UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
TENNESSEE VALLEY AUTHORITY	)	Docket No. 52-047-ESP
	)	
(Clinch River Nuclear Site)	)	

NRC STAFF ANSWER TO SOUTHERN ALLIANCE FOR CLEAN ENERGY AND TENNESSEE ENVIRONMENTAL COUNCIL'S PETITION TO INTERVENE AND REQUEST FOR HEARING

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INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i), the staff of the Nuclear Regulatory Commission (NRC or Commission) hereby answers the "Petition to Intervene and Request for Hearing," filed June 12, 2017, by the Southern Alliance for Clean Energy (SACE) and the Tennessee Environmental Council (TEC) (collectively Petitioners).[1] NRC staff (Staff) agrees that Petitioners have presented information sufficient to establish standing in this proceeding and that their petition is timely. However, Petitioners have failed to submit an admissible contention as proposed contentions 1, 2 and 3 do not satisfy the Commission's contention admissibility standards set forth in 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi). For the reasons set forth more fully below, the Petitioners' proposed contentions 1, 2 and 3 should be denied.

[1] Petition to Intervene and Request For Hearing by Southern Alliance for Clean Energy and Tennessee Environmental Council, (June 12, 2017) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17163A417) ("SACE/TEC Petition" or "Petition").

BACKGROUND

On May 12, 2016, the Tennessee Valley Authority (TVA), pursuant to the Atomic Energy Act of 1954, as amended (AEA), and the Commission's regulations in 10 C.F.R. Part 52, submitted an application for an early site permit (ESP) for the Clinch River Nuclear Site in Oak Ridge, Tennessee.[2] The application is based on a plant parameter envelope that was developed based on four light-water small modular reactors (SMRs) currently under development in the United States.[3] Notably, "TVA has not made a decision to submit a combined license [COL] application or go forward with construction of a new plant."[4] In its ER, TVA states that "[t]he proposed federal action is the NRC issuance, under the provisions of 10 CFR Part 52, of an ESP to TVA approving the CRN Site as a suitable site for future demonstration of the construction and operation of two or more SMRs."[5] According to TVA:

> [The] ER provides an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of two or more SMRs at the CRN Site. The proposed action does not include any decision or approval to build the facility. As TVA is not requesting limited work authorization as part of this ESPA, an NRC-issued combined license (COL) is required prior to initiation of construction.[6]

On June 23, 2016, the Staff published in the *Federal Register* a notice of receipt and availability of the ESP application, including the environmental report (ER), for the proposed

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[2] Letter CNL-16-081 dated May 12, 2016, from J.W. Shea, TVA, to Document Control Desk, NRC, Subject: Application for Early Site Permit for Clinch River Nuclear Site (Letter CNL-16-081) (ADAMS Accession No. ML16139A752).

[3] Clinch River Nuclear Site, Early Site Permit Application, Rev. 0 (Application), Part 2, Site Safety Analysis Report (SSAR), Chapter 2 at 2.0-1 (ADAMS Accession No. ML16144A037).

[4] Letter CNL-16-081 at 2.

[5] Section 1.1 "The Proposed Action" of ER, Rev. 0, at 1-1 (ADAMS Accession No. ML16144A085).

[6] *Id.*

facility.[7] The Staff accepted the ESP application for docketing on January 12, 2017.[8]

On April 4, 2017, the NRC published a notice of hearing and opportunity to petition for leave to intervene, which provided members of the public 60 days from the date of the publication to file a petition for leave to intervene in this proceeding.[9] Pursuant to the notice, requests for a hearing and petitions to intervene were due by June 5, 2017.[10] On May 5, 2017, Petitioners filed a joint motion requesting a one-week extension of the time to file hearing requests and to file replies to any answers.[11] On June 2, 2017, the Commission issued an order granting the request and extended the Petitioners' filing deadline to June 12, 2017.[12] On June 12, 2017, Petitioners timely filed a joint petition including three proposed contentions, through which they seek to intervene in this proceeding.[13] On June 20, 2017, an Atomic Safety and Licensing Board (Board) was established to preside over this proceeding.[14]

In the Petition, Petitioners assert that both SACE and TEC have representational standing to intervene in this proceeding on behalf of their respective members located within 50 miles of the proposed site.[15] The Petitioners propose three contentions, which relate to:

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[7] Tennessee Valley Authority; Clinch River Nuclear Site, 81 Fed. Reg. 40,929 (June 23, 2016) (Early site permit application; receipt).

