenses, but is also applicable to materials cases where the potential for offsite consequences is obvious; LBP-19-7, 90 NRC 31 (2019)
proximity plus standard for standing to intervene is applied on a case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source; LBP-19-7, 90 NRC 31 (2019)
relevant distance from a consolidated interim storage facility to establish proximity-based standing is likely less than 50 miles because such a storage facility is essentially a passive structure rather than an operating facility, and therefore has less chance of widespread radioactive release; LBP-19-7, 90 NRC 31 (2019)
standing has been approved for petitioners within 10 and 17 miles of proposed spent fuel facility expansions; LBP-19-7, 90 NRC 31 (2019)
standing of individual with part-time residence located 10 miles from spent fuel facility has been approved; LBP-19-7, 90 NRC 31 (2019)
STANDING TO INTERVENE, REPRESENTATIONAL
consideration of representation for standing with multiple organizations might lead to confusion; LBP-19-7, 90 NRC 31 (2019)
organization must show that the interests it seeks to protect are germane to its own purpose, identify a qualified member who has provided authorization for representation, and show that the member's participation in the legal action is not required; LBP-19-7, 90 NRC 31 (2019)
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finding of environmental acceptability made by a competent state authority pursuant to a thorough hearing is properly entitled to substantial weight in the conduct of NRC NEPA analysis; LBP-19-8, 90 NRC 139 (2019)
state's interest in potentially resolving its concerns more efficiently outside of the adjudicatory process does not present a compelling basis for the Commission to suspend NRC Staff's activities or its decision on the application; CLI-19-8, 90 NRC 27 (2019)
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STAY
absent a showing of irreparable harm or likelihood of success on the merits, Commission need not make a determination on the remaining two stay factors; CLI-19-11, 90 NRC 258 (2019)
absent a showing of irreparable injury, movants must make an overwhelming showing of likely success on the merits; CLI-19-11, 90 NRC 258 (2019)
application must contain a statement of the grounds for a stay, with reference to the factors in 2.1213(d); CLI-19-7, 90 NRC 1 (2019)
entity seeking a stay must show that it faces imminent, irreparable harm that is both certain and great; CLI-19-11, 90 NRC 258 (2019)
four factors must be considered in requests to stay the decision or action of a presiding officer; CLI-19-8, 90 NRC 27 (2019)
in determining whether to grant or deny a stay, four factors are considered; CLI-19-11, 90 NRC 258 (2019)
in ruling on stay motions, the Commission does not presume that a statutory violation without more equates to a showing of irreparable injury; CLI-19-11, 90 NRC 258 (2019)
injury warranting grant of a stay must be of such imminence that there is a clear and present need for equitable relief to prevent irreparable harm from occurring pending a decision on the merits; CLI-19-11, 90 NRC 258 (2019)
irreparable injury warranting grant of a stay must be actual and not theoretical; CLI-19-11, 90 NRC 258 (2019)
most crucial stay factor to be considered is whether denying a stay will cause irreparable harm to the party requesting the stay; CLI-19-11, 90 NRC 264 (2019); CLI-19-11, 90 NRC 258 (2019)
petitioner must meet the irreparable injury, likelihood of prevailing on the merits, harm to other participants, and public interest criteria; CLI-19-7, 90 NRC 1 (2019)
possibility of some irreparable injury occurring in the remote future does not constitute the imminent likely harm that justifies granting a stay; CLI-19-11, 90 NRC 258 (2019)
regulation explicitly authorizing stay applications is available only to parties to adjudicatory proceedings seeking stays of decisions or actions of a presiding officer pending the filing and resolution of a petition for review; CLI-19-7, 90 NRC 1 (2019)
to qualify as irreparable harm justifying a stay, the asserted harm must be related to the underlying contention(s) before NRC; CLI-19-11, 90 NRC 258 (2019)
STAY OF EFFECTIVENESS
