July 7, 2017

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	)	ASLBP No. 17-954-01-ESP-BD01
	)	

TENNESSEE VALLEY AUTHORITY'S ANSWER OPPOSING PETITIONS FOR INTERVENTION AND REQUESTS FOR HEARING BY THE SOUTHERN ALLIANCE FOR CLEAN ENERGY AND TENNESSEE ENVIRONMENTAL COUNCIL, AND THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i), Tennessee Valley Authority ("TVA"), hereby answers and opposes the petitioners to intervene and requests for hearing filed by the Southern Alliance for Clean Energy ("SACE") and Tennessee Environmental Council ("TEC"), filed on June 12, 2017 ("SACE/TEC Petition) and by the Blue Ridge Environmental Defense League ("BREDL") also filed on June 12, 2017 ("BREDL Petition").[1] SACE, TEC, and BREDL (collectively, "Petitioners") seek to intervene in the proceeding for an early site permit ("ESP") for the Clinch River Nuclear ("CRN") site ("CRN Site"). The SACE/TEC Petition and BREDL Petition should be denied because Petitioners have not proposed any admissible contention.

II. BACKGROUND

On May 12, 2016, TVA applied to the Nuclear Regulatory Commission ("NRC") under 10 C.F.R. Part 52, Subpart A for an early site permit ("ESP") for the CRN Site. The CRN Site is

[1] In violation of 10 C.F.R. § 2.309(b)(3), which requires filing and service of documents as specified in the Federal Register notice, BREDL filed seven days late.

located in Roane County, Tennessee. The issuance of an ESP is separate from the approval of an application for a construction permit or combined license ("COL").[2] Therefore, approval to construct and operate a nuclear plant at the CRN Site would require a separate NRC authorization and would be the subject of a separate licensing proceeding.

The TVA ESP application is organized as follows: Part 1, Administrative Information; Part 2, Site Safety Analysis Report ("SSAR"); Part 3, Environmental Report ("ER"); Part 5, Emergency Planning; and Part 6, Departures and Exemption Requests. NRC accepted TVA's application for docketing on December 30, 2016, and published a Hearing Notice on April 4, 2017.[3] The Commission Hearing Notice stated that any person whose interest may be affected by this proceeding and who wishes to participate as a party must, in accordance with 10 C.F.R. § 2.309, file a petition for leave to intervene by June 5, 2017. SACE and TEC requested a one-week extension of time to file hearing requests on TVA's ESP application, and requested a one-week extension of time to file replies to any answers to their hearing request.[4] This request was granted with respect to SACE and TEC by order dated June 2, 2017. SACE and TEC filed their SACE/TEC Petition on June 12, 2017. BREDL, who did not request an extension of time, also filed the BREDL Petition on June 12, 2017.

III. THE SACE/TEC PETITION AND THE BREDL PETITION SHOULD BE DENIED BECAUSE PETITIONERS HAVE RAISED NO ADMISSIBLE CONTENTIONS

To be admitted as parties in this proceeding, Petitioners must demonstrate standing and plead at least one admissible contention. 10 C.F.R. § 2.309(a). TVA does not object to the

[2] 10 C.F.R. § 52.12.

[3] 82 Fed Reg. 16,436 (Apr. 4, 2017).

[4] *Request by Southern Alliance for Clean Energy and Tennessee Environmental Council for Extension of Time Periods for Submitting Hearing Requests and Reply to Responses* (May 5, 2017) (ADAMS Accession No. ML17125A077).

standing of SACE, TEC, or BREDL in this proceeding. However, neither the SACE/TEC Petition nor the BREDL Petition contains an admissible contention.

A. Standards for the Admissibility of Contentions

Under 10 C.F.R. § 2.309(f)(1), a hearing request "must set forth with particularity the contentions sought to be raised. Additionally, each contention must: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact.[5]

These six criteria in § 2.309(f)(1) were adopted by the Commission to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[6] The Commission's rules regarding the admissibility of contentions are "strict by design."[7] The rules were "toughened . . . in 1989 because in prior years 'licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.'"[8] The Commission's practice does not permit "notice pleading" with details to be filled in later:

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[5] *See id*. 10 C.F.R. § 2.309(f)(1)(i)-(vi). The seventh contention admissibility requirement, 10 C.F.R. § 2.309(f)(1)(vii), is applicable to proceedings arising under 10 C.F.R. § 52.103(b) and, therefore, not applicable to proposed contentions in this proceeding.

[6] Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

[7] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001) (citing *Duke Energy Corp*. (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 334 (1999)).

[8] *Id.*

> Instead, we require parties to come forward at the outset with sufficiently detailed grievances to allow the adjudicator to conclude that genuine disputes exist justifying a commitment of adjudicatory resources to resolve them.[9]

The Commission has explained that this "strict contention rule" serves multiple purposes, which include putting other parties on notice of the specific grievances being raised and assuring that full adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions.[10] By raising the threshold for admission of contentions, the NRC intended to obviate lengthy hearing delays caused in the past by poorly defined or supported contentions.[11] "If any one of the requirements [now in 10 C.F.R. § 2.309(f)(1)] is not met, a contention must be rejected."[12] A licensing board is not to overlook a deficiency in a contention or assume the existence of missing information.[13] If a potential intervenor fails to meet any of the six admissibility criteria, the proposed contention should be rejected as inadmissible.[14]

1. Petitioners Must Specifically State the Issue of Law or Fact to Be Raised

A petitioner must provide a "specific statement of the issue of law or fact to be raised or controverted."[15] This standard requires that the petitioner "articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party]."[16] An "admissible contention must explain, with specificity, particular safety or legal reasons requiring

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[9] *N. Atlantic Energy Serv. Corp*. (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999).

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

[11] *Id.*

[12] *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991) (citation omitted).

[13] *Id.*

[14] *See* Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2221. *See also Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

[15] 10 C.F.R. § 2.309(f)(1)(i).

[16] *Oconee*, CLI-99-11, 49 NRC at 338.

rejection of the contested [application]."[17] A petitioner cannot offer a contention consisting of "what amounts to generalized suspicions, hoping to substantiate them later."[18]

2. Petitioners Must Briefly Explain the Basis for the Contention

Under the Commission's rules, a petitioner must provide a "brief explanation of the basis for the contention."[19] The petitioner's explanation defines the scope of the contention because "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases."[20] "A contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions."[21]

3. Contentions Must Be Within the Scope of the Proceeding

The petition must demonstrate "that the issue raised in the contention is within the scope of the proceeding."[22] The Commission's notice of opportunity for a hearing defines the scope of the proceeding.[23] Contentions are limited to issues regarding the specific application before the Licensing Board[24] and a contention that is outside the scope of the proceeding must be rejected.[25]

A contention that collaterally attacks statutory requirements or the structure of the NRC regulatory process is outside the scope of the proceeding and must be rejected.[26] If a contention

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[17] *Millstone*, CLI-01-24, 54 NRC at 359-60.

[18] *Oconee*, CLI-99-11, 49 NRC at 337-39.

[19] 10 C.F.R. §§ 2.309(f)(1)(ii).

[20] *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom., Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir. 1991).

