UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	Docket No. 52-047-ESP
Tennessee Valley Authority	)	
	)	
Clinch River, Early Site Permit	)	
	)	

TENNESSEE VALLEY AUTHORITY'S ANSWER OPPOSING INTERVENORS' MOTION FOR LEAVE TO FILE CONTENTION 4 AND CONTENTION 5

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i)(1), Tennessee Valley Authority ("TVA") hereby answers and opposes the Motion for Leave to File Contention 4 (Inadequate Discussion of Environmental Impacts of Spent Fuel Pool Fires) and Contention 5 (Impermissible Discussion of Energy Alternatives and Need for the Proposed SMR) ("Motion") filed on May 21, 2018 by Southern Alliance for Clean Energy and Tennessee Environmental Council (jointly, the "Intervenors") in the Early Site Permit ("ESP") proceeding for the Clinch River Nuclear ("CRN") Site. The Motion proffers two new contentions (Contentions 4 and 5) for consideration by the Atomic Safety and Licensing Board (the "Board"), which are purportedly prompted by the Nuclear Regulatory Commission ("NRC") Staff's publication of the draft Environmental Impact Statement for the CRN ESP, NUREG-2226 (Apr. 2018) (the "DEIS"). Both of Intervenors' proposed contentions are inadmissible.

The Board should reject Intervenors' Contention 4 as outside the scope of this ESP proceeding. Intervenors argue that the DEIS is inconsistent with specific aspects of NuScale's Small Modular Reactor ("SMR") design. ESP proceedings, however, are focused on analyzing a

plant parameter envelope ("PPE"), not whether specific reactor designs fit within that PPE which is a matter for future combined operating license ("COL") proceedings. In addition, Contention 4 is untimely because it relies on information about the PPE that was established in TVA's ESP Application, and information regarding NuScale's SMR design, all of which was previously available earlier in this proceeding. Further, Contention 4 fails to allege a genuine material dispute with the DEIS, because the issues it raises are based on mischaracterizations of the DEIS. Contention 4 also lacks the expert or factual support required by the NRC's contention admissibility regulations.

The Board should reject Contention 5 because it fails to raise a genuine dispute on a material issue. In Contention 5, Intervenors mischaracterize the DEIS when they claim that it (1) impermissibly contains information concerning the economic, technical, and other benefits of an SMR at the CRN Site, including the need for power and alternative energy sources; and (2) violates NEPA by "presenting the 'no-action' alternative as foregoing benefits (including the asserted benefits of operating the SMRs) rather than avoiding environmental impacts."[1] In fact, the DEIS explicitly states that the DEIS has *not* attempted to assess the need for power or evaluate energy alternatives, consistent with the path chosen by TVA in the ESP Application.[2] The DEIS also explicitly states that the forgone benefits of the no-action alternative (*i.e.*, if the ESP were not issued) are those efficiency benefits intended by the ESP process, not the potential benefits of SMRs which will be addressed at the COL stage.[3] Like Contention 4, Contention 5 also raises issues outside the scope of this proceeding, and is inadequately supported.

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[1] Motion at 12.

[2] DEIS at 1-4, 9-2.

[3] DEIS at 9-1 to 9-2.

A. Procedural Background

On May 12, 2016, TVA submitted an application to the NRC seeking an ESP for two or more SMRs at the CRN site ("Application"). TVA has submitted one revision to the Application since the initial filing. The Application and its revision are available on the NRC's website.[4]

In its Application, TVA selected a PPE to use as the basis for analysis of the site, instead of a specific reactor design.[5] This means that a specific reactor design has not been selected for use at the CRN Site. Before a nuclear power plant is built or operated at the CRN Site, TVA would need to obtain a COL or a construction permit ("CP"). TVA would need to specify a reactor design at the COL or CP stage, and to the extent that the reactor design is outside the PPE, the ESP analyses would need to be re-evaluated at that stage.

The Board granted Intervenors' initial intervention in this proceeding, ruling that Intervenors proffered two contentions that were admissible, concerning (1) the Application's omission of a spent fuel pool fire analysis (Contention 2); and (2) the Application's inclusion of statements regarding the benefits of SMRs (Contention 3).[6] On May 3, 2018, in response to TVA's Petition for Review, the Commission affirmed the admission of Contention 2 and reversed the admission of Contention 3.[7] On April 26, 2018, the NRC published the DEIS.[8]

In response to the NRC Staff's publication of the DEIS, Intervenors now petition the Board to admit two new contentions (Contention 4 and Contention 5). The contentions again concern the analysis of spent fuel pool fires and the inclusion of information on the benefits of

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[4] *See* Clinch River Nuclear Site Early Site Permit Application, available at https://www.nrc.gov/reactors/new-reactors/esp/clinch-river.html. Chapter 3 of the Application is the Environmental Report ("ER").

[5] *See* ER, Table 3.1-2 (establishing the boundary of the PPE).

[6] *Tennessee Valley Authority* (Clinch River Early Site Permit), LBP-17-08, 86 N.R.C. 138, 160-166 (2017).

[7] *See generally*, Memorandum and Order, CLI-18-05, ___ N.R.C. ___, slip op. (May 3, 2018).

[8] Early Site Permit Application: Tennessee Valley Authority; Clinch River Nuclear Site, 83 Fed. Reg. 18,354 (April 26, 2018) (publishing draft environmental impact statement).

SMRs. As discussed below, both proposed contentions are outside of the scope of the ESP proceeding and otherwise fail to meet the Commission's stringent contention admissibility requirements.

II. APPLICABLE LEGAL STANDARDS

A. Contention Admissibility Standards

1. New contentions must satisfy the Commission's timeliness standards set forth in 10 C.F.R. § 2.309(c)(1).

The NRC does not look with favor on new contentions that are submitted after an applicant's initial filing.[9] As the Commission has repeatedly stressed:

> [O]ur contention admissibility and timeliness rules require a high level of discipline and preparation by petitioners "who must examine the publicly available material and set forth their claims and the support for their claims at the outset." "There simply would be 'no end to NRC licensing proceedings if petitioners could disregard our timeliness requirements'" and add new contentions at their convenience during the course of a proceeding based on information that could have formed the basis for a timely contention at the outset of the proceeding. Our expanding adjudicatory docket makes it critically important that parties comply with our pleading requirements and that the Board enforce those requirements.[10]

Accordingly, the Commission's rules of practice require that "[c]ontentions must be based on documents or other information available at the time the petition is to be filed, such as the application, supporting safety analysis report, environmental report or other supporting document filed by an applicant or licensee, or otherwise available to a petitioner."[11] With respect to NEPA-related issues, contentions are to be based on the applicant's environmental

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[9] *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 N.R.C. 631, 636 (2004).

[10] *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 N.R.C. 235, 271-72 (2009) (citations omitted).

[11] 10 C.F.R. § 2.309(f)(2).

report.[12] New or amended environmental contentions may be filed after the initial filing deadline – for example, based on a draft or final NRC environmental impact statement – only "if the contention complies with the requirements in paragraph (c) of this section."[13] 10 C.F.R. § 2.309(c)(1), in turn, requires that the contention "not be entertained" absent a demonstration of good cause by showing that:

> (i) The information upon which the filing is based was not previously available;
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> (ii) The information upon which the filing is based is materially different from information previously available; and
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> (iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.[14]

In short, new or amended contentions – even when ostensibly based on recently issued NRC environmental review documents – "must be *based on new facts* not previously available."[15]

Indeed, when promulgating revised Section 2.309(c)(1), the Commission explained that, "in most cases where the NRC compiles or uses previously available information in a new document, *the previously available information cannot be used as the basis for a new or amended contention filed after the deadline*."[16] This means, for example, that information in a draft environmental impact statement cannot form the basis for a timely new contention when

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[12] *Id.*

[13] *Id.*

[14] 10 C.F.R. § 2.309(c)(1)(i)-(iii).