[8] Tennessee Valley Authority; Clinch River Nuclear Site, 82 Fed. Reg. 3812 (Jan. 12, 2017) (Early site permit application; acceptance for docketing).

[9] Tennessee Valley Authority; Clinch River Nuclear Site Early Site Permit Application and Associated Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information, 82 Fed. Reg. 16,436 (Apr. 4, 2017) (Notice of Hearing).

[10] *Id*. at 16,437.

[11] Request by [SACE] and [TEC] for Extension of Time Periods for Submitting Hearing requests and Reply to Responses (May 5, 2017) (ADAMS Accession No. ML17125A077).

[12] Order, (June 2, 2017) (unpublished) (ADAMS Accession No. ML17153A326). No other potential petitioners filed a motion or request seeking an extension to the filing deadline.

[13] *See* SACE/TEC Petition.

[14] Notice, Establishment of Atomic Safety and Licensing Board; Tennessee Valley Authority (Clinch River Nuclear Site), Docket No. 52-047-ESP (June 20, 2017).

[15] SACE/TEC Petition at 3-4.

(1) TVA's application for an exemption from the NRC emergency planning requirements with respect to establishing a ten-mile emergency planning zone, (2) TVA's failure to address the environmental impacts of accidents involving ignition of spent fuel in the spent fuel storage pools at the proposed facility, and (3) the inclusion of energy alternatives in the Environmental Report from TVA.[16] The Staff addresses Petitioners' standing and each of these contentions *seriatim* below.

DISCUSSION

I. Legal Standards

A. Standing to Intervene

In accordance with Section 189a. of the Atomic Energy Act of 1954, as amended (AEA), which requires that the Commission "grant a hearing upon the request of any person whose interest may be affected by the proceeding[,]" and the Commission's Rules of Practice:

> [a]ny person whose interest may be affected by a proceeding and who desires to participate as a party must file a written request for hearing [or petition for leave to intervene] and a specification of the contentions which the person seeks to have litigated in the hearing.[17]

The regulations further provide that the Licensing Board "will grant the [petition] if it determines that the [petitioner] has standing under the provisions of [10 C.F.R. § 2.309(d)] and has proposed at least one admissible contention that meets the requirements of [10 C.F.R. § 2.309(f)]."[18]

Under the general standing requirements in 10 C.F.R. § 2.309(d)(1), a request for a hearing or a petition for leave to intervene must state:

(i) The name, address and telephone number of the requestor or petitioner;

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[16] *Id.* at 1-2, 5-24.

[17] Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2239a.(1)(A) (2015); 10 C.F.R. § 2.309(a).

[18] 10 C.F.R. § 2.309(a).

(ii) The nature of the requestor's/petitioner's right under the [AEA] to be made a party to the proceeding;

(iii) The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding; and

(iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.[19]

In evaluating whether the petitioner has the requisite "interest" as required by § 2.309(d)(iv), the Commission uses contemporaneous judicial concepts of standing.[20] The petitioner must demonstrate a "concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision, where the injury is to an interest arguably within the zone of interests protected by the governing statute."[21] The petitioner has the burden of proving that standing requirements are met, but the hearing request will be evaluated in the petitioner's favor.[22]

In certain cases, the Commission recognizes a "proximity presumption" in which a petitioner may satisfy the standing requirements by demonstrating that his or her residence or activities are within a 50 mile radius of a plant.[23] The proximity presumption establishes standing without the need to establish the elements of injury, causation, or redress.[24] In addressing

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[19] 10 C.F.R. § 2.309(d)(1).