[21] Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 (1998); *see also La. Energy Servs., L.P.* (Nat'l Enrichment Facility), LBP-04-14, 60 NRC 40, 57 (2004) ("licensing boards generally are to litigate 'contentions' rather than 'bases'") (citation omitted).

[22] 10 C.F.R. § 2.309(f)(1)(iii).

[23] *See Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790-91 (1985).

[24] *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204 (1998).

[25] *See Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979).

[26] *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-07-11, 65 NRC 41, 57-58 (2007) (citing *Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 & 3), ALAB-216, 8 AEC 13, 20 (1974)).

states a petitioner's view of what the regulatory policy of the Commission should be, it is not within the scope of the proceeding or litigable.[27] An ESP application need not contain detailed design information because issues that relate to a particular design rather than siting are left for consideration at the COL stage.[28] If a contention raises a design-related challenge, it is beyond the scope of an ESP proceeding.[29]

Although the adequacy of the NRC Staff's National Environmental Policy Act ("NEPA") findings may be within the scope of this proceeding at a later date, a petitioner is initially required to base its NEPA-based contentions on the applicant's environmental report.[30] Therefore, an environmental contention must be based on the applicant's environmental report, not on potential future NRC environmental documents.

4. Contentions Must Raise a Material Issue

As a fundamental requirement, a petitioner must demonstrate "that the issue raised in a contention is material to the findings that the NRC must make to support the action that is involved in the proceeding."[31] Findings that must be made with respect to an ESP application are set forth in 10 C.F.R. §§ 51.105 and 52.24. Admissible contentions "must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]."[32] "The dispute at issue is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'"[33] It is not sufficient for a petitioner to allege an error or omission in

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[27] *See Peach Bottom*, ALAB-216, 8 AEC at 20-21.

[28] *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 236-37 (2007).

[29] *See Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-04-17, 60 NRC 229, 244-45 (2004).

[30] 10 C.F.R. § 2.309(f)(2).

[31] 10 C.F.R. § 2.309(f)(1)(iv).

[32] *Millstone*, CLI-01-24, 54 NRC at 359-60.

[33] *Oconee*, CLI-99-11, 49 NRC at 333-34 (citing Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172).

an application; the petitioner must show a link between the claimed error or omission and the health and safety of the public or the environment.[34] In order to be material, the contention, if proven, must entitle the petitioner to relief.[35]

5. Contentions Must Be Supported by Adequate Factual Information or Expert Opinion

A petitioner must present the factual information or expert opinion necessary to support its contention.[36] The petitioner is obligated "to provide the [technical] analyses and expert opinion" or other information "showing why its bases support its contention."[37] Where a petitioner has failed to do so, "the [Licensing] Board may not make factual inferences on [the] petitioner's behalf."[38]

"[T]he Board is not to accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention."[39] The Licensing Board examines supporting material "both for what it does and does not show."[40] Such supporting information has to support the proposed contention[41] and cannot be based on a petitioner's

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[34] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), LBP-04-15, 60 NRC 81, 89, *aff'd*, CLI-04-36, 60 NRC 631 (2004).

[35] *See Duke Energy Corp*. (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363 n.10 (2002).

[36] 10 C.F.R. § 2.309(f)(1)(v)

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

[38] *Id., citing Palo Verde*, CLI-91-12, 34 NRC 149. *See also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 180 (1998), *aff'd on other grounds*, CLI-98-13, 48 NRC 26 (1998) (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 support a contention's "proffered bases") (citations omitted).

[39] *Id*. at 181.

[40] *See Yankee Atomic Elec. Co*. (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

[41] *See Vt. Yankee Nuclear Power Corp.* (Vt. Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

imprecise reading.[42] The petitioner must identify specific portions of the documents on which it relies, rather than making vague references to the document.[43] A statement "that simply alleges that some matter ought to be considered" does not provide a sufficient basis for a contention.[44] Similarly, a mere reference to documents does not provide an adequate basis for a contention.[45]

Where the petitioner alleges expert opinion provides the basis for a contention, "an expert opinion that merely states a conclusion (e.g., the application is 'deficient,' 'inadequate,' or 'wrong') without providing a reasoned basis or explanation for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion."[46] Likewise, conclusory statements made by an expert are not adequate support for a contention.[47]

6. Contentions Must Raise a Genuine Dispute of Material Law or Fact

A petitioner must "provide sufficient information to show . . . a genuine dispute . . . with the applicant . . . on a material issue of law or fact."[48] The petitioner must "read the pertinent portions of the license application . . . state the applicant's position and the petitioner's opposing view," and explain why it disagrees with the applicant.[49] If the contention does not controvert the application, it is subject to dismissal.[50] An allegation that some aspect of a license

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[42] *See Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300, *aff'd*, CLI-9512, 42 NRC 111 (1995).

[43] *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

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

[45] *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 348 (1998).

[46] *USEC, Inc*. (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

[47] *Id.*

[48] 10 C.F.R. § 2.309(f)(1)(vi).

[49] Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Millstone*, CLI-01-24, 54 NRC at 358.

[50] *See Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992).

application is inadequate 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.[51] A contention should be rejected if it inaccurately describes or misstates the content of the licensing documents.[52] A petitioner's oversight does not give rise to a contention. For example, if a petitioner contends an application omits something that is required, but the information is in the license application, the contention does not raise a genuine issue.[53]

If the petitioner does not believe that a licensing request and supporting documentation address a relevant issue, the petitioner is "to explain why the application is deficient."[54] A contention that does not directly controvert a position taken by the applicant in the license application is subject to dismissal.[55]

B. TVA's Position on SACE's and TEC's Proposed Contentions

All of SACE's and TEC's proposed contentions are deficient in multiple respects and should be rejected in accordance with 10 C.F.R. § 2.309(f)(1).

1. SACE and TEC Contention 1 (Emergency Plan)

SACE and TEC's Contention 1 alleges that "[t]he Emergency Plan in the ESP application for the Clinch River SMR is inadequate to satisfy 10 C.F.R. §52.17(b)(2) because the size of the proposed plume exposure Emergency Planning Zone ("EPZ") is less than the minimum ten-mile

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[51] *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 NRC 509, 521 & n.12 (1990).

[52] *See, e.g., Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2076 (1982); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-32-107A, 16 NRC 1791, 1804 (1982); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1504-05 (1982).

[53] *See Millstone*, LBP-04-15, 60 NRC at 95-96.

[54] Final Rule, 54 Fed. Reg. at 33,170; *Palo Verde*, CLI-91-12, 34 NRC at 156.