[15] *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-10, 75 N.R.C. 479, 493 n.70 (2012) (emphasis in original). *See also DTE Electric Company* (Fermi Nuclear Power Plant, Unit 3), CLI-15-01, 81 N.R.C. 1, 7 (2015) ("[O]ur rules of practice require contentions to be raised at the earliest possible opportunity. . . . Our rules of practice require a material difference between the information on which the contention is based and the information that was previously available—for example, a difference between the environmental report and the draft EIS or the draft EIS and the final EIS.").

[16] Final Rule, Amendments to Adjudicatory Process Rules and Related Requirements, 77 Fed. Reg. 46,562, 46,566 (Aug. 3, 2012) (emphasis added).

substantially the same information was previously found in an applicant's environmental report or was otherwise previously available.

Further, as the proponent of an order admitting the proposed contention, Intervenors have the burden of demonstrating that it meets the good cause standards in 10 C.F.R. § 2.309(c)(1).[17] 10 C.F. R. § 2.309(c)(1) requires that the "*participant has demonstrated good cause*" by showing that the standards are met (emphasis added). The failure to comply with these pleading requirements constitutes sufficient grounds for rejecting the petition.[18]

2. New contentions must satisfy the Commission's admissibility standards under 10 C.F.R. § 2.309(f)(1).

In addition, timely new contentions, including those based on NRC environmental review documents, must meet the admissibility standards that apply to all contentions under 10 C.F.R. § 2.309(f)(1). Specifically, new contentions must:

> (i) Provide a specific statement of the issue of law or fact to be raised or controverted;
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> (ii) Provide a brief explanation of the basis for the contention;
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> (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
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> (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;
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> (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific

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[17] *See* 10 C.F.R. § 2.325.

[18] *Florida Power & Light Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2, *et al*.), CLI-06-21, 64 N.R.C. 30, 34 (2006). *See also Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), LBP-11-7, 73 N.R.C. 254, 279 (2011) ("Longstanding NRC practice dictates that an intervenor's failure to affirmatively address the [former] section 2.309(c) factors serves as a sufficient basis for dismissal.") (citing *Calvert Cliffs*, CLI-06-21, 64 N.R.C. at 33-34 and *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 N.R.C. 325, 347-48 (1998) (noting that the Commission has summarily dismissed petitioners who failed to address the factors for a late-filed petition).

> sources and documents on which the requestor/petitioner intends to rely to support its position on the issue;
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> (vi) In a proceeding other than one under 10 CFR 52.103, provide 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 (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.[19]

These standards are enforced rigorously. "If any one . . . is not met, a contention must be rejected."[20] A licensing board is not to overlook a deficiency in a contention or assume the existence of missing information.[21] Under these standards, a petitioner "is obligated to provide the [technical] analyses and expert opinion showing why its bases support its contention."[22] Where a petitioner has failed to do so, "the [Licensing] Board may not make factual inferences on [the] petitioner's behalf."[23]

Further, admissible contentions "must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]."[24] In particular, this explanation must

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[19] 10 C.F.R. § 2.309(f)(1)(i)-(vi).

[20] *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Unit Nos. 1, 2, and 3), CLI-91-12, 34 N.R.C. 149, 155 (1991) (citation omitted); *USEC, Inc.* (American Centrifuge Plant), CLI-06-9, 63 N.R.C. 433, 437 (2006) ("These requirements are deliberately strict, and we will reject any contention that does not satisfy the requirements." (footnotes omitted)).

[21] *See, e.g.*, *Palo Verde,* CLI-91-12, 34 N.R.C. at 155; *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 N.R.C. 235, 260 (2009) (noting that the contention admissibility rules "require the petitioner (*not the board*) to supply all of the required elements for a valid intervention petition" (emphasis added) (footnote omitted)).

[22] *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-6, 41 N.R.C. 281, 305, *vacated in part and remanded on other grounds*, CLI-95-10, 42 N.R.C. 1, *aff'd in part*, CLI-95-12, 42 N.R.C. 111 (1995).

[23] *Id*. (citing *Palo Verde*, CLI-91-12, 34 N.R.C. 149). *See also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 N.R.C. 142, 180 (1998) (explaining that a "bald assertion that a matter ought to be considered or that a factual dispute exists . . . is not sufficient;" rather, "a petitioner must provide documents or other factual information or expert opinion" "to show why the proffered bases support [a] contention" (citations omitted)).

[24] *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 N.R.C. 349, 359-60 (2001).

demonstrate that the contention is "material" to the NRC's findings and that a genuine dispute on a material issue of law or fact exists.[25] The Commission has defined a "material" issue as meaning one where "resolution of the dispute *would make a difference in the outcome* of the licensing proceeding."[26]

As the Commission has observed, this threshold requirement is consistent with judicial decisions, such as *Connecticut Bankers Association v. Board of Governors*, 627 F.2d 245 (D.C. Cir. 1980), which held that:

> [A] protestant does not become entitled to an evidentiary hearing merely on request, or on a bald or conclusory allegation that . . . a dispute exists. The protestant must make a minimal showing that material facts are in dispute, thereby demonstrating that "an 'inquiry in depth' is appropriate."[27]

A contention, therefore, is not to be admitted "where an intervenor has no facts to support its position and where the intervenor contemplates using discovery or cross-examination as a fishing expedition which might produce relevant supporting facts."[28] As the Commission has emphasized, the contention rules bar contentions where petitioners have what amounts only to generalized suspicions, hoping to substantiate them later, or simply a desire for more time and more information in order to identify a genuine material dispute for litigation.[29] Therefore, under

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[25] 10 C.F.R. § 2.309(f)(1)(iv), (vi).

[26] Final Rule, Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989) (emphasis added).

[27] 627 F.2d at 251 (citation omitted); see also Baltimore Gas & Electric Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-14, 48 N.R.C. 39, 41, motion to vacate denied, CLI-98-15, 48 N.R.C. 45, 56 (1998) ("It is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions.").

[28] 54 Fed. Reg. 33,168, 33,171. *See also Duke Power Co., et al.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 N.R.C. 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 N.R.C. 1041 (1983) ("[A]n intervention petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable [the petitioner] to uncover any information that could serve as the foundation for a specific contention. Stated otherwise, neither Section 189a of the [Atomic Energy] Act nor Section 2.714 [now 2.309] of the Rules of Practice permits the filing of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or staff.").

[29] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2), CLI-03-17, 58 N.R.C. 419, 424 (2003).

the Rules of Practice, a statement "that simply alleges that some matter ought to be considered" does not provide a sufficient basis for a contention.[30] Similarly, a "mere reference to documents does not provide an adequate basis for a contention."[31]

Rather, NRC's pleading standards require a petitioner to read the pertinent portions of the license application, including the safety analysis report and the ER, state the applicant's position and the petitioner's opposing view, and explain why it has a disagreement with the applicant.[32] If the petitioner does not believe these materials address a relevant issue, the petitioner is "to explain why the application is deficient."[33] A contention that does not directly controvert a position taken by the applicant in the license application is subject to dismissal.[34] Furthermore, "an allegation that some aspect of a license application is 'inadequate' or 'unacceptable' does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect."[35]

B. NEPA Standards

The National Environmental Policy Act ("NEPA") requires agencies, including the NRC, to take a "hard look" at the environmental impacts of a proposed action and alternatives to that action.[36] This "hard look," however, is subject to a "rule of reason" such that the consideration

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[30] *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 N.R.C. 200, 246 (1993), *review declined*, CLI-94-2, 39 N.R.C. 91 (1994).

[31] *Calvert Cliffs*, CLI-98-25, 48 N.R.C. at 348 (citation omitted).

[32] 54 Fed. Reg. at 33,170-71; *Millstone*, CLI-01-24, 54 N.R.C. at 358.