[20] *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Units 3 & 4), CLI-15-25, 82 NRC 389, 394 (Dec. 17, 2015); *Calvert Cliffs 3 Nuclear Project, LLC, & UniStar Nuclear Operating Servs., LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009).

[21] *Calvert Cliffs*, CLI-09-20, 70 NRC at 915 (*citing Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (internal quotations omitted)); *see also Lujan v. Defenders of Wildlife*, 504 U.S. 555, 559-61 (1992) (describing framework for judicial standing).

[22] *Turkey Point*, CLI-15-25, 82 NRC 389, 394; *Commonwealth Edison Co*. (Zion Nuclear Power Station, Units 1 and 2), CLI-00-5, 51 NRC 90, 98 (2000); *Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta Georgia), CLI-95-12, 42 NRC 111, 115 (1995).

[23] *Calvert Cliffs*, CLI-09-20, 70 NRC at 915-16; *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-04-17, 60 NRC 229, 238 (2004).

[24] *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 150 (2001).

standing of three ESP applicants, an Atomic Safety and Licensing Board explained that "in cases involving the possible construction or operation of a nuclear power reactor, proximity to the proposed facility has been considered sufficient to establish the requisite injury-in-fact."[25]

If an organization seeks to intervene on behalf of its members, the organization may seek representational standing.[26] In doing so, the organization must "identify the member(s) they purport to represent and . . . provide proof of authorization."[27] Further, "[t]he member seeking representation must qualify for standing in his or her own right; the interests that the representative organization seeks to protect must be germane to its own purpose; and neither the asserted claim nor the requested relief must require an individual member to participate in the organization's legal action."[28]

B. Contention Admissibility

The legal requirements governing the admissibility of contentions are well-established and are currently set forth in 10 C.F.R. § 2.309(f) of the Commission's Rules of Practice (formerly 10 C.F.R. § 2.714(b).[29] To be admissible under 10 C.F.R. § 2.309(f)(1), a proposed contention must:

i. Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;

ii. Provide a brief explanation of the basis for the contention;

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[25] *Clinton ESP Site*, LBP-04-17, 60 NRC at 238.

[26] *Id.*

[27] *Consumers Energy Co*. (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 409 (2007); *Clinton ESP Site*, LBP-04-17, 60 NRC at 238.

[28] *Palisades,* CLI-07-18, 65 NRC at 409.

[29] In 2004, the Commission codified the requirements of former § 2.714, together with rules regarding contentions set forth in Commission cases, in 10 C.F.R. § 2.309(f)(1). *See* Changes to Adjudicatory Process, 69 Fed. Reg. 2182 (Jan. 14, 2004) (Final rule), *as corrected*, Changes to Adjudicatory Process; Correction, 69 Fed. Reg. 25,997 (May 11, 2004). In the Statements of Consideration for the final rule, the Commission cited several Commission and Atomic Safety and Licensing Appeal Board decisions applying former § 2.714 in support of the codified provisions of § 2.309. *See* 69 Fed. Reg. at 2202. Accordingly, Commission and Atomic Safety and Licensing Appeal Board decision on former § 2.714 retain their vitality, except to the extent the Commission changed the provisions of § 2.309 as compared to former § 2.714.

iii. Demonstrate that the issue raised in the contention is within the scope of the proceeding;

iv. Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;

v. Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; and

vi. . . . 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[.][30]

The purpose of the contention admissibility standards of 10 C.F.R. § 2.309(f)(1) is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[31] The Commission has held that it (the Commission) "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing."[32] The Commission has emphasized that: the rules on contention admissibility are "strict by design."[33] Attempting to meet these requirements by "[m]ere 'notice pleading' does not suffice[,]"[34] and failure to comply with

[30] 10 C.F.R. § 2.309(f)(1).

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

[32] *Id*.

[33] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001), *petition for reconsideration denied*, CLI-02-01, 55 NRC 1 (2002).