although petitioner does not refer to its request for review of the Staff's no significant hazards consideration determination as an application for a stay, it is essentially asking for a stay of Staff's action by requesting that the amendment not take effect until the hearing is complete; CLI-19-7, 90 NRC 1 (2019)
challenges to no significant hazards consideration determinations and exclusion of such challenges from the stay provisions is consistent with federal case law treating NSHCDs as final agency actions; CLI-19-7, 90 NRC 1 (2019)
claims regarding a potential need to alter the decommissioning approach or to change the licensee that are premised on uncertain events do not pose an imminent irreparable injury; CLI-19-11, 90 NRC 258 (2019)
Commission has inherent supervisory authority to stay NRC Staff's action or rescind a license amendment; CLI-19-11, 90 NRC 258 (2019)
Commission may exercise its discretionary authority to consider petitions for stay of effectiveness; CLI-19-7, 90 NRC 1 (2019)
four-part test is considered in ruling on a request for a stay of the effectiveness of a presiding officer decision; CLI-19-11, 90 NRC 258 (2019)
petitioner has no right to reply even to an application for a stay; CLI-19-7, 90 NRC 1 (2019)
petitioner must address the factors that are weighed when considering whether to grant a request to stay the effectiveness of a Staff order on a license transfer application; CLI-19-8, 90 NRC 27 (2019)
stays are not available on matters limited to whether a no significant hazards consideration determination was proper in proceedings on power reactor license amendments; CLI-19-7, 90 NRC 1 (2019)
waste shipment-related environmental impact claims that are not pending before the Commission as part of the hearing request cannot be used to justify a stay; CLI-19-11, 90 NRC 258 (2019)

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STRUCTURAL INTEGRITY
contention that storage and transportation of containers loaded with high heat output will be likely to leak radioactive material into the environment in a transportation accident is inadmissible; LBP-19-7, 90 NRC 31 (2019)
no contentions related to alkali-silica reaction-induced concrete degradation were filed in the adjudicatory proceeding associated with the license renewal application that was terminated in 2015; CLI-19-7, 90 NRC 1 (2019)
nuclear power plant structures, systems, and components important to safety must be designed to withstand effects of earthquakes and other natural phenomena without loss of ability to perform their safety functions; CLI-19-7, 90 NRC 1 (2019)
safety of fuel located in the spent fuel pool is assured for an extended period through maintenance of pool structural integrity, which preserves coolant inventory and maintains margin to prevent criticality; DD-19-2, 90 NRC 197 (2019)
seismic Category I structures must remain functional during a safe shutdown earthquake; CLI-19-7, 90 NRC 1 (2019)
SUBPART L PROCEEDINGS
in Part 2, each party shall file proposed findings; LBP-19-10, 90 NRC 287 (2019)
SUBSEQUENT OPERATING LICENSE RENEWAL
applicant must submit an environmental report with its application; LBP-19-8, 90 NRC 139 (2019)
NRC Staff must issue a draft supplemental environmental impact statement for subsequent renewal of an operating license; LBP-19-8, 90 NRC 139 (2019)
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
contention alleging that NRC Staff's draft SEIS improperly fails to analyze potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is dismissed; LBP-19-6, 90 NRC 17 (2019)
court declined to require remand to prepare additional EIS when pertinent information had already been incorporated into a publicly accessible Commission opinion, given that to do so would treat the EIS as an end in itself and would not meaningfully serve NEPA's goals; LBP-19-10, 90 NRC 287 (2019)
NRC Staff must issue a draft SEIS for subsequent renewal of an operating license; LBP-19-8, 90 NRC 139 (2019)
NRC Staff will prepare a supplement to a final EIS if there are substantial changes in the proposed action or new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts that are relevant to environmental concerns; LBP-19-10, 90 NRC 287 (2019)
NRC Staff's analysis and conclusion on NEPA requirement on electrical output may be updated in a supplement to the final EIS if and when it receives an application for a construction permit or combined license referencing the early site permit that contains cost-benefit and need-for-power information; CLI-19-10, 90 NRC 209 (2019)