[33] 54 Fed. Reg. at 33,170. *See also Palo Verde*, CLI-91-12, 34 N.R.C. at 156.

[34] *See Texas Utilities Electric Co*. (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 N.R.C. 370, 384 (1992), *vacated as moot and appeal dismissed*, CLI-93-10, 37 N.R.C. 192, *stay denied*, CLI-93-11, 37 N.R.C. 251 (1993).

[35] *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 N.R.C. 257, 358 (2005) (citing *Florida Power & Light Co*. (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 N.R.C. 509, 521 & n.12 (1990)).

[36] *Southern Nuclear Operating Co*. (Early Site Permit for Vogtle ESP Site), LBP-09-07, 69 N.R.C. 613, 719 (2009).

of environmental impacts must address only those impacts "that are reasonably foreseeable or have some likelihood of occurring."[37] The agency has broad discretion over the thoroughness of the analysis, and may decline to examine issues the agency in good faith considers "remote and speculative" or "inconsequentially small."[38] Furthermore, NEPA does not call for a "worst-case" inquiry because it "creates a distorted picture of a project's impacts and wastes agency resources."[39]

The Commission has found that NEPA serves a dual purpose: to ensure that "officials fully take into account the environmental consequences of a federal action before reaching major decisions, and to inform the public, Congress, and other agencies of those consequences."[40] NEPA does not mandate particular results, but prescribes the necessary process.[41]

Moreover, "an [EIS] is not intended to be 'a research document.'"[42] "NEPA does not call for 'examination of every conceivable aspect of federally licensed projects.'"[43] Although "there 'will always be more data that could be gathered,' agencies 'must have some discretion to draw the line and move forward with decisionmaking.'"[44] Accordingly, NEPA does not demand virtually infinite study and resources.[45] As the NRC Staff has stated, "[i]t is not enough for the

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[37] *Id.*

[38] *Id.*; *see also Vermont Yankee Nuclear Power Corp*. (Vermont Yankee Nuclear Power Station), ALAB-919, 30 N.R.C. 29, 44 (1989) (citing *Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 739 (3d Cir. 1989)).

[39] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 N.R.C. 340, 352 (2002) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354-55) (1989)).

[40] *Private Fuel Storage, L.L.C.*, CLI-02-25, 56 N.R.C. at 348.

[41] *Robertson*, 490 U.S. at 350.

[42] *Entergy Nuclear Generation Co. et. al.* (Pilgrim Nuclear Power Station), CLI-10-22, 72 N.R.C. 202, 208 (2010) (citation omitted).

[43] *Private Fuel Storage*, CLI-02-25, 56 N.R.C. at 349 (quoting *Louisiana Energy Services L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 N.R.C. 77, 102-03).

[44] *Entergy Nuclear Generation Co. et. al.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 N.R.C. 287, 315 (2010) (footnote omitted).

[45] *Id.* at 315.

Intervenors to say more research could have been done, or to point out small mistakes in the FEIS. If there are mistakes in the FEIS, 'in an NRC adjudication it is the Intervenors' burden to show their significance and materiality.'"[46]

At bottom, NEPA "does not require [a] crystal ball inquiry."[47] Nor does it call for certainty or precision. When faced with uncertainty, NEPA requires "reasonable forecasting."[48] An agency is obligated to "examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choices made."[49]

III. INTERVENORS' CONTENTION 4 IS INADMISSIBLE.

In Contention 4, the Intervenors first allege that "the NRC Staff makes assumptions about patterns of fuel usage and storage at LWRs that differ significantly from the characteristics of [the NuScale design] included in the proposed [PPE]."[50] According to Intervenors, the DEIS fails to analyze "those key differences" between traditional LWRs and NuScale's design.[51] Intervenors also allege that "the NRC Staff makes assumptions in the Draft EIS about the PPE with respect to the quantity of fuel stored in the pool that are neither conservative nor bounding" for NuScale's design.[52] Finally, Intervenors claim that "the Draft EIS's environmental analysis is based on the non-conservative assumption that the ten-mile emergency planning zone ("EPZ") around the proposed SMR will be evacuated."[53]

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[46] NRC Staff Rebuttal Statement of Position, Combined License Application for Levy County Nuclear Power Plant, Units 1 and 2 at 5 (July 31, 2012) (ML12213A716).

[47] *Natural Res. Def. Council v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) (internal quotations omitted).

[48] *Scientists' Inst. For Pub. Info., Inc. v. AEC*, 481 F.2d 1079, 1092 (D.C. Cir. 1973).

[49] *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks omitted).

[50] Motion at 3.

[51] *See* Motion at 3.

[52] Motion at 3.

[53] Motion at 3.

First, these claims are outside scope of this ESP proceeding because Intervenors focus on the specifics of the potential NuScale design instead of the PPE. Second, these claims are untimely because they challenge the PPE that was set forth in the ESP Application that TVA filed in 2016. Third, these claims mischaracterize the DEIS and ignore relevant analyses, and are therefore inadmissible because they fail to raise a genuine dispute on a material issue. Finally, these claims lack sufficient expert and factual support to meet the contention admissibility requirements.

A. Contention 4 is inadmissible because it raises issues that are outside the scope of this proceeding.

Contention 4 is inadmissible under 10 C.F.R. § 2.309(f)(1)(iii) because it raises issues that are outside the scope of this ESP proceeding. The ESP stage of a new plant licensing proceeding does not focus on a particular plant design; it establishes the suitability of the site for a design that falls within the PPE set forth in the ESP application. The ESP proceeding examines the "acceptability of the site assuming the new plant falls within the Applicants' submitted plant parameter envelope (PPE)."[54] At the ESP stage, it "is neither possible nor necessary for the Applicant to provide" detailed plant design information.[55] Instead, the PPE is meant "to serve as a surrogate for design information"[56] and is "intended to bound the impacts of a reactor or reactors that might be deployed at the site."[57] Whether the design that is ultimately selected fits within the PPE is a matter for a future COL proceeding.

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[54] *System Energy Resources* (Grand Gulf ESP), LBP-04-19, 60 N.R.C. 277, 292 (2004).

[55] *System Energy Resources* (Grand Gulf ESP), LBP-04-19, 60 N.R.C. 277, 292 (2004); *see also Dominion Nuclear North Anna LLC* (North Anna ESP), LBP-04-18, 60 N.R.C. 253, 267 (2004).

[56] *Exelon Generation Company, LLC* (Clinton ESP), LBP-06-28, 64 N.R.C. 460, 467-468 (2006).

[57] *Exelon Generation Company, LLC* (Clinton ESP), LBP-06-28, 64 N.R.C. 460, 468 (2006).

Intervenors' arguments in Contention 4 regarding spent fuel pool fires focus entirely on the details of the specific SMR design that NuScale is currently developing. They argue that the DEIS makes assumptions about the PPE "that are not conservative in light of the NuScale design."[58] Intervenors also claim that the DEIS should have focused on analyzing the potential environmental impacts of NuScale's SMR "with respect to its reactor design and refueling pattern,"[59] the "design of the pool [that] has not yet been finalized,"[60] or its potential ability to "stor[e] spent fuel for more than six years," "up to 10 years," or even "up to 15 years."[61] And in an effort to support their arguments, Intervenors submit documents that are several years old and relate to the NuScale design.[62]

The Intervenors thus try to argue that the NuScale design does not fit within the PPE in the Application. These arguments based on the specifics of the NuScale design are outside the scope of an ESP proceeding. The purpose of an ESP proceeding is to evaluate the site in light of a PPE, not to evaluate whether a particular design falls within that PPE. In an ESP proceeding, the Staff uses the PPE values to assess the future use of the site from a safety and environmental perspective.[63] The Staff does not assess during the ESP process whether individual reactor designs fall within the PPE, because—as is the case with the CRN Site—a specific design has not been selected. Indeed, as Intervenors recognized in their Motion,[64] the potential designs may change or a new one may be developed. For these reasons, analyzing the environmental impacts