[34] *Amergen Energy Co., L.L.C.* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 119 (2006).

any of the requirements is grounds for the dismissal of the contention.[35]

Further, to be admitted, contentions must satisfy the criteria in 10 C.F.R. § 2.309(f)(2), which requires 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."[36] For issues under the National Environmental Policy Act (NEPA), petitioners are required to file contentions based on the applicant's environmental report.[37]

These rules focus the hearing process on real disputes susceptible to resolution in an adjudicatory proceeding.[38] Finally, it is well established that the purpose for requiring a would-be intervener to establish the basis of each proposed contention is: (1) to assure that the contention raises a matter appropriate for adjudication in a particular proceeding; (2) to establish a sufficient foundation for the contention to warrant further inquiry into the assertion; and (3) to put other parties sufficiently on notice of the issues so that they will know generally what they will have to defend against or oppose.[39]

II. Standing

A. Standing of SACE

The Petition briefly describes SACE as a non-profit organization with the purpose of

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[35] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999); *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-05-24, 62 NRC 551, 567 (2005).

[36] 10 C.F.R. § 2.309(f)(2).

[37] *Id*.

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

[39] *Peach Bottom*, ALAB-216, 8 AEC at 20-21; *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-91-19, 33 NRC 397, 400 (1991), *appeal granted in part* 34 NRC 149 (1991).

promoting responsible energy choices that solve global warming and ensure clean, safe, and healthy communities in the Southeast.[40] The Petition states that SACE's Knoxville office is located within 50 miles of the Clinch River site, and further states that employees would be adversely affected by an accident at the proposed facility.[41] The Petition identifies six SACE members who, by declarations attached to the Petition, authorize SACE to represent their interests in this proceeding.[42] The Petition and declarations indicate that each of these six SACE members live within 50 miles of the Clinch River site.[43] As such, each member has standing in their own right because they qualify for the proximity presumption.[44] Therefore, SACE can establish representational standing—it has shown that it has at least one member with standing who authorizes SACE to represent his or her interests.[45] Moreover, the interests that SACE seeks to protect appear germane to its own purpose.[46] Thus, SACE has provided information in the Petition that appears to meet the requirements for representational standing, as provided in *Palisades*.[47] For these reasons, the Staff does not oppose standing of Knoxville-based SACE.

B. Standing of TEC

The Petition briefly describes TEC as a non-profit organization involved in education and avocation of the conservation and improvement of Tennessee's environment and public health.[48] The Petition identifies three TEC members who, by declarations attached to the

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[40] SACE/TEC Petition at 2.

[41] *Id*. at 4.

[42] *Id*. at 3-4; SACE/TEC Petition at Attachments 3, 4, 5, 6, 9, 10.

[43] SACE/TEC Petition at Attachments 3, 4, 5, 6, 9, 10.

[44] *Consumers Energy Co*. (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 409 (2007); *see also Clinton ESP Site*, LBP-04-17, 60 NRC at 238.

[45] SACE/TEC Petition at 3-4; *see Clinton ESP Site*, LBP-04-17, 60 NRC at 238.

[46] SACE/TEC Petition at 2-4; *Palisades*, CLI-07-18, 65 NRC at 409-10.

[47] SACE/TEC Petition at 2-4; *Palisades*, CLI-07-18, 65 NRC at 409-10.

[48] SACE/TEC Petition at 3.

Petition, authorize TEC to represent their interests in this proceeding.[49] Because the identified TEC members live within 50 miles of the Clinch River site, these members qualify for the proximity presumption.[50] Therefore, TEC can establish representational standing—it has shown that it has at least one member with standing who has authorized TEC to represent his or her interests.[51] Moreover, the interests that TEC seeks to protect appear germane to its own purpose.[52] Thus, TEC has provided information in the Petition that appears to meet the requirements for representational standing, as provided in *Palisades*.[53] For these reasons, the Staff does not oppose representational standing of TEC.