[55] *See Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992).

radius required by 10 C.F.R. § 50.47(c)(2) for most nuclear power reactors."[56] SACE and TEC further allege that "TVA has not demonstrated that it satisfies the NRC Staff's criterion for such an exemption with respect to the potential for a spent fuel storage pool fire."[57] SACE and TEC fundamentally misunderstand the exemption request in the CRN Site ESP application. SACE and TEC argue that "in order for TVA to qualify for an exemption from the ten-mile EPZ, TVA should have to demonstrate for [sic] the spent fuel storage pool(s) to be located at the proposed site that in the event of a loss of cooling and adiabatic heating conditions (i.e., conditions in which a range of factors may prevent heat from leaving individual fuel assemblies or spent fuel racks), at least ten hours would elapse before a zirconium fire would be initiated."[58] SACE and TEC then further assert that any such analysis would "depend on fuel design features, as well as operational factors that are not specified in the ESP application."[59]

As discussed below, this proposed contention misunderstands TVA's exemption request and is, therefore, outside the scope of the proceeding. Moreover, because SACE and TEC have misread the exemption request, the contention does not raise a material issue, is not supported by adequate factual information or expert opinion, and does not raise a genuine dispute of material fact or law.

a. The TVA Exemption Request

SACE and TEC do not discuss the actual exemption request made by TVA in the CRN Site ESP application. TVA is requesting to use an alternate methodology for determining the appropriate size of an emergency planning zone ("EPZ"):

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[56] SACE/TEC Petition at 5.
[57] *Id.*
[58] *Id.* at 5-6.
[59] *Id.* at 6.

> In this application, TVA is proposing a dose-based, consequence-oriented approach to establish an appropriate EPZ size consistent with [U.S. Environmental Protection Agency ("EPA") Protective Action Guidelines ("PAG")] criteria. The requested exemptions, and justification for each, are based on and consistent with the Nuclear Energy Institute (NEI) White Paper, "Proposed Emergency Preparedness Regulations and Guidance for Small Modular Reactor Facilities" (Reference 3-2).[60]

As discussed in the ESP application, the NRC has recognized that these PAG dose guidelines are an appropriate basis for conducting emergency planning:

> 10 CFR 50.47(b)(11) states, in part, that the onsite and offsite emergency response plans for nuclear power reactors shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides. NUREG-0396 established a [plume exposure pathway ("PEP")] EPZ of about 10 miles for large LWRs. NUREG-0396 and EPA-400 identified the PAG dose guidelines as doses at which public protective actions should be considered and undertaken. The revised EPA PAG (issued in 1992 as EPA-400-R-92-001) provides that licensed facilities that can demonstrate that accident doses at the Site Boundary would not exceed the PAG should not be required to have either defined EPZs or comprehensive offsite emergency planning.[61]

TVA's exemption request is to use the EPA PAG dose guidelines to establish an appropriate EPZ rather than using the deterministic 10-mile PEP EPZ and to request exemptions from the emergency planning regulations that are not necessary for smaller EPZs. The specific emergency planning regulations that are not necessary for the site boundary EPZ are detailed in ESPA, Part 6, Table 1-1 and Table 1-2. The specific emergency planning regulations that are not necessary for a 2-mile EPZ are detailed in ESPA, Part 6, Table 1-3.

(i) The TVA Exemption Request is Consistent with the Approach the NRC is Considering in Rulemaking

The NRC is in the process of conducting a rulemaking with respect to emergency preparedness regulations with respect to SMRs and other new technologies and has issued a Draft Regulatory Basis for Emergency Preparedness for Small Modular Reactors and Other New

[60] ESPA Part 6 at 1.

[61] ESPA, SSAR, Section 13.3 at 13.3-2.

Technologies.[62] As the Draft Regulatory Basis notes, "[c]urrent emergency preparedness (EP) regulations do not reflect the advances in reactor design and more recent reactor safety research, particularly with respect to small modular reactors …."[63] In examining the regulatory issues involved, the Draft Regulatory Basis states:

> The smaller size, lower power densities, lower probability of severe accidents, slower accident progression, and smaller accident offsite consequences per module that characterize SMR and non-LWR designs have led DOE, SMR designers, and potential operators to revisit the determination of the appropriate size of the EPZs, the extent of onsite and offsite emergency planning, and the number of response staff needed.[64]

In discussing the rulemaking option, the Draft Regulatory Basis discusses SECY-11-0152, where the staff presented four different PEP EPZ boundaries, based on total effective dose equivalent ("TEDE"): (1) a site boundary EPZ if offsite doses are less than 1 rem TEDE, (2) a 2-mile EPZ if offsite dose is greater than 1 rem TEDE, but less than 1 rem TEDE at 2 miles, (3) a 5-mile EPZ if the expected offsite dose is greater than 1 rem TEDE at 2 miles, but less than 1 rem TEDE at 5 miles; and (4) a 10-mile EPZ if the expected offsite dose is greater than 1 rem TEDE at 5 miles.[65] The exemption requested by TVA is consistent with the first two scenarios and TVA has presented this approach in public meetings regarding TVA's ESP application on several occasions.[66] Because the rulemaking has not been completed, TVA is seeking its exemption in the ESP proceeding, consistent with SRM SECY-15-0077, dated August 4, 2015,

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[62] NRC Docket ID: NRC-2015-0225 ("Draft Regulatory Basis") (ADAMS Accession No. ML16309A332).

[63] Draft Regulatory Basis at 1-1.

[64] *Id.* at 3-1.

[65] *Id*. at 4-2 to 4-3.

[66] *See*, *e.g.*, Summary of December 17, 2014, Public Meeting with the Nuclear Energy Institute, the Tennessee Valley Authority Regarding Small Modular Reactor Emergency Planning Zones, dated March 11, 2015 (ADAMS Accession No. ML 15044A419); Summary of May 5, 2015 Public Meeting with the Tennessee Valley Authority Regarding Emergency Planning Zone Exemptions, dated May 27, 2015.

"[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."[67]

(ii) Examples of Exemption Requests Based on Alternate Methodological Approaches

The TVA exemption request is to use an alternate approach to determine an appropriate size for an EPZ based on PAG criteria. This is analogous to numerous exemptions the NRC has granted to allow licensees to use alternate tests or methodologies to meet regulatory requirements in a variety of areas. For example, the NRC has granted exemptions to use alternate methodologies with respect to certain kinds of non-destructive testing methods.[68] Likewise, alternate methodologies or approaches have been approved for containment leakage testing.[69] Alternate methodologies have also been approved as exemptions from regulatory requirements where fundamental assumptions embedded in the regulations are not applicable, such as the use of different fuel cladding than is assumed by the regulations.[70] The current emergency planning regulations assume a large, light-water reactor, and the technology for which this ESP is sought is not a large, light-water reactor, but SMRs, which the Commission has recognized have very different characteristics.

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[67] Staff Requirements– SECY-15-0077 – Options for Emergency Preparedness for Small Modular Reactors and Other New Technologies ("SRM SECY15-0077"), dated August 4, 2015 (ADAMS Accession No. ML15216A492) at 1.

[68] *See*, *e.g.*, Davis-Besse Nuclear Power Station, Unit 1 – Exemption from the Requirements of 10 CFR Part 50.61 and 10 CFR Part 50, Appendix G (TAC No. ME1128), dated December 14, 2010 (Accession No. ML103060208); *see also* Point Beach Nuclear Plant (Point Beach), Units 1 and 2 – Exemption from the Requirements of 10 CFR Section 50.61 and Appendix G to 10 CFR Part 50 (TAC Nos. MF0534 and MF0535), dated June 30, 2014 (Accession No. ML14126A612).