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[58] Motion at 7.
[59] Motion at 9.
[60] Motion at 10.
[61] Motion at 10-11.
[62] *See* Motion at 9-11; Attachment 1-2.
[63] *Exelon Generation Company, LLC* (Clinton ESP), LBP-06-28, 64 N.R.C. 460, 468 (2006).
[64] Motion at 10 (noting that the NuScale spent fuel pool has not yet been finalized).

of a specific reactor design is deferred to the COL stage, when "an applicant must demonstrate that the chosen reactor fits within the site parameters set forth in the ESP's PPE, if it wishes to treat as 'resolved' any related issues from the ESP review."[65] As a NRC Licensing Board has found:

> If at some future date the Applicant elects a specific reactor design whose severe accident consequences do not fall within the PPE employed in this proceeding, the environmental matters may then be litigated under the provisions of section 52.39. However, for the purposes of an ESP, there is no requirement that the Applicant develop and examine a specific reactor design and study its theoretical severe accident consequences.[66]

Accordingly, it is outside the scope of this ESP proceeding for Intervenors to challenge the DEIS based on the specifics of NuScale's SMR design. Moreover, to hold a hearing at the ESP stage on the potential safety and environmental impacts of a design that is not final, that may or may not be selected, and that may or may not change, would be impractical and fruitless.

Intervenors also argue that the DEIS should contain a detailed analysis of spent fuel pool fire risks in comparison to the potential EPZ.[67] However, as set forth in the DEIS, TVA has already conducted "an assessment of potential severe accident consequences" by selecting "design information that leads to bounding severe accident consequences based on the largest SMR considered for the CRN Site."[68] This was the extent of the analysis possible at the time, considering the limited PRA information available for the SMR designs, but the analysis is representative of designs within the PPE.[69] The NRC Staff then reviewed the three potential EPZ assumptions, including the site boundary EPZ assumption where no population evacuation

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[65] *Exelon Generation Company, LLC* (Clinton ESP), LBP-06-28, 64 N.R.C. 460, 468 n.2 (2006).

[66] *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-04-19, 60 N.R.C. 277, 295 (2004), *aff'd*, CLI-05-4, 61 N.R.C. 10 (2005).

[67] Motion at 11.

[68] DEIS at 5-74.

[69] *Id.*

occurs, based on the plume exposure pathway of that analysis.[70] Given that "[f]inal design and PRA information were not available for the SMR technologies being considered at the time of the ESP application,"[71] such an analysis is all that the Commission requires for this proceeding. "[T]here is no requirement that the Applicant develop and examine a specific reactor design and study its theoretical severe accident consequences."[72] Indeed, NEPA only requires that the Staff "conduct [the] environmental review with the best information available today. It does not require that [the Staff] wait until inchoate information matures into something that later might affect [the] review."[73] Intervenors' demand that TVA or the NRC Staff perform an analysis using information beyond the PPE is outside the scope of this proceeding.

For these reasons, Intervenors' Contention 4 is not within the scope of this proceeding and is inadmissible under 10 C.F.R. § 2.309(f)(1)(iii).

B. Contention 4 is also inadmissible because it is not timely.

In addition to being outside the scope of this proceeding, Contention 4 is inadmissible because the Contention is not based on information that is materially different from information that was previously available. As the Commission has found, new or amended contentions – even when ostensibly based on recently issued NRC environmental review documents – "must be *based on new facts* not previously available."[74] While Intervenors – in an effort to satisfy the Commission's timeliness requirements – style Contention 4 as a challenge to the DEIS, the portions of the DEIS which Intervenors challenge is not new information; they are merely

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[70] *Id.* at 5-74 to 5-75.

[71] *Id.* at 5-74.

[72] *System Energy Resources* (Grand Gulf ESP), LBP-04-19, 60 N.R.C. 277, 295 (2004).

[73] *Luminant Generation Co. LLC* (Comanche Peak Nuclear Power Plant, Units 3 & 4), CLI-12-7, 75 N.R.C. 379, 391-92 (2012).

[74] *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-10, 75 N.R.C. 479, 493 n.70 (2012) (emphasis in original).

restatements of the PPE, and information used to develop that PPE, set forth in TVA's May 2016 ESP Application.

For example, according to the Intervenors, the DEIS improperly relies on a reactor refueling frequency of two years.[75] But that is the same reactor refueling frequency used for the PPE value in the ESP Application.[76] Intervenors also challenge the DEIS for relying on a 6 year spent fuel pool capacity,[77] which is another PPE value established in the ESP Application.[78] Intervenors are clearly raising these issues out of time, since the information on which their claims are based was previously available and could have been the subject of challenges to the PPE at the outset of this proceeding. Intervenors do not get a second bite at the apple merely because the NRC Staff has issued a DEIS. It is Intervenors' burden to "examine the publicly available material and set forth their claims and the support for their claims at the outset."[79] Otherwise, "[t]here simply would be no end to NRC licensing proceedings."[80]

Additionally, to the extent the Intervenors are arguing in Contention 4 that NuScale's SMR design is inconsistent with the PPE those arguments (which in any event are outside the scope of this proceeding) also could have been raised in response to the ESP Application, which established the PPE. Table 3.1-2 of the ESP Application, Environmental Report specifically established a 2-year refueling period and a 6 year spent fuel capacity as the PPE. Because the

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[75] Motion at 9 ("The Staff bases its environmental analysis on the assumption that TVA will refuel each SMR at a frequency of two years."). Of note, in the Draft EIS, the terms SMR and reactor are used interchangeably. *See* DEIS, 1-1.

[76] ER, Table 3.1-2, at 3.1-9 (establishing the boundary of the PPE with a 2 year refueling frequency and 6 year capacity).

[77] Motion at 10 ("The fuel would not remain in the pool more than 6 years.")

[78] ER, Table 3.1-2, at 3.1-9.

[79] *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 N.R.C. 235, 271-72 (2009) (citations omitted).

[80] *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 N.R.C. 235, 272 (2009) (citations omitted).

Application contained information "that could have formed the basis for a timely contention at the outset of the proceeding,"[81] Contention 4 is untimely under 10 C.F.R. § 2.309(c)(1)(i). Moreover, as noted above, the PPE is simply a "surrogate for design information."[82] If TVA ultimately selects a design outside of the PPE, that is a matter for the COL proceeding where TVA uses that design.[83]

Moreover, Intervenors' challenge to the PPE is not based on new information regarding NuScale's design. While Intervenors reference NuScale's website from May 21, 2018, the underlying document dates back to 2012.[84] Similarly, the information regarding NuScale's refueling operations that Intervenors claim is from May 19, 2018,[85] is duplicative of information in presentations that were available in ADAMS from 2012[86] and 2015.[87] For these reasons, Intervenors' challenge is based on information regarding NuScale's design that was previously available to Intervenors, thus their claims are not timely.[88]

Intervenors' challenge to the DEIS's analysis regarding the relationship between a potential accident at the spent fuel pool and the analysis of the EPZs,[89] is also untimely. In 2017, TVA addressed the possibility of a spent fuel pool accident in its response to an NRC Request

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[81] *Oyster Creek*, CLI-09-7, 69 N.R.C. at 272 (citations omitted).

[82] *Exelon Generation Company, LLC* (Clinton ESP), LBP-06-28, 64 N.R.C. 460, 467-468 (2006).

[83] *Clinton ESP*, LBP-06-28, 64 N.R.C. at 468, n.2.

[84] *See* Motion at 9, n.1 (citing José N. Reyes, *NuScale Plant Safety in Response to Extreme Events*, NUCLEAR TECHNOLOGY Vol. 178 at 1 (May 2012)).

[85] *See* Motion at 10 (referring to graphic presentations issued on March 19, 2018).