supplementation of the EIS may be required when the absence of discussion in a final EIS is so fundamental an omission as to call for recirculation of the final EIS; LBP-19-10, 90 NRC 287 (2019)
SURVEYS
agency must make a reasonable and good faith effort to carry out appropriate identification efforts relative to tribal cultural resources in the context of National Historic Preservation Act and NEPA review of impacts of small cell towers and ACHP regulations; LBP-19-10, 90 NRC 287 (2019)
if applicant seeking tribal cultural resources information to present to NRC is unable to agree on a fee with the tribe, applicant may seek other means to fulfill its obligation; LBP-19-10, 90 NRC 287 (2019)
to the extent the board has focused its analysis on whether NRC Staff advanced a reasonable proposal to conduct a cultural survey and whether its determination to discontinue the survey was reasonable, Commission could not see a legal error with respect to 40 C.F.R. 1502.22; CLI-19-9, 90 NRC 121 (2019)
See also Radiation Surveys; Site Survey
SUSPENSION OF PROCEEDING
Congress stopped funding the Yucca Mountain project, and a pending adjudication before a licensing board was suspended in September 2011; LBP-19-7, 90 NRC 31 (2019)

request to suspend issuance of decisions on reactor license applications was denied; CLI-19-8, 90 NRC 27 (2019)
suspension is a drastic action, generally unwarranted absent an immediate threat to public health and safety or other compelling ground; CLI-19-8, 90 NRC 27 (2019)
TECHNICAL SPECIFICATIONS
consolidated interim storage facility license must include technical specifications to guard against the uncontrolled release of radioactive materials; LBP-19-7, 90 NRC 31 (2019)
safety-related structures, systems, and components typically have associated technical specification requirements; DD-19-2, 90 NRC 197 (2019)
TEMPORARY STORAGE RULE
NRC inadequately performed its NEPA evaluation by not considering the environmental effects of failing to secure permanent storage; LBP-19-7, 90 NRC 31 (2019)
TERRORISM
contention that because hundreds of spent nuclear fuel transport trips will come through the Ninth Circuit's geographical area on route to Texas, applicant must conduct a terrorism analysis in its environmental report is inadmissible; LBP-19-7, 90 NRC 31 (2019)
NRC is not required to consider terrorism in its NEPA analysis of licensing actions outside of those states encompassed by the United States Court of Appeals for the Ninth Circuit; LBP-19-7, 90 NRC 31 (2019)
THREATENED SPECIES
agency, in consultation with and with assistance of the Secretary of the Interior or of Commerce, must ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of critical habitat of such species; CLI-19-10, 90 NRC 209 (2019)
contention that different analytic treatment of species is not justified by differing circumstances of the different species and their habitats is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that draft supplemental environmental impact statement is deficient in its analysis of the potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is inadmissible; LBP-19-8, 90 NRC 139 (2019)
failure to contest conclusions about beneficial impacts on special species and habitat if the cooling canals were no longer used as a heat sink renders contention inadmissible; LBP-19-8, 90 NRC 139 (2019)
neither the dunes sagebrush lizard nor the Texas horned lizard is a threatened or endangered species under federal law, and only the Texas horned lizard is considered threatened under Texas state law; LBP-19-9, 90 NRC 181 (2019)
petitioner fails to raise a genuine dispute as to whether the studies adequately support applicant's description of the affected environment for the dunes sagebrush lizard and the Texas horned lizard; LBP-19-9, 90 NRC 181 (2019)
TRANSPORTATION OF RADIOACTIVE MATERIALS
DOE's statutory responsibility to store the nation's spent nuclear fuel at a permanent repository and hence eventually to implement a national transportation program for nuclear waste is not a private applicant's responsibility; LBP-19-11, 90 NRC 358 (2019)