III. Timely Filed Contentions: the Petition is Timely

Although the due date for timely contentions in this proceeding was June 5, 2017,[54] on May 5, 2017, Petitioners submitted a request to the Commission for a one week extension.[55] The Commission granted Petitioners an extension to June 12, 2017, [56] and the Petitioners filed their joint Petition on that day.[57] Therefore, the Petition is timely.

IV. Contentions

A. Proposed Contention 1

Contention 1, as submitted by the Petitioners, reads as follows:

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[49] *Id*. at 3-4; SACE/TEC Petition at Attachments 3, 4, 5, 6, 9, 10.

[50] Petition at 3-4; SACE/TEC Petition at Attachments 6, 7, 8; *see Palisades*, CLI-07-18, 65 NRC at 409; *see also Clinton ESP Site*, LBP-04-17, 60 NRC at 238.

[51] SACE/TEC Petition at 3-4; s*ee Clinton ESP Site*, LBP-04-17, 60 NRC at 238.

[52] SACE/TEC Petition at 2-4; *Palisades*, CLI-07-18, 65 NRC at 409-10.

[53] SACE/TEC Petition at 2-4; *Palisades*, CLI-07-18, 65 NRC at 409-10.

[54] Tennessee Valley Authority; Clinch River Nuclear Site Early Site Permit Application and Associated Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information, 82 Fed. Reg. 16,436, 16,437 (Apr. 4, 2017) (Notice of hearing).

[55] Request by [SACE] and [TEC] for Extension of Time Periods for Submitting Hearing Requests and Reply to Responses (May 5, 2017) (ML17125A077).

[56] Order (unpublished)(June 2, 2017) (ML17153A326).

[57] SACE/TEC Petition at 1.

> The 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 radius required by 10 C.F.R. §50.47(c)(2) for most nuclear power reactors. While TVA claims to qualify for an exemption from 10 C.F.R. §50.47(c)(2) "due to the decreased potential consequences associated with such a facility" (ESP Application, Part 6 at 1), 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. As provided in an NRC guidance document that has been consistently applied to exemption applications, the Staff will not approve an exemption to offsite emergency planning requirements unless the applicant can demonstrate that the time between uncovering of spent fuel and initiation of a zirconium fire in the spent fuel storage pool is ten hours or more.
>
> Therefore, for consistency with this principle, in order for TVA to qualify for an exemption from the ten-mile EPZ, TVA should have to demonstrate for 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. Such an analysis would depend on fuel design features, as well as operational factors that are not specified in the ESP application. If this information is not available or not sufficiently well-defined to enable a technically sound analysis that could plausibly demonstrate the condition is met with adequate margin, TVA's exemption request should be rejected without prejudice and TVA should be advised to re-submit it at the COL stage.[58]

1. Basis for Contention 1

The Petitioners' first proposed contention states that the Emergency Plan for the Clinch River SMR is inadequate because the size of the plume exposure pathway Emergency Planning Zone (EPZ) is less than the 10-mile radius required by 10 C.F.R. § 50.47(c)(2) and because, in the Petitioners' view, the Applicant does not qualify for an exemption from that rule.[59] According to the Petitioners, the NRC Staff may not approve the exemption "unless the [A]pplicant can demonstrate that the time between uncovering of spent fuel and initiation of a zirconium fire in

[58] SACE/TEC Petition at 5-6 (internal citation omitted).

[59] *Id.* at 5.

the spent fuel storage pool is ten hours or more."[60] The stated basis for Contention 1 is a preliminary draft document related to power reactors transitioning to decommissioning that the Petitioners cite as an applicable standard.[61] According to the Petitioners, an analysis of the spent fuel pool design sufficient to evaluate the time between uncovering of spent fuel and initiation of a zirconium fire would depend upon information not found in the ESP application and in some cases not yet available from SMR vendors, and the Petitioners therefore argue that the exemption request should be denied and that the Applicant should resubmit it at the COL stage.[62]