[86] NuScale Power, LLC., *NuScale Plant Design Overview*, at 29 (NP-ER-0000-1198) (ML12216A392) (Aug. 2012) ("The spent fuel pool provides storage space for up to 15 years of accumulated spent fuel assemblies, temporary storage for new fuel assemblies."). This document was also referenced in TVA's December 15, 2017 Initial Disclosures to the Intervenors in Attachment A at page 6.

[87] NuScale Power, LLC., *NuScale Refueling*, L-0515-14724 (ML15159A311) (June 2015) ("Spent fuel pool has capacity to store: - 10 years of spent fuel").

[88] *See* 10 C.F.R. § 2.309(c)(1)(i)-(iii) (timeliness requirements).

[89] Motion at 11.

for Additional Information ("RAI") related to TVA's emergency planning exemption request. In that response, TVA informed the NRC Staff that

> [T]he vendor-developed PRA has determined that spent fuel accidents are not credible for the design used for this representative plant analysis due to several spent fuel pool (SFP) design features, such as the substantial ultimate heat sink (UHS) pool capacity, a below-grade location, and stainless steel-lined walls and floors, and therefore this scenario was not analyzed. Based on a conservative calculation, the time required to boil off the UHS to the top of spent fuel in the SFP is in excess of 100 days, which allows for significant time to add replacement coolant to the SFP. The NRC has previously found that the requirements for formal offsite radiological emergency planning can be eliminated if ten hours until onset of gap release from fuel was available to initiate off-site protective actions using a comprehensive emergency management plan (CEMP) (Reference 4).[90]

Intervenors could have raised their demand for a more detailed emergency planning analysis in 2017 when TVA submitted this publicly-available RAI response.

In summary, Contention 4 is not based on information that is "materially different from information previously available," and the Contention was not "submitted in a timely fashion" based on the available information.[91] As a result, Contention 4 is inexcusably untimely, and therefore inadmissible.

C. Contention 4 is inadmissible because it fails to raise a genuine dispute with the DEIS.

Even if the Board were to find that Contention 4 is within the scope of this proceeding and is timely, the Contention is inadmissible because it fails to raise a genuine dispute with the DEIS on a material issue of law or fact.[92] Petitioners mistakenly claim that the DEIS is not

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[90] Letter from J.W. Shea to Document Control Desk, *Response to Request for Additional Information Related to Emergency Planning Exemption Requests in Support of Early Site Permit Application for Clinch River Nuclear Site*, at E1-9 (Aug. 24, 2017)(ML17237A175) (added to ADAMS on Sept. 11, 2017).

[91] 10 C.F.R. § 2.309(c)(1)(i)-(iii).

[92] 10 C.F.R. § 2.309(f)(vi).

conservative because (1) the NuScale design is not bounded by "the reference LWR with respect to its reactor design and refueling pattern;"[93] (2) the spent fuel pool size is uncertain and may not be bounded by a larger LWR;[94] and (3) the DEIS failed to "address the environmental impacts of a pool fire if the ten-mile emergency planning zone ("EPZ") required by NRC regulations is cut back to two miles or the site boundary."[95] These claims misinterpret and mischaracterize the DEIS and are therefore inadmissible because they fail to raise a genuine dispute on a material issue, as required under 10 C.F.R. §2.309(f)(vi).[96]

1. Contrary to Intervenors' claims, the NRC Staff's analysis in the DEIS does not rely on a "reference LWR" for comparison.

In Contention 4, Intervenors mischaracterize the DEIS by inserting the concept of a "reference LWR" into the NRC Staff's analysis and creating a dispute with this fictional aspect of that analysis. This mischaracterization renders Contention 4 inadmissible, as it fails to raise a genuine dispute with the DEIS on a material issue.

According to Intervenors, the "reference LWR" does not bound the NuScale design with respect to its reactor design and refueling pattern.[97] However, the NRC Staff's analysis in the DEIS does not rely on any single "reference LWR."[98] Rather, the DEIS's analysis is based on four different studies with a variety of assumptions to show that the risks associated with a

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[93] Motion at 9.

[94] Motion at 10-11.

[95] Motion at 11.

[96] *Crow Butte Resources, Inc.* (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 N.R.C. 331, 363 (2009) (Petitioner's mischaracterization of the license application fail to raise a genuine dispute on a material issue); *Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2), LBP-13-8, 78 N.R.C. 1, 30 (2013) (Petitioner's "misapprehension (or mischaracterization) of the statement in the ER cannot, and does not, serve to bootstrap its claim into a genuine dispute with the application").

[97] Motion at 9.

[98] *See* DEIS at 5-85 to 5-87.

traditional LWR bound those of the PPE.[99] The so-called "reference LWR" appears in one of those four studies (in a study of Mark I BWRs),[100] and the spent fuel pool size of the "reference LWR" is one of the case studies mentioned in the DEIS.[101] However, the "reference LWR" is not central to the NRC Staff's analysis and it has no special importance in the DEIS.[102] Intervenors focus on this study in an apparent effort to manufacture a conflict between the NuScale design (which in any event is outside the scope of this proceeding) and the NRC Staff's analysis, where none otherwise exists.

Intervenors cannot mischaracterize the DEIS to create the basis for a valid contention.[103] Accordingly, Contention 4 is inadmissible.

2. Contention 4 is improperly based on speculative assertions regarding spent fuel pool design details outside the PPE.

Proposed Contention 4 is also based on purely speculative claims regarding the size of NuScale's spent fuel pool. This speculation—which in the first instance is outside the scope of this proceeding because it raises NuScale-design-specific issues—renders Contention 4 inadmissible for failing to raise a genuine dispute with the DEIS on a material issue.[104]

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[99] *See* DEIS at 5-85 to 5-87 (relying on NUREG-1437 Rev. 0; NUREG-1437, Rev. 1; NUREG-2157; NUREG-1738; and NUREG-2161).

[100] *See* NUREG-2161 at D-23 to D-24. The Intervenors define the "reference LWR" as one with a discharge of 296 fuel assemblies every two years and an overall pool size of 30,055 assemblies with a reference to NUREG-2161. Both of these numbers are incorrect. The NUREG-2161 analysis actually assumes an offload of 284 assemblies every cycle and an overall pool size of 3,055 assemblies. *See* NUREG-2161 at D-23 to D-24.

[101] DEIS at 5-86 (noting that NUREG-2161 assumes 3,055 spent fuel assemblies in the pool). The DEIS also references NUREG-1738, which assumes 1,000 to 4,000 spent fuel assemblies in the pool. DEIS at 5-86.

[102] *See* DEIS at 5-85 to 5-87.

[103] *Crow Butte Resources, Inc.* (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 N.R.C. 331, 363 (2009); *Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2), LBP-13-8, 78 N.R.C. 1, 30 (2013).

[104] *Union Electric Co. d/b/a Ameren Missouri* (Callaway Plant, Unit 2), CLI-11-5, 74 N.R.C. 141, 169 (2011).

Intervenors claim that the amount of fuel assumed to be in the spent fuel pool in the DEIS is not conservative.[105] Intervenors challenge the DEIS's assumption that "the fuel transfer would be expedited because the pool would be significantly smaller than that of a large LWR and therefore the number of spent fuel assemblies in the pool would be much lower."[106] Intervenors say that this assumption is incorrect because there is no regulatory requirement to move fuel after 6 years, and the NuScale design may theoretically hold 10-15 years' worth of spent fuel.[107]

While Intervenors speculate as to the detailed design of an mPower or NuScale spent fuel pool,[108] the PPE has an established 6-year capacity for spent fuel, with 96 assemblies removed per refueling, and a refueling frequency of every two years upon which the DEIS relies.[109] In short, Intervenors' speculation regarding future spent fuel pool design details outside of the PPE fails to raise a genuine dispute with the DEIS.