[69] *See*, *e.g.*, River Bend Station, Unit 1, Exemption from the Requirements of 10 CFR Part 50, Appendix J (TAC No. ME9450), dated August 21, 2013 (ADAMS Accession No. ML13203A128); Arkansas Nuclear One, Unit 2 – Exemption from the Requirements of 10 CFR Part 50, Appendix J (TAC No. MF3382), dated January 13, 2015 (ADAMS Accession No. ML14346A210).

[70] *See*, *e.g.*, Donald C. Cook Nuclear Plant, Unit 2, Exemption, dated August 30, 2012 (ADAMS Accession No. ML12142A299); Arkansas Nuclear One, Unit 1 – Exemption from the Requirements of 10 CFR Part 50, Appendix K (TAC No. MC4612), dated July 25, 2005 (ADAMS Accession No. ML051790417).

(iii) Summary

TVA's exemption request, therefore, is to use the PAG dose guidelines and methodology described in ESPA, SSAR 13.3 as an alternate approach to establish the size of the EPZ (because the current 10-mile EPZ is based on fundamentally different technical assumptions) and exempt TVA from those emergency planning regulations that would not be applicable (for the reasons set forth in ESPA, Part 6, Tables 1-1 through 1-3) if the design-specific analysis contained in a COLA when compared with the PAGs shows that the EPZ can be established at the site boundary or at a 2-mile radius.[71] If those criteria are not met, TVA would use the deterministic 10-mile EPZ:

> [t]he criteria established in the ESPA require the SMR design to demonstrate in the COLA that any accident consequences are less than the EPA PAG criteria and meet specific risk reduction criteria (see SSAR Subsection 13.3.3.1.1) for the Emergency Plan and the size of the PEP EPZ in the ESPA to be used. If the SMR design selected does not meet those criteria, the smaller EPZ will not be used.[72]

In other words, if the PAG criteria are not met at the COL stage, the 10-mile EPZ would apply and the exemptions from NRC emergency planning regulations detailed in Tables 1-1 through 1-3 would also not apply. As discussed below, the appropriate time for SACE or TEC to raise any objections to whether a design selected for the CRN Site complies with the PAG-based criteria is at the COL stage.

[71] *Id*. at 13-3; *see also* ESPA Part 6, Table 1-1 and Table 1-2 (Site Boundary EPZ); *id.* Table 1-3 (2-Mile EPZ).
[72] ESPA, Part 6 at 5.

b. The Contention is Outside the Scope of the Proceeding

Because SACE and TEC misunderstand the exemption request, the contention is outside the scope of this proceeding. The ESP application states that TVA will demonstrate that the selected design will meet one of the two PAG criteria:[73]

> The requested exemptions would require the SMR design selected for the Combined License Application (COLA) to meet the established criteria at the selected EPZ boundary. The criteria are consistent with and based upon the U.S. Environmental Protection Agency (EPA) Protective Action Guides (PAG) dose criteria for early phase protective actions in the unlikely event of a severe accident.[74]

An analysis of the SMR design and its ability to meet the PAG dose criteria will be conducted during the COL. Contention 1 does not in any way state that the PAG dose criteria are deficient in any respect in establishing the size of an EPZ. Rather, Contention 1 claims that an analysis needs to be conducted with respect to spent fuel pool fires, but SACE and TEC concede that the analysis it believes should be conducted "would depend on fuel design features, as well as operational factors that are not specified in the ESP application."[75] Contention 1 is clearly a design-related challenge that does not challenge TVA's actual exemption request. Essentially, Contention 1 ignores that applicants for an ESP may use a design parameter approach, rather than requiring a specific design.[76] Indeed, at this stage, Contention 1 violates 10 C.F.R. § 2.335(a) by seeking to require TVA to provide a specific design, rather than design parameters. To the extent that SACE and TEC have reasons to believe that an SMR proposed to be built at the COL stage does not fit within the design parameters contained in the ESP application, SACE

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[73] *See*, *e.g.*, ESPA, SSAR, Section 13.3 at 13.3-1 to 13.3-2 ("During preparation of a Combined License Application (COLA), when TVA has selected a reactor design, TVA intends to demonstrate that the selected design conforms with the criteria described herein.").

[74] ESPA, Part 6 at 1.

[75] SACE/TEC Petition at 6; *see also id.* at 8.

[76] *See* 10 C.F.R. § 52.24(b).

and TEC have the ability to file a hearing request (and petition to intervene) on that basis.[77] Because it is design-related, does not challenge TVA's actual exemption request, and collaterally attacks 10 C.F.R. § 52.24(b), Contention 1 is not within the scope of this ESP proceeding.[78]

c. The Contention Does Not Raise a Material Issue

Because Contention 1 is a design-related challenge that does not actually address TVA's exemption request, it does not raise a material issue. As discussed in Sections III.B.1.a and III.B.1.b, *supra*, TVA seeks an exemption to use PAG criteria to establish an EPZ and exemptions from the NRC regulations regarding emergency planning based on the size of the EPZ. SACE and TEC claim in SACE and TEC's Contention 1 that TVA needs to conduct an analysis consistent with Preliminary Draft, Regulatory Improvements for Power Reactors Transitioning to Decommissioning (RIN # 3150-AJ59, NRC Docket # NRC-2015-0070, 2015) ("Draft Guidance for Decommissioning Reactors") (NRC ADAMS Accession No. ML16309A332).[79] However, this guidance does not apply to an ESP application, but applies only to plants in decommissioning. SACE and TEC further allege that "… TVA completely fails to discuss any SMR features that would decrease the potential for spent fuel pool fires to result in significant off-site radiological releases."[80] These allegations do not address the actual TVA exemption request, which is to use the PAG dose criteria with exemptions from emergency planning based on whether a site boundary EPZ or 2-mile radius EPZ would be applicable based on the PAG criteria.

Contention 1 does not dispute any part of the exemption request. Contention 1 does not dispute that PAG dose criteria are an appropriate basis for establishing an EPZ. Contention 1

[77] *See* 10 C.F.R. § 52.39(c)(i).
[78] *See* Clinton ESP, 60 NRC at 244-45 (2004).
[79] SACE/TEC Petition at 6.
[80] *Id.* at 7.

does not dispute that exemptions from NRC emergency planning regulations listed in Part 6, Table 1-1 through Table 1-3 are appropriate based on the size of the EPZ established by PAG criteria. Admissible contentions "must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]."[81] Likewise, Contention 1 does not controvert TVA's justification for the exemption request (ESPA, Part 6 at 2-6) regarding how the exemption request meets the NRC's regulatory requirements for granting an exemption. Contention 1 simply does not contest in anyway the actual exemption request in the ESP application. If SACE and TEC believe a selected design does not meet the PAG criteria for establishing a smaller than 10-mile PEP EPZ, SACE and TEC can raise that contention at the COL stage. However, SACE and TEC have not addressed why the actual exemption requested by TVA in the ESP application should not be granted. Accordingly, Contention 1 fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iv).

d. The Contention is Not Supported by Adequate Factual Information or Expert Opinion

As discussed in Sections III.B.1.a, III.B.1.b, and III.B.1.c, *supra*, Contention 1 does not address the actual exemption request in the ESP application. The "factual information" referenced by SACE and TEC as the basis for its contention is primarily drawn from the Draft Guidance for Decommissioning Reactors.[82] The Licensing Board examines supporting material "both for what it does and does not show."[83] The Draft Guidance for Decommissioning Reactors does not address PAG criteria as a means of establishing an appropriate EPZ and it does not

[81] *Millstone*, CLI-01-24, 54 NRC at 359-60.