if petitioner believes the Nuclear Waste Technical Review Board Report warrants revisions in the NRC's rules and regulations, it may petition the Commission; LBP-19-11, 90 NRC 358 (2019)
Nuclear Waste Technical Review Boards responsibility under the Nuclear Waste Policy Amendments Act of 1987 is to evaluate technical and scientific validity of activities undertaken by the Secretary of Energy including activities relating to the packaging or transportation of high-level radioactive waste or spent nuclear fuel; LBP-19-11, 90 NRC 358 (2019)
waste shipment-related environmental impact claims that are not pending before the Commission as part of the hearing request cannot be used to justify a stay; CLI-19-11, 90 NRC 258 (2019)
TRANSPORTATION OF SPENT FUEL
challenge to safety of NRC-approved transportation packages is outside the scope of an independent spent fuel storage installation proceeding; LBP-19-11, 90 NRC 358 (2019)
claim that separation of the environmental impacts from spent fuel transportation and the storage itself comprises unlawful segmentation of the project is outside the scope of independent spent fuel storage installation proceedings; LBP-19-7, 90 NRC 31 (2019)

contention claim that because hundreds of spent nuclear fuel transport trips will come through the Ninth Circuit's geographical area on route to Texas, applicant must conduct a terrorism analysis in its environmental report is inadmissible; LBP-19-7, 90 NRC 31 (2019)
contention that 5,000 metric tons of spent nuclear fuel could not possibly be moved to the facility within the term of the license requested is inadmissible; LBP-19-11, 90 NRC 358 (2019)
contention that fails to directly contradict the application on the likelihood of transportation accidents fails to raise a genuine dispute; LBP-19-7, 90 NRC 31 (2019)
contention that risks from transportation of the nuclear waste to the consolidated interim storage facility should be another environmental justice impact to be considered is inadmissible; LBP-19-7, 90 NRC 31 (2019)
independent spent fuel storage installation's environmental report must consider transportation impacts, it need not prove the safety of transportation packages because 10 C.F.R. Part 71 separately addresses these issues; LBP-19-11, 90 NRC 358 (2019)
mere geographic proximity to potential transportation routes is insufficient to confer standing; LBP-19-7, 90 NRC 31 (2019)
NRC-approved quality assurance programs ensure that a transportation accident or canister breach is not credible; LBP-19-7, 90 NRC 31 (2019)
purpose of the Nuclear Waste Technical Review Board Report is to review the Department of Energy's preparedness to transport spent nuclear fuel and high-level radioactive waste; LBP-19-11, 90 NRC 358 (2019)
responsibility for transportation of spent nuclear fuel from commercial reactors to the proposed consolidated interim storage facility lies with the title holders of the spent fuel, not with applicant; LBP-19-7, 90 NRC 31 (2019); LBP-19-11, 90 NRC 358 (2019)
VACATUR
notwithstanding its finding that NRC improperly allowed the license to remain effective after concluding that a significant NEPA deficiency existed, without vacating that agency decision the court remanded the matter to the Commission to consider further whether and under what circumstances the license should remain effective; LBP-19-10, 90 NRC 287 (2019)
VIOLATIONS
licensee's past violations, standing alone, do not constitute sufficient information to give rise to a genuine dispute with the assumption that a state authority will enforce, and applicant will comply with, the legally mandated mitigation measures; LBP-19-8, 90 NRC 139 (2019)
NEPA violation does not necessarily call for an injunction; CLI-19-11, 90 NRC 258 (2019)
WAIVER OF RULE
if a licensing board concludes that petitioner has made a prima facie showing that section 2.335(b) is satisfied, the board shall, before ruling on the petition, certify the matter directly to the Commission for a determination as to whether the rule should be waived or an exception made; LBP-19-8, 90 NRC 139 (2019)
litigant may petition that the application of a specified Commission rule or regulation be waived or an exception be made for the particular proceeding; LBP-19-8, 90 NRC 139 (2019)
litigant who petitions for a rule waiver is not permitted to file a reply; LBP-19-8, 90 NRC 139 (2019)