Intervenors' mere speculation cannot form the basis for a valid contention.[110] As such, the Board should reject Contention 4.

3. Intervenors' claim regarding the EPZ analysis is also inadmissible for failing to raise a genuine dispute with the DEIS.

In the final portion of Contention 4, Intervenors claim that the DEIS should "address the environmental impacts of a pool fire if the ten-mile emergency planning zone ("EPZ") required by NRC regulations is cut back to two miles or the site boundary, as has been requested by TVA

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[105] Motion at 10-11.

[106] Motion at 10 (citing DEIS at 5-87).

[107] Motion at 10-11.

[108] *See* Motion at 10-11 (hypothesizing that the spent fuel pool may have 10-15 years of storage).

[109] ER, Table 3.1-2, at 3.1-9. The NRC Staff estimated a storage capacity based on these PPE values. *See* DEIS at 5-86.

[110] *Union Electric Co. d/b/a Ameren Missouri* (Callaway Plant, Unit 2), CLI-11-5, 74 N.R.C. 141, 169 (2011) ("[O]ur rules deliberately place a heavy burden on proponents of contentions, who must challenge aspects of license applications with specificity, backed up with substantive technical support; mere conclusions or speculation will not suffice.").

in Part 6 of its COL application."[111] However, as mentioned above, TVA already performed an analysis of the possibility of a spent fuel pool accident in its response to an NRC RAI related to the emergency planning exemption request.[112]

In that response, TVA determined that "formal offsite radiological emergency planning" was unnecessary in accordance with NRC policy.[113] As TVA explained, "the vendor-developed PRA has determined that spent fuel accidents are not credible for the design used for this representative plant analysis due to several spent fuel pool (SFP) design features, such as the substantial ultimate heat sink (UHS) pool capacity, a below-grade location, and stainless steel-lined walls and floors, and therefore this scenario was not analyzed."[114]

The Staff also analyzed the impact of a spent fuel pool accident through its reliance on the GEIS.[115] The GEIS concluded that the impacts of spent fuel pool accidents are comparable to the risks of a reactor accident at full power.[116] As Intervenors recognize, the Staff performed an analysis of a reactor accident in all three evacuation scenarios (with a ten-mile EPZ, a two-mile EPZ, and site boundary EPZ).[117] Based on that analysis, the Staff determined that "the probability-weighted consequences (i.e., risks) of severe accidents are small for all risk categories for the largest SMR design considered for the CRN Site for *all of the EPZs considered*," including scenarios in which the EPZ is cut back to two miles or the site

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[111] Motion at 11.

[112] Letter from J.W. Shea to Document Control Desk, *Response to Request for Additional Information Related to Emergency Planning Exemption Requests in Support of Early Site Permit Application for Clinch River Nuclear Site*, at E1-9 (Aug. 24, 2017)(ML17237A175) (added to ADAMS on Sept. 11, 2017).

[113] *Id.*

[114] *Id.*

[115] *See* DEIS 5-85 to 5-87 (referring to NUREG-1437).

[116] NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants at 1-28 (2013) (ML13106A241); *see also* Motion at 4.

[117] Motion at 11, n.2 (citing DEIS at 5-74 to 5-75).

boundary.[118] In accordance with the GEIS, this analysis bounds the impacts of spent fuel pool accidents.

The Intervenors do not challenge these existing analyses in any way. In order to "show that a 'genuine dispute' exists with the applicant on a material issue of law or fact," a petitioner must "read the pertinent portions of the license application, including the Safety Analysis Report and the [ER], state the applicant's position and the petitioner's opposing view," and explain why it has a disagreement with the applicant.[119] Intervenors cannot ignore the existing analyses in an effort to create a new contention. Thus, Intervenors have failed to establish a material dispute with the existing analysis and therefore with the DEIS.

D. Contention 4 is inadmissible because it lacks the required factual or expert support.

Contention 4 is also inadmissible because it lacks the factual or expert support necessary to establish a material dispute. It is well-settled that Intervenors must provide "documents or other factual information or expert opinion that set forth the necessary technical analysis to show why the proffered bases support its contention."[120] Additionally, if there is no expert support, "any fact-based argument that is provided must be reasonably specific, coherent, and logical, sufficient to show such a dispute and indicate the appropriateness of further inquiry."[121]

Intervenors allege that the "significant design difference" between NuScale's refueling frequency and those of large LWRs creates health and safety "risk implications," such as

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[118] DEIS at 5-80.

[119] *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 N.R.C. 349, 358 (2001) (citing 54 Fed. Reg. at 33,170-71).

[120] *Private Fuel Storage LLC* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 N.R.C. 142, 180 (1998) (citations omitted).

[121] *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 & 4), LBP-09-17, 70 N.R.C. 311, 329 (2009).

"different probabilities of zirconium fire ignition," that the DEIS should have analyzed.[122] These statements are completely unsupported. There is simply no basis for Intervenors' bald assertions that any design differences are "significant," much less that the differences have any "risk implications" that should be analyzed.

Intervenors merely state that they "rely on the attached Declaration of Dr. Edwin J. Lyman."[123] However, the entirety of Dr. Lyman's substantive testimony is limited to the following statement:

> I assisted Intervenors with the preparation of their Contention 4, which challenges the adequacy of the Draft EIS' discussion of spent fuel pool fire risks to satisfy the National Environmental Policy Act ("NEPA"). The factual assertions in the contention are true and correct to the best of my knowledge, and the opinions expressed therein are based on my best professional judgment.[124]

This is insufficient to establish expert support for Contention 4. Among other flaws, this statement comes nowhere close to setting forth the "necessary technical analysis"[125] that is required to support a contention. As the Commission has found, a declaration such as Dr. Lyman's that merely states a conclusion "without providing a reasoned basis or explanation for that conclusion is inadequate because it deprives the [b]oard of the ability to make the necessary, reflective assessment of the opinion.'"[126] Dr. Lyman's two-sentence statement provides none of the reasoned basis or explanation that is required. The statement does not even identify Dr. Lyman's specific conclusions or opinions, and there is no way for the Board to "make the necessary reflective assessment" of his views. This is precisely the type of "fishing

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[122] Motion at 9.

[123] Motion at 12 (citing Attachment 3).

[124] *Decl. of Dr. Edwin S. Lyman in Support of Intervenors' Contention 4 (Inadequate Discussion of Environmental Impacts of Pool Fires)*, at ¶ 5 (May 21, 2018).

[125] *Private Fuel Storage LLC* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 N.R.C. 142, 180 (1998).

[126] *USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 N.R.C. 451, 472 (2006).

expedition"[127] that the Commission's pleading requirements are designed to prevent. Accordingly, Dr. Lyman's statement is insufficient to provide expert support for Contention 4.

Additionally, the few documents provided by Intervenors regarding decay heat and ruthenium[128] are insufficient to provide the required factual support. A "mere reference to documents does not provide an adequate basis for a contention,"[129] and Intervenors may not "provid[e] any material or document as a basis for a contention, without setting forth an explanation of its significance."[130] Here, Intervenors reference documents to support the fact that decay heat and the decay of ruthenium are both time dependent.[131] However, the Intervenors never demonstrate how these facts would change the NRC Staff's analysis in the DEIS.

Intervenors' claims regarding the EPZ analysis are similarly unsupported. Dr. Lyman's Declaration provides no technical basis for challenging TVA's already existing representative analysis.[132] And his Declaration provides no support to challenge the Staff's analysis of severe accident risks.[133] This utter lack of factual and expert support renders Contention 4 inadmissible for failing to satisfy the requirements of 10 C.F.R. 2.309(f)(1)(v).