[82] *See* SACE/TEC Petition at 5-8. The SACE/TEC Petition also references NUREG-1437, Generic Environmental Impact State for License Renewal of Nuclear Plants (2013), NUREG-1738, Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants (2001) (ADAMS Accession No. ML13251A342), and NUREG-2161, Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a US Mark I Boiling Water Reactor at 132-33 (2014) (ADAMS Accession No. ML13297070). Those documents also do not address the use of PAG criteria to determine the appropriate size of an EPZ.

[83] *See Yankee*, LBP-96-2, 43 NRC at 90.

apply to an ESP application. It cannot, therefore, be a basis to controvert the exemption request in the ESP application. SACE and TEC provide no argument as to how the guidance document is relevant to TVA's request to use PAG dose criteria to establish an appropriate EPZ. Likewise, the Declaration of Dr. Edwin Lyman does not address the PAG dose criteria or the requested exemptions from specific emergency planning regulations.[84]

SACE and TEC cite NUREG-0396, Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants (1978) ("NUREG-0396"), which endorses the use of PAGs as a basis for emergency planning, noting that PAGs "represent trigger or initiation levels, which warrant pre-selected protective actions for the public if the projected (future) dose received by an individual in the absence of protective action exceeds the PAG."[85] In other words, the TVA exemption request is consistent with NUREG-0396, as the exemptions are directly tied to the PAG levels recognized by NUREG-0396 as the "trigger" or "initiation levels" for pre-selected protective actions. Similarly, NUREG-0654/FEMA-REP-1, Rev. 1, Criteria for Protective Action Recommendations for Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (1980), also cited by SACE and TEC, likewise describes the purposes of PAGs, consistent with TVA's exemption request: "The overall objective of emergency response plans is to provide dose savings (and in some cases immediate life saving) for a spectrum of accidents that could produce *offsite doses in excess of Protective Action Guides* (PAGs)."[86] This is also consistent with and supportive of TVA's exemption request in the ESP application. Accordingly, Contention 1 fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(v).

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[84] Dr. Lyman also does not provide any expert opinion or analysis to support Contention 1. Dr. Lyman merely declares that "[t]he 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." Declaration of Dr. Edwin S. Lyman ¶ 5.

[85] NUREG-0396 at 3.

[86] NUREG-0654/FEMA-REP-1, Rev. 1 at 6 (emphasis added)

e. The Contention Does Not Raise a Genuine Dispute of Material Fact or Law

SACE and TEC's factual assertions focus on requiring a design-based analysis, wherein SACE and TEC believe TVA should consider the consequences of spent fuel pool fires,[87] but those assertions are immaterial to whether PAG criteria are appropriate for establishing an EPZ.[88] If a contention does not controvert the application, it does not raise a genuine dispute of material fact or law and is subject to dismissal.[89] As discussed in Sections III.B.1.a through III.B.1.d, *supra*, Contention 1 provides no basis for *not* using PAG criteria for establishing an EPZ. Because Contention 1 does not directly controvert the position taken by TVA – (a) that PAG criteria should be used to establish an EPZ and (b) the size of the EPZ will determine which emergency planning regulations should be exempted – Contention 1 should be dismissed.[90]

2. SACE and TEC Contention 2 – Spent Fuel Pool Fires

SACE and TEC claim that "[t]he Environmental Report fails to satisfy NEPA because it does not address the consequences of a fire in the spent fuel storage pool, nor does it demonstrate that a pool fire is remote and speculative."[91] This Contention 2 is inadmissible because specific requirements for analyzing events related to spent fuel accidents do not apply until the COL stage.[92] Moreover, at no point does the discussion of Contention 2 in the SACE/TEC Petition address TVA's analysis in Chapter 7 of the ER, which addresses accident impacts. As discussed below, this proposed contention is outside the scope of an ESP proceeding. Moreover,

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[87] *See* SACE/TEC Petition at 5-8.

[88] Moreover, SACE and TEC have provided no technical basis, even if Contention 1 did not completely misunderstand the exemption request, for why spent fuel pool fires are required to be considered, particularly considering SACE and TEC's own references that demonstrate that spent fuel pool accidents are bounded by design basis accidents while plants are in operation as discussed in Section III.2.c., *infra*.

[89] *See* Comanche Peak, LBP-92-37, 36 NRC at 384.

[90] *See id*.

[91] SACE/TEC Petition at 9.

[92] *See* 10 CFR § 50.150(a).

Contention 2 does not raise a material issue, is not supported by adequate factual information or expert opinion, and does not raise a genuine dispute of material fact or law.

a. The Contention is Outside the Scope of the Proceeding

SACE and TEC base Contention 2 on the information provided in Contention 1,[93] which concedes that the analysis it believes should be conducted "would depend on fuel design features, as well as operational factors that are not specified in the ESP application,"[94] which are design-specific.[95] Accordingly, as a design-related challenge, it is not within the scope of this ESP proceeding.[96] Likewise, NRC regulations are clear that spent fuel pool fires are only required to be addressed at the COL stage and are design-specific. Pursuant to 10 CFR § 50.150, an applicant for a COL:

> shall perform a design-specific assessment of the effects on the facility of the impact of a large, commercial aircraft. Using realistic analyses, the applicant shall identify and incorporate into the design those design features and functional capabilities to show that, with reduced use of operator actions:
>
> (i) The reactor core remains cooled, or the containment remains intact; and
>
> (ii) Spent fuel cooling or spent fuel pool integrity is maintained.[97]

This analysis is not required at the ESP stage per 10 C.F.R. § 50.150(a)(3). At the COL stage, this information would be included in Chapter 3, *Design of Structures, Systems, Components, and Equipment*, for spent fuel pool accidents as a result of aircraft hazards and in Chapter 20, *Mitigation of Beyond Design Basis Events*, because spent fuel pool accidents are not design basis events, even though they are bounded by design basis events as discussed in Section III.B2.c, *infra*. Accordingly, Contention 2 fails to meet the requirements of 10 C.F.R. §

[93] SACE/TEC Petition at 10.
[94] *Id.* at 6.
[95] *See also id*. at 8.
[96] *See* Clinton ESP, LBP-04-17, 60 NRC at 244-45.
[97] 10 C.F.R § 50.150(a).