litigant who seeks to challenge a Commission regulation must meet the rule waiver criteria; LBP-19-8, 90 NRC 139 (2019)
litigant's petition for rule waiver must be accompanied by an affidavit demonstrating that four factors are satisfied; LBP-19-8, 90 NRC 139 (2019)
no NRC rule or regulation may be challenged in a contention unless petitioner seeks and obtains a waiver from the Commission; LBP-19-7, 90 NRC 31 (2019)
rule waiver petition in not necessary for contention challenging draft supplemental environmental impact statement conclusion that canal cooling system impacts on adjacent surface waters via the groundwater pathway will be small; LBP-19-8, 90 NRC 139 (2019)
special circumstances may exist in a particular proceeding such that the application of the rule or regulation or a provision of it would not serve the purposes for which the rule or regulation was adopted; LBP-19-8, 90 NRC 139 (2019)
standard is stringent by design; LBP-19-8, 90 NRC 139 (2019)

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contention alleging that NRC Staff's draft supplemental environmental impact statement improperly fails to analyze potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is dismissed; LBP-19-6, 90 NRC 17 (2019); LBP-19-8, 90 NRC 139 (2019)
contention that NRC Staff relied on unreliable modeling when it concluded that the cooling canal system's impacts on adjacent surface water bodies via the groundwater pathway will be small during the subsequent license renewal term is inadmissible; LBP-19-8, 90 NRC 139 (2019)
contention that phosphorus loadings from cooling canal system are impacting seagrass communities via the groundwater pathway is inadmissible; LBP-19-8, 90 NRC 139 (2019)
rule waiver petition in not necessary for contention challenging draft supplemental environmental impact statement conclusion that canal cooling system impacts on adjacent surface waters via the groundwater pathway will be small; LBP-19-8, 90 NRC 139 (2019)
See also Groundwater Contamination
WATER QUALITY
contention that draft supplemental environmental impact statement fails to take the requisite hard look at cumulative impacts on water resources is inadmissible; LBP-19-8, 90 NRC 139 (2019)
if waters inhabited by manatees meet water quality criteria for ammonia, NRC Staff assumes that there would be no lethal effects or impairment to their growth, survival, or reproduction; LBP-19-6, 90 NRC 17 (2019)
impacts on adjacent water bodies from nuclear plants with cooling ponds in salt marshes is not a Category 1 issue; LBP-19-8, 90 NRC 139 (2019)
state is required to adopt water quality standards to restore and maintain the chemical, physical, and biological integrity of the Nation's waters; LBP-19-6, 90 NRC 17 (2019)
WATER SUPPLY
prior to construction, applicant must obtain any necessary permits and certifications from the state and U.S. Army Corps of Engineers for construction and use of its water intake structure for small modular reactors; CLI-19-10, 90 NRC 209 (2019)
WATER USE
contention that draft supplemental environmental impact statement fails to consider how cooling tower alternative could mitigate adverse impacts to groundwater use conflicts is inadmissible; LBP-19-8, 90 NRC 139 (2019)
WETLANDS
contention alleging that NRC Staff's draft supplemental environmental impact statement improperly fails to analyze potential impacts of ammonia releases during the renewal period on threatened and endangered species and their critical habitat is dismissed; LBP-19-6, 90 NRC 17 (2019)
water quality impacts on adjacent water bodies from nuclear plants with cooling ponds in salt marshes is not a Category 1 issue; LBP-19-8, 90 NRC 139 (2019)
ZONE OF INTERESTS
in proceedings that involve construction or operation of a nuclear power plant, the zone of potential harm is deemed to be the area within a 50-mile radius of the site; LBP-19-7, 90 NRC 31 (2019)

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INDEPENDENT SPENT FUEL STORAGE INSTALLATION; November 18, 2019; MEMORANDUM AND ORDER (Ruling on Motion to Dismiss and Motion to Amend Contention 13); LBP-19-9, 90 NRC 181 (2019)
INDEPENDENT SPENT FUEL STORAGE INSTALLATION; December 13, 2019; MEMORANDUM AND ORDER (Ruling on Motion for Leave to File Late-Filed Contention and Terminating Proceeding); LBP-19-11, 90 NRC 358 (2019)