IV. CONTENTION 5 IS INADMISSIBLE.

[127] *See* 54 Fed. Reg. at 33,171;
[128] *See* Motion at 7-9.
[129] Calvert Cliffs, CLI-98-25, 48 N.R.C. at 348 (citation omitted).
[130] *Systems Energy Resources Inc.* (Grand Gulf ESP), LBP-04-19, 60 N.R.C. 277, 290 (2009)
[131] Motion at 7-8.
[132] *See* Motion at 11.
[133] *Id.*

The Board should reject Contention 5 because it fails to raise a genuine dispute on a material issue, raises issues beyond the scope of this proceeding, and is inadequately supported.[134]

Contention 5 erroneously asserts that the DEIS (1) impermissibly contains information concerning the economic, technical, and other benefits of the proposed SMR, including the need for power and alternative energy sources; and (2) violates NEPA by "presenting the 'no-action' alternative as foregoing benefits (including the asserted benefits of operating the SMRs) rather than avoiding environmental impacts.[135] These assertions grossly mischaracterize the DEIS and are therefore inadmissible because they fail to raise a genuine dispute on a material issue, as required under 10 C.F.R. §2.309(f)(vi).

Indeed, Intervenors' unsuccessfully raised essentially identical arguments earlier in this licensing proceeding. The Commission rejected those arguments and ruled that Intervenors' Contention 3 is inadmissible because Intervenors (1) ignored explicit statements in TVA's Environmental Report ("ER") that TVA had *not* conducted a need for power or alternative energy analyses; and (2) instead sought to challenge extraneous statements in the ER regarding the project's purpose.[136] The Board should reject proposed Contention 5 for the same reasons.

Contention 5 also raises issues concerning purported benefits of alternative energy sources. These issues are outside the scope of this proceeding and are inadequately supported, rendering them inadmissible under 10 C.F.R. § 2.309(f)(iii) and (f)(v).

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[134] 10 C.F.R. § 2.309(f)(1)(iii), (v), and (vi).

[135] Motion at 12.

[136] CLI-18-05, slip op. at 15.

A. Contention 5 mischaracterizes the DEIS and therefore fails to raise a dispute on a material issue.

1. Contrary to Intervenors' claims, the DEIS neither evaluates nor analyzes the need for power or energy alternatives.

Contention 5's mischaracterizations of the DEIS concerning the need for power and energy alternatives fail to raise a genuine dispute with the DEIS on a material issue. Therefore Contention 5 is inadmissible. Indeed, the Board should reject Contention 5 because it is contrary to explicit Commission precedent in this proceeding. The Commission found Intervenors' Contention 3 inadmissible, which sought to raise issues essentially identical to those in Contention 5. The same analysis and result should apply here.

Intervenors previously asserted in their Contention 3 that TVA's ER impermissibly discussed the need for power and energy alternatives.[137] The Commission rejected Intervenors' claim.[138] As the Commission found, in its ER TVA expressly opted—as it is allowed to do under 10 C.F.R. § 51.50(b)(2)[139]—to defer a need for power and energy alternatives analysis to the COL stage.[140] Specifically, in ER Chapter 8 (Need for Power), TVA explained that 10 C.F.R. § 51.50(b)(2) "does not require a need for power discussion be included in an early site permit application. The need for power discussion is to be included in the combined license application."[141] Likewise, in ER Chapter 9 (Alternatives), TVA explained that the section on energy alternatives "is not required for an [ESP] Application."[142] As the Commission noted,

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[137] CLI-18-05, slip op. at 12-13.

[138] CLI-18-05, slip op. at 15.

[139] 10 C.F.R. § 51.50(b)(2) states in relevant part "[t]he environmental report need not include an assessment 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."

[140] CLI-18-05, slip op. at 15.

[141] ER (Rev. 0) at 8-1

[142] ER (Rev. 0) at 9.2-1.

there was no dispute that TVA had deferred addressing the need for power or alternative energy sources in the ER.[143]

Indeed, the statements in the ER that Intervenors challenged in Contention 3[144] totaled less than one page of text in the ER's Introduction, and included four bullet points on the "main objectives of the Clinch River (CR) SMR Project."[145] The Commission rejected Intervenors' argument that the ER was "brimming with claims that SMR technology is preferable to other energy technology on a host of issues."[146] Instead, the Commission ruled that Intervenors had merely "attempted to fashion a dispute with *extraneous statements* in the [ER]," which statements were a "discussion of the project's purpose" that could not be recast into a need for power or energy alternatives discussion.[147] The Commission further held that (1) Intervenors' "arguments cannot stand against TVA's express statement that TVA has exercised its option not to formally address these issues now;"[148] and (2) Intervenors would "have an opportunity to raise any concerns they might have . . . with TVA's discussion of need for power and energy alternatives" should TVA file a COL application.[149] For these reasons, the Commission found that Intervenors had failed to raise a genuine, material dispute with the ER.[150]

The Board should reject Contention 5 for the same reasons. In the DEIS's Introduction, the NRC Staff explains that the "*primary purpose* and need for the NRC proposed action (i.e., ESP issuance) is to provide for early resolution of site safety and environmental issues, which

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[143] CLI-18-05, slip op. at 15 (citing Staff Answer at 30).
[144] *See* Petition at 16-18.
[145] ER (Rev. 0) at 1-2 to 1-3.
[146] Petition at 16.
[147] CLI-18-05, slip op. at 15 (emphasis added).
[148] CLI-18-05, slip op. at 15.
[149] CLI-18-05, slip op. at 15-16.
[150] CLI-18-05, slip op. at 16.

provides stability in the licensing process."[151] The NRC Staff adds that the "NRC's purpose and need is further informed by the applicant's purpose and need."[152] The Introduction then incorporates the very same statements from the ER's "Introduction to the Environmental Report" that were at issue in proposed (and rejected) Contention 3.[153] These statements of purpose include the potential for power generated by SMRs to be used to address "critical energy security issues"; assisting federal facilities "with meeting carbon reduction objectives"; and deploying additional power in an incremental fashion to meet the needs of a service area.[154] The NRC Staff's inclusion of those same "extraneous statements" in the DEIS's Introduction does not amount to an evaluation or analysis of need for power or energy alternatives, just as the Commission held that those statements did not amount to an evaluation or analysis of those issues in the ER.

Further, Intervenors' claim that the DEIS inappropriately considered the need for power and energy alternatives simply cannot be reconciled with the explicit statements in the DEIS that those issues were, in fact, *not* considered. Although the DEIS states that it is "informed" by TVA's stated purposes for the project, the DEIS also states that

> [d]eploying SMRs in an incremental fashion to meet power generation needs and to assist in meeting carbon reduction goals *were not considered in this draft EIS, because the applicant chose to defer the need for power and alternative energy analysis*

to a potential future COL application.[155]

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[151] DEIS at 1-9 (emphasis added).

[152] DEIS at 1-9.

[153] *Compare* DEIS 1-9 to 1-10 and ER at 1-1 to 1-3.

[154] DEIS at 1-9 to 1-10.

[155] DEIS at 1-10 (emphasis added).

Moreover, nothing in DEIS Chapter 8.0 (Need for Power) or Chapter 9.0 (Environmental Impacts of Alternatives)—which are the relevant substantive sections for purposes of this discussion—actually assesses[156] the need for power or evaluates energy alternatives (or even discusses those topics). Rather, Chapter 8.0 consists of only eight lines of text, including the following:

> 10 CFR 51.50, Section (b)(2) . . . does not require an assessment of need for power in an ESP application; The TVA ESP application did not address the need for power. In accordance with 10 CFR 51.75(b) . . . the EIS for an ESP does not address the need for power if the application did not address the need for power.[157]

Likewise, DEIS Section 9.2 (Energy Alternatives), consists of only six lines of text, including the following:

> As stated in 10 CFR 51.50(b)(2) and 10 CFR 51.75(b) . . . , the analysis of energy alternatives for the proposed TVA SMR project is not required for an ESP, was not addressed in the environmental report for the ESP application, and is therefore not addressed in this EIS.[158]

In light of these clear statements, Intervenors are incorrect when they claim that the DEIS impermissibly discusses the need for power and energy alternatives.[159]

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[156] Intervenors claim that 10 C.F.R. 51.75(b) prohibits "discussion of the benefits associated with building and operating the SMR." Motion at 12 (emphasis omitted). This is not true. 51.75(b) states that the DEIS must not include an "*assessment* 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…." (emphasis added). Section 51.75(b) does not prohibit "discussion" of those items. Nor do Intervenors cite to any legal authority supporting its claim that the Staff is prohibited from describing in the DEIS the applicant's intended purpose of the project.