2.309(f)(1)(iii) and is outside the scope of this ESP proceeding. SACE and TEC will have the opportunity to raise any concerns about spent fuel accidents once a design has been selected and a COL application filed.

b. The Contention Does Not Raise a Material Issue

As discussed in Section III.2.a, *supra*, Contention 2 is outside the scope of this ESP proceeding. As such, it does not raise a material issue because NRC regulations do not require the NRC to make a finding pursuant to 10 C.F.R. § 50.150(a)(1) in an ESP proceeding. Moreover, Contention 2 does not controvert any aspect of the analyses that are in the ESP with respect to accident consequences. The only part of the ESP application cited with respect to Contention 2 is ER Section 9.3,[98] which deals with site alternatives. ER Section 9.3 does not address environmental impacts of accidents and is inapposite to Contention 2. Chapter 7 of the ER addresses accident impacts. As discussed in Section III.2.c., *infra*, the primary document cited by SACE and TEC holds that any consequences of spent fuel pool accidents are essentially bounded by or considerably less than design basis accidents. SACE and TEC do not take any exception with the design basis analysis that is contained in Chapter 7 of the ER, nor do SACE or TEC assert that spent fuel accidents are not bounded by the design basis analysis or the severe accident analysis included in the ESP application. TVA's methodology for conducting a severe accident analysis, given that a design has not yet been selected, was to make "a reasonable, bounding estimate of the severe accident consequences for the PPE by evaluating the SMR design that represents the largest SMR considered for the CRN Site."[99] SACE and TEC have not asserted, much less demonstrated that there was anything inadequate about that analysis, nor have they explained the particular safety or legal reasons "requiring rejection of the contested

[98] SACE/TEC Petition at 10.

[99] ESPA, ER, Section 7.2.

[application]."[100] Accordingly, Contention 2 fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iv).

c. The Contention is Not Supported by Adequate Factual Information or Expert Opinion

SACE and TEC refer to a statement in NUREG-1437, Rev. 1, "Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants" ("License Renewal GEIS") that the environmental impacts from spent fuel pool accidents are comparable to those of full-power reactor accidents.[101] However, that statement demonstrates that the environmental impacts from a spent fuel pool accident are already encompassed by an analysis of other full-power reactor accidents. The License Renewal GEIS, which SACE and TEC rely on, must be examined "both for what it does and does not show."[102] What the 2013 update of the License Renewal GEIS shows is that the risks and impacts of spent fuel pool fires are less than full-power accidents. The GEIS states that the environmental impacts from spent fuel pool accidents (as quantified in NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants," February 2001) can be comparable to those from full-power reactor accidents. But it goes on to find that "[s]ubsequent analyses performed and mitigative measures employed since 2001 have further lowered the risk of this class of accidents. In addition, the conservative estimates from NUREG-1738 are much less than the impacts from full-power reactor accidents that are estimated in the 1996 GEIS."[103]

SACE and TEC offer no information alleging that the analysis conducted by TVA does not bound spent fuel pool accident consequences. Moreover, the information cited supports that

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[100] *Millstone*, CLI-01-24, 54 NRC at 359-60.

[101] SACE/TEC Petition at 7-8.

[102] *See Yankee*, LBP-96-2, 43 NRC at 90.

[103] NUREG-1437, Rev. 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," (June 2013) at 4-161 and E-34 to E-39.

spent fuel pool accident consequences will be significantly less than design basis accidents when a reactor is at full power. The Declaration of Dr. Lyman, likewise, does not address Contention 2 at all and does not address the adequacy of TVA's analysis of environmental impacts of postulated accidents. Accordingly, Contention 2 fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(v).

d. The Contention Does Not Raise a Genuine Dispute of Material Fact or Law

SACE and TEC's factual assertions focus on a design-based analysis, wherein SACE and TEC believe TVA should consider the consequences of spent fuel pool fires[104] in environmental impacts, without explanation of why SACE and TEC believe the current analysis does not bound such events. SACE and TEC do not address any aspect of TVA's analysis of environmental impacts from postulated accidents in Chapter 7 of the ER. SACE and TEC merely allege that TVA should have specifically addressed spent fuel pool fires, without demonstrating or providing any basis for why SACE and TEC believe that particular event is not encompassed in Chapter 7 of the ER. An allegation that some aspect of a license application is inadequate 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.[105] If a contention does not controvert the application, it does not raise a genuine dispute of material fact or law and is subject to dismissal.[106] In addition, the information upon which SACE and TEC relies demonstrate that the consequences of spent fuel pool accidents are much less than the full-power reactor accidents estimated in the 1996 License Renewal GEIS.[107] Moreover, because it is a design-based

[104] *See* SACE/TEC Petition at 5-8.

[105] Turkey Point, LBP-90-16, 31 NRC at 521 & n.12.

[106] *See* Comanche Peak, LBP-92-37, 36 NRC at 384.

[107] NUREG-1437, Rev. 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," (June 2013) at 4-161 and E-34 to E-39.

assertion and analysis of spent fuel pool accidents is expressly reserved for the COL stage of the licensing proceeding, as discussed in Section III.B.1.a, Contention 2 is outside the scope of the ESP proceeding and cannot raise a genuine dispute of material fact. Accordingly, Contention 2 fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi).

3. SACE and TEC Contention 3 (Impermissible Discussion of Energy Alternatives and Technical Advantages)

SACE and TEC allege that TVA has included "impermissible language" in its ER that discusses "energy alternatives" and "economic and technical advantages" and has "effectively precluded Petitioners from submitting contentions" on those issues by its decision to defer energy alternatives and cost–benefit analyses until a Combined License Application ("COLA").[108] According to SACE and TEC, these "impermissible" statements included in the Environmental Report violate the National Environmental Policy Act ("NEPA").[109] This contention fails to raise a genuine dispute of material law or fact with the ESPA, and it also raises issues that are outside the scope of the proceeding. SACE and TEC cite no legal authority for the proposition that NEPA or NRC regulations prohibit making positive statements about a project or technology in a license application, nor does the contention raise a genuine dispute regarding an analysis or finding the NRC must make prior to granting the ESP. Additionally, to the extent the contention alleges that SACE and TEC are "precluded" from submitting contentions on cost–benefit analysis or energy alternatives, the contention is premature and therefore outside the scope of this proceeding. Therefore, SACE and TEC's third contention should be dismissed.

[108] *See* SACE/TEC Petition at 11.
[109] *See id.*

a. The Contention is Outside the Scope of the Proceeding

SACE and TEC's Contention 3 raises issues beyond the scope of this license proceeding. SACE and TEC argue that TVA has "effectively precluded Petitioners from submitting contentions on those subjects."[110] Under 10 C.F.R. § 51.50(b)(2), an ER "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."[111]

SACE and TEC agree that the NRC "prohibits" contentions seeking consideration of alternatives in an ESP proceeding such as this one.[112] They also cite NRC case law supporting the proposition that a contention is inadmissible if it is outside the scope of the proceeding.[113] Moreover, SACE and TEC expressly acknowledge that "TVA has chosen not to address the issues of energy alternatives or need for the proposed SMR, and has instead postposed those issues to the [COLA.]"[114]

As SACE and TEC note, TVA has elected under 10 C.F.R. § 51.50(b)(2) to defer the energy alternatives and cost–benefit analysis until the COL stage, if TVA reaches that point.[115] At that time, members of the public will have the opportunity to seek intervention and challenge the contents of the COLA. Meanwhile, because TVA has deferred these analyses to the COL stage, a contention such as that proffered by SACE and TEC is inadmissible in this ESP proceeding because it is beyond the scope of the proceeding.

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[110] *Id.*
[111] 10 C.F.R. § 51.50(b)(2).
[112] SACE/TEC Petition at 14, 15.
[113] *See id.* at 15.
[114] *Id.*
[115] *See id.* at 11; *see generally* ESPA, ER, Section 9.

b. The Contention Does Not Raise a Genuine Dispute on a Material Issue of Law or Fact

SACE and TEC's Contention 3 also fails to raise a genuine dispute on a material issue of law or fact. The contention hinges on the notion that statements made in the ER that portray the proposed project or the subject technology in a positive light are "impermissible" and even "unlawful."[116] This assertion—that it is somehow "unlawful" for an applicant to make positive statements about its project—is not supported by any reference to a statute or regulation that actually prohibits such statements. Instead, SACE and TEC make generalized assertions about violating NEPA and cite NEPA case law from the NRC and courts.[117]

The cases cited support the principle that NEPA imposes on federal agencies an obligation to take a "hard look" at the consequences of major agency action. In *Robertson v. Methow Valley Citizens Council*, for example, the Supreme Court briefly touches upon the "hard look" obligation on its way to a holding that NEPA does *not* require fully developed mitigation plans or "worst case" analyses of environmental impacts.[118] In other cases cited by SACE and TEC, the Fourth Circuit held that the respective federal agencies had failed to conduct the requisite "hard look."[119] It is worth noting that the "hard look" requirement is not in question here: SACE and TEC do not argue that the NRC runs afoul of this requirement by permitting an ESP applicant to defer analyses to the next licensing stage; such a challenge to an agency rule

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[116] *See id.* at 11, 18.

[117] *See id.* at 12–13.

[118] 490 U.S. 332, 350, 359 (1989).

[119] *See, e.g.*, *National Audubon Society v. Department of the Navy* 422 F.3d 174, 207 (4th Cir. 2005) (the Navy's initial EIS assessing the impacts of constructing a landing field was deficient); *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 450–51 (4th Cir. 1996) (the Army Corps of Engineers and Natural Resources Conservation Service relied on an inflated benefits estimate and Army Corps of Engineers did not take a hard look at mussel infestation).

would, of course, violate the regulation prohibiting such challenges in license proceedings and be outside the scope of this proceeding.[120]

Likewise, SACE and TEC cite a string of cases supporting the proposition that a contention "advocating stricter requirements than agency rules impose or that otherwise seek[s] to litigate a generic NRC determination [is] inadmissible."[121] SACE and TEC also cite a Commission decision to claim that the NRC may not issue a license "based on an EIS whose contents [the NRC] has shielded from challenge in a hearing."[122] That case is inapposite. The issue in *Hydro Resources* was not one in which, as here, a license applicant availed itself of the right to defer an analysis to a future licensing stage, but one in which an applicant sought to defer *any* hearing on three of the four sites covered by its *in situ* mining application.[123] In any event, none of the cases cited supports the contention's proposition that TVA is somehow disallowed from making the cited statements or that they are in any way "impermissible," let alone "unlawful."

SACE and TEC claim that the quoted language in the ER is "impermissible because TVA has explicitly invoked 10 C.F.R. § 51.50(b)(2) …."[124] However, the regulation does not prohibit language from being included in an ER.[125] It merely states, in part that, for an ESPA ER, an applicant "need not include an assessment of the economic, technical, or other benefits (for

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[120] *See* 10 C.F.R. § 2.335(a); *see also* Oconee, CLI-99-11, 49 NRC at 345 (citing *Potomac Elec. Power Co.* (Douglas Point Nuclear Generating Station, Units 1 & 2), ALAB-218, 8 AEC 79, 85 (1974)); Final Policy Statement, Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008).

[121] *See* SACE/TEC Petition at 14–15. This same list of cases appears in the *North Anna* decision SACE and TEC cite and is not recreated here. *See Dominion Nuclear North Anna, L.L.C.* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 264 (2004).

[122] *See* SACE/TEC Petition at 15.

[123] *See Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-04, 53 NRC 31, 43 ("HRI cannot both hold an NRC license and refuse to litigate its validity ….").

[124] *See id.* at 11.

[125] *See* 10 C.F.R. § 51.50(b)(2).

example, need for power) and costs of the proposed action or an evaluation of alternative energy sources."[126]

The contention includes a list of statements from the ER to which SACE and TEC take exception as being "impermissible."[127] However, the statements included in the ER and listed by SACE and TEC are not material to the findings the NRC must make to issue the permit, because the ESPA expressly disclaims a cost–benefit or alternatives analysis at the ESP stage[128] and SACE and TEC provide no argument to the contrary.[129]

SACE and TEC fail to controvert many statements they quote from the "Purpose and Need" section of the ER; these statements are merely recapitulated in the SACE/TEC Petition.[130] Other statements quoted by SACE and TEC lack context. For example, the contention quotes one of the project objectives listed in Section 9.3 of the ER, which explains the site selection process.[131] Rather than alleging how the site selection process was flawed, SACE and TEC state that TVA "lumps generation and transmission together" without explaining what SACE and TEC believe the significance of this fact is, and instead proceed to discuss the Army's nuclear power program's attempt to develop small reactors starting in the 1950s.[132] Notwithstanding SACE and TEC's desire to argue with scattered statements in the ER, none of the information they offer in connection with the contention demonstrates the existence of a genuine dispute of law or fact.

C. TVA's Position on BREDL's Proposed Contention

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[126] *Id.*

[127] *See* SACE/TEC Petition at 16–21.

[128] *See generally* ESPA, ER, Section 9.

[129] Although SACE and TEC argue that this information should not be included in the NRC's EIS, this is obviously premature. SACE and TEC will have an opportunity to provide input to the draft and final EIS and raise any issues with respect to those documents at that time.

[130] *See, e.g., id.* at 16–19.

[131] *See id.*at 20–21.

[132] *See id.*

1. BREDL's Petition is Untimely

BREDL's petition is untimely and should be dismissed in its entirety. On April 4, 2017, the NRC published its Hearing Notice setting a deadline of June 5, 2017 to file petitions for leave to intervene.[133] BREDL's Petition was filed on June 12, 2017.[134] BREDL failed to request an extension of this deadline pursuant to 10 C.F.R. § 2.307, and has failed to satisfy or even address the requirements of § 2.309(c) for a petitioner to demonstrate good cause for a licensing board to consider late filings.

When a petitioner does not request an extension of time under § 2.307, an intervention petition can only be considered if the petitioner demonstrates:

> good cause by showing that
>
> > (i) The information upon which the filing is based was not previously available;
> > (ii) The information upon which the filing is based is materially different from information previously available; and
> > (iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.[135]

BREDL's petition does not address the "good cause" factors in § 2.309(c), and should be dismissed. Moreover, it is impossible for BREDL to show that it had good cause under § 2.309(c) for its late filing because its contention is based on documents that have been available for a considerable period of time, such as TVA's ER (available since May 12, 2016) and a research paper from 2013.[136] The information referenced in the BREDL Petition was available before the NRC published its hearing notice in the Federal Register.

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[133] 82 Fed. Reg. at 16,437 (Apr. 4, 2017).
[134] *See* BREDL Petition at 1.
[135] 10 C.F.R. § 2.309(c).
[136] *See, e.g.*, BREDL Petition at 7–12.