[157] DEIS at 8-1.

[158] DEIS at 9-2.

[159] Intervenors point out that statements in the DEIS concerning the alleged benefits of SMRs compared to other energy alternatives are "not supported" or "adequately analyzed." Motion at 13, 22. This should come as no surprise, and supports TVA's position here. The DEIS is not intended to perform such a comparison. That analysis will take place at the COL stage. *See* DEIS at 1-10 ("Deploying SMRs in an incremental fashion to meet power generation needs and to assist in meeting carbon reduction goals were not considered in this draft EIS, because the applicant chose to defer the need for power and alternative energy analysis. However, these objectives could be considered in an EIS for a COL application.").

Furthermore, Intervenors' claim that the Staff failed to conduct an "independent" evaluation of need for power and alternative energy issues[160] is also baseless, as no such evaluations were conducted *at all*. Therefore Intervenors' assertions to the contrary fail to raise a genuine dispute on a material issue. As discussed above, the NRC Staff has in fact not conducted any evaluation of need for power or energy alternatives, and the DEIS states as much.

In summary, just as the Commission rejected Contention 3 because the "determining factor is TVA's statements, in the Environmental Report, that it has chosen to defer a discussion of need for power and energy alternatives until the combined license application, which it is permitted to do,"[161] the Board must reject Contention 5 because the determining factor is the NRC Staff's explicit statements, in the DEIS, that it did not consider need for power or energy alternatives because those items were properly deferred to the COL stage.[162]

2. Contrary to Intervenors' claims, the no-action alternative discussion does not consider asserted benefits of operating SMRs.

Intervenors also erroneously claim that the DEIS impermissibly "present[s] the 'no-action' alternative as foregoing benefits (including the asserted benefits of operating the SMRs) rather than avoiding environmental impacts."[163] According to Intervenors, the DEIS inappropriately "compares the SMR favorably to the no-action alternative by characterizing it as an action that would forego benefits rather than avoid adverse impacts."[164] Intervenors assert that the NRC's regulations "preclude the [DEIS] from discussing the operation of the SMR as a

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[160] Motion at 13, 21.

[161] CLI-18-05, slip op. at 15.

[162] *See* DEIS at 1-10. Intervenors' claim that the NRC has somehow undermined its public participation requirements (Motion at 13, 22) also does not withstand scrutiny in light of the fact that the need for power and energy alternatives issues will be subject to such requirements at the COL stage.

[163] Motion at 12; *see also id.* at 21.

[164] Motion at 19-20 (citing DEIS at 1-12 & 9-1).

foregone benefit of the no-action alternative."[165] Not one of these claims is true. These mischaracterizations of the DEIS fail to raise a genuine dispute on a material issue.

The DEIS does not compare the no-action alternative with foregone benefits of SMR operation. Rather, the DEIS explicitly states that the foregone benefits of the no-action alternative are those benefits "intended by the ESP process," such as early resolution of siting issues, early resolution of issues related to environmental impacts of the planned units, the ability to bank sites for future use, and the facilitation of future decisions about where to potentially construct new nuclear units.[166] More specifically, the DEIS states that, "[i]n the no-action alternative, the action would not go forward."[167] Here, the action at issue is granting an ESP. If the ESP is not granted, the DEIS states that the construction and operation of a new plant "referencing an approved ESP would not occur, nor would any benefits intended by an approved ESP be realized."[168] The DEIS explicitly adds that the

> primary purpose and need for the NRC proposed action (i.e., ESP issuance) is to provide for *early resolution of site safety and environmental issues, which provides stability in the licensing process*.[169]

The DEIS further explains that,

> [i]n this context, the no-action alternative would accomplish none of the benefits intended by the ESP process, which would include (1) early resolution of siting issues prior to large investments of financial capital and human resources in new plant design and construction, (2) early resolution of issues related to the environmental impacts of construction and operation of new nuclear units that fall within the plant parameters for small modular reactor (SMR) nuclear generation units, (3) the ability to bank sites on which nuclear plants might be located, and

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[165] Motion at 21.

[166] DEIS at 9-1 to 9-2.

[167] DEIS at 1-12.

[168] DEIS at xxxiii & 1-12.

[169] DEIS at 1-9 (emphasis added).

(4) the facilitation of future decisions about whether to construct new nuclear power-generation facilities.[170]

Intervenors quote only half of this statement in their Motion, emphasizing the portion that reads "operation of new nuclear units that fall within the plant parameters for small modular reactor (SMR) nuclear generation units."[171] But, the text is clear on its face that the DEIS no-action alternative considers only those efficiency benefits that relate to issuing an ESP, and *not* the potential benefits of SMRs. There is nothing in the above-quoted statement even remotely suggesting that the NRC Staff considered the benefits that might result from the operation of new nuclear units. Intervenors have conveniently either overlooked or intentionally omitted these clear statements of the ESP-related benefits considered in the no action alternative, and thus have failed to raise a genuine dispute on a material issue.

B. Intervenors' remaining claims in Contention 5 are outside the scope of this ESP proceeding and are inadequately supported.

10 C.F.R. 51.75(b) prohibits the DEIS from including "an assessment 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, unless these matters are addressed in the early site permit environmental report." As previously discussed, the ER does not contain any assessment of the need for power or evaluation of energy alternatives.[172] The DEIS also does not include any such evaluation or assessment.

Despite the fact that the DEIS does not contain an assessment or evaluation of either the need for power or energy alternatives, Intervenors include numerous assertions in Section 2.e of Contention 5 regarding the purported benefits of alternative energy sources, comparisons of

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[170] DEIS at 9-1 to 9-2.

[171] Motion at 20 (emphasis omitted).

[172] ER (Rev. 1) at 8-1 & 9.2-1.

nuclear energy to other energy sources, and potential spent fuel storage needs.[173] Because the ER did not contain an assessment of the need for power or an evaluation of energy alternatives, and because under 10 C.F.R. 51.75(b) the DEIS therefore was prohibited from analyzing need for power or energy alternatives, Intervenors' attempt to introduce these issues here is outside the scope of this ESP proceeding. Such issues will be addressed at the COL stage.

Moreover, even if the Board were to determine that the claims in Section 2.e of Intervenors' motion are somehow within the scope of this proceeding, they are unsupported. Like the Declaration of Dr. Lyman, the Declaration of Dr. Ramana provides no substantive expert opinions or facts supporting those claims, and therefore does not satisfy the requirements in 10 C.F.R. § 2.390(f)(1)(v).[174]

V. CONCLUSION

For the foregoing reasons, the Board should reject Intervenors' Contentions 4 and 5.

Respectfully submitted,

June 15, 2018

/signed electronically by Anne R. Leidich/

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[173] Motion at 22-27

[174] *See USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 N.R.C. 451, 472 (2006).

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June 15, 2018

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	Docket No. 52-047-ESP
Tennessee Valley Authority	)	
	)	
Clinch River, Early Site Permit	)	
	)	

CERTIFICATE OF SERVICE

I certify that on June 15, 2018, a copy of "Tennessee Valley Authority's Answer Opposing Intervenors' Motion for Leave to File Contention 4 and Contention 5" was served electronically through the E-Filing system on the participants in the above-captioned proceedings.

/signed electronically by/
Anne Leidich