BREDL cannot rely on the order granting SACE and TEC's request for an extension of time.[137] The Extension Order is specific to SACE and TEC[138] in that it grants SACE and TEC, and no other parties, an extension of time for filing an intervention petition: "I am granting [SACE and TEC's] request."[139] Therefore, BREDL's petition should be dismissed.

2. BREDL's Contention (No Action Alternative)

BREDL contends that TVA's ER fails to "provide a detailed, accurate statement, with particularity to the no-build option."[140] The BREDL Petition quotes a selection of regulations from 10 C.F.R. Part 51 without explaining why it believes TVA's ER is deficient.[141] BREDL then proceeds to discuss two executive orders cited by TVA in the ESPA ER, without connecting them to the contention, but explaining BREDL's belief that SMRs are the wrong technology to satisfy the cited executive orders.[142] BREDL's contention is inadmissible because it raises issues beyond the scope of the proceeding and does not raise a genuine issue of material fact, and should be rejected.

a. The Contention is Outside the Scope of the Proceeding

BREDL's contention is that "TVA's Environmental Report fails to provide complete and accurate information on alternatives, including the no-build option."[143] To the extent that BREDL discusses energy alternatives, this is beyond the scope of the ESP proceeding. BREDL states that the ER "gives short shrift to alternatives"[144] and then begins an extended discussion of

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[137] Order, dated June 2, 2017 ("Extension Order").

[138] Counsel for SACE and TEC sought TVA's input prior to request its extension of time and TVA agreed not to oppose the request. BREDL made no effort to contact TVA.

[139] Extension Order at 1.

[140] BREDL Petition at 7.

[141] *See id.* at 7–8.

[142] *See id.* at 9–11.

[143] *Id*. at 6.

[144] *Id.* at 8.

BREDL's interpretation of an executive order cited in the ER.[145] This discussion, and the BREDL Petition more broadly, ignores the fact that an ESPA is not required to include an analysis of energy alternatives in its ER.[146] The contention quotes significant passages from Part 51, including some with no apparent bearing on the contention's subject matter, and references § 51.50(b), while ignoring the fact that this subsection specifically provides that an applicant for an ESP does not need to include a cost–benefit or energy alternatives analysis in its ER.[147] Specifically, as discussed in response to SACE and TEC's Contention 3, *supra*, an ESPA ER *is not* required to assess "the economic, technical, or other benefits (for example, need for power) and costs of the proposed action or an evaluation of alternative energy sources."[148] BREDL's contention is that the ESPA must include the contents described in 10 C.F.R. § 51.45. This is clearly outside the scope of the proceeding, given that § 51.50(b) expressly modifies § 51.45 and authorizes an applicant such as TVA to defer the alternatives analysis otherwise required by § 51.45 to the COL stage, which TVA has done.[149] Accordingly, to the extent BREDL attempts to raise issues that have been expressly left until the COL stage, BREDL's contention fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iii) and should be rejected.

b. The Contention Does Not Raise a Genuine Dispute on a Material Issue of Law or Fact

BREDL states that TVA's ESPA No-Action Alternative—in Section 9.1 of the ER—amounts to a "summary dismissal" of the alternative.[150] But BREDL fails to state how or why this is the case, or provide any degree of specificity regarding what BREDL finds to be wrong

[145] *See id.* at 9–11; *see also* ESPA, ER Section 9.1 at 9.1-2.
[146] *See* 10 C.F.R. § 51.50(b).
[147] *See id*. at 7–8. These issues include the environmental effects of uranium fuel production and transportation.
[148] 10 C.F.R. § 51.50(b)(2).
[149] *See generally* ESPA, ER, Section 9.
[150] BREDL Petition at 8.

with the no-action alternative discussed in Section 9.1. The no-action alternative for the ESPA is that the NRC "would not issue an Early Site Permit."[151] The consequences of this alternative, as explained in the ER, are that the SMRs would not be built or operated at the CRN Site and the environmental impacts associated with the project would not occur; TVA's use of the site would continue as-is.[152] BREDL fails to demonstrate the existence of a genuine dispute with this discussion; indeed, BREDL's solitary reference to ER Section 9.1 is to call attention to TVA's general statement that SMRs could avoid reliance on a regional grid system in the event of a national emergency.[153] However, BREDL takes even this lone reference out of context. TVA does not assert in Section 9.1 that the Clinch River Project would, in fact, avoid such reliance; rather, TVA explains that one of the results of the no-action alternative would be the TVA would not be able to meet the project's objectives, one of which is the opportunity to demonstrate *the possibility* of such a benefit.[154]

BREDL also states that the ER includes a discussion of alternative plant systems.[155] BREDL erroneously states that this section "solely" discusses "thermoelectric cooling";[156] the section includes analyses of heat dissipation systems[157] and circulating water systems[158] and briefly addresses transmission.[159] More significant than BREDL's mischaracterization, however,

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[151] *See* ESPA, ER, Section 9.1 at 9.1-1.

[152] *See id.* The "no-action alternative" described in this section is distinct from the energy alternatives analysis required by § 51.45, which, again, TVA has deferred until the COL stage. *See supra*, Sections III.B.3 and III.C.1a.

[153] *See* BREDL Petition at 8.

[154] BREDL reference to the "regional grid system" implies that TVA has included some cost–benefit analysis in the section. TVA has expressly elected to defer that analysis until the COL stage and any such challenge is beyond the scope of this proceeding. *See supra*, Section III.B.3.

[155] *See* BREDL Petition at 9.

[156] *See id.*

[157] *See* ESPA, ER Section 9.4.1.

[158] *See id.* Section 9.4.2.

[159] *See id.* Section 9.4.3.

is the fact that BREDL does not explain how any of the alternative plant system analyses are inadequate; BREDL merely points out that some of them are contained in the ER.[160]

As discussed above, the remainder of BREDL's contention consists of an interpretation of the executive orders cited in Section 9.1. This discussion, and the passing references to the ER described above, does not explain why the discussion in Section 9.1 of the ER is deficient and it does not directly controvert TVA's "no-action alternative" or any other part of the ER.[161] BREDL's contention fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi) and should be rejected.

IV. CONCLUSION

For all of the foregoing reasons, the SACE/TEC Petition and the BREDL Petition should be denied because they fail to proffer an admissible contention.

Respectfully submitted,

/signed (electronically) by Blake J. Nelson/

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[160] It is not clear how this is related to the subject of the contention, which is that the ER "fails to provide complete and accurate information on alternatives, including the no-build option." BREDL Petition at 6. Similarly, BREDL's discussion on "critical infrastructure," *id.* at 12–13, bears no relation to the contention's subject.

[161] *See Palo Verde*, CLI-91-12, 34 NRC at 156; *Comanche Peak*, LBP-92-37, 36 NRC at 384.

July 7, 2017

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	)	ASLBP No. 17-954-01-ESP-BD01
	)	

CERTIFICATE OF SERVICE

I certify that, on July 7, 2017, a copy of "Tennessee Valley Authority's Answer Opposing Petitions for Intervention and Requests for Hearing by the Southern Alliance for Clean Energy and Tennessee Environmental Council, and the Blue Ridge Environmental Defense League" was served electronically through the E-Filing system on the participants in the above-captioned proceedings.

/signed electronically by/
Blake J. Nelson