2. The Staff Opposes Admission of Proposed Contention 1

For the reasons described below, the Petitioners' first proposed contention is inadmissible under the pleading standards of 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi) because it fails to identify a genuine dispute with the application that is within the scope of the proceeding and material to the decision the NRC must reach. Contention 1 does not identify any specific areas in which the application fails to address the criteria for specific exemptions found in 10 C.F.R. §§ 50.12 and 52.7, or any other substantive legal requirements. Rather, the Petitioners advance a claim that is neither a regulatory requirement for an ESP application nor a finding the NRC must make in order to reach a decision on the Applicant's exemption request or on the ultimate issuance of the ESP. Specifically, the Petitioners assert that the NRC Staff may not approve the exemption "unless the [A]pplicant can demonstrate that the time between uncovering of spent fuel and initiation of a zirconium fire in the spent fuel storage pool is ten

[60] *Id.*

[61] *Id.* at 5-6. Note that the ADAMS Accession Number cited in Petition is incorrect, and the Staff has been unable to find the document the Petitioners reference. A related document from 2015 has been published as an advance notice of proposed rulemaking in the *Federal Register* at the following citation: Regulatory Improvements for Decommissioning Power Reactors, 80 Fed. Reg. 72,358, (Nov. 19, 2015). This document contains similar content to the document the Intervenors cite, and they may have intended to cite an earlier draft.

[62] SACE/TEC Petition at 6, 8.

hours or more."[63] As discussed in detail below, this is not a legal requirement for an emergency planning exemption in an ESP (or COL), but is instead taken from a guidance document that may be applied to reactors in decommissioning, and from documents in the early stages of a rulemaking related to decommissioning. Because the Petitioners base their contention on guidance and drafts that are neither regulatory requirements nor applicable in the ESP context, Contention 1 is outside the scope of the proceeding, immaterial, and fails to demonstrate a genuine dispute with the application, and it should therefore be rejected.

(a) Legal Background Related to Emergency Planning and Exemptions

1. Rules Related to ESPs and EPZs

NRC regulations related to emergency plans for ESPs and are found in 10 C.F.R. § 52.17(b):

> (1) The site safety analysis report must identify physical characteristics of the proposed site, such as egress limitations from the area surrounding the site, that could pose a significant impediment to the development of emergency plans. If physical characteristics are identified that could pose a significant impediment to the development of emergency plans, the application must identify measures that would, when implemented, mitigate or eliminate the significant impediment.
>
> (2) The site safety analysis report may also:
>
> > (i) Propose major features of the emergency plans, in accordance with the pertinent standards of § 50.47 of this chapter and the requirements of appendix E to part 50 of this chapter, such as the exact size and configuration of the emergency planning zones, for review and approval by the NRC, in consultation with the Federal Emergency Management Agency (FEMA) in the absence of complete and integrated emergency plans; or
> >
> > (ii) Propose complete and integrated emergency plans for review and approval by the NRC, in consultation with FEMA, in accordance with the applicable standards of § 50.47 of this chapter and the requirements of appendix E to part 50 of this chapter. To the extent approval of emergency plans is sought, the application must contain the information required by § 50.33(g) and (j) of this chapter.

10 C.F.R § 50.47 also specifies that ESP applicants have the option of providing

[63] *Id*. at 5.

"complete and integrated emergency plans" under 10 C.F.R. § 50.47(a)(1)(iii) or "major features of the emergency plans" under 10 C.F.R. § 50.47(a)(1)(iv). However, an ESP applicant is only required to submit "physical characteristics of the proposed site . . . that could pose a significant impediment to the development of emergency plans," as set forth in 10 C.F.R. § 52.17(b)(1), and "include a description of contacts and arrangements made with Federal, State, and local governmental agencies with emergency planning responsibilities," as set forth in 10 C.F.R. § 52.17(b)(4). In the event that an applicant chooses not to submit either "complete and integrated emergency plans" or "major features of the emergency plans," the emergency plans are evaluated at the combined license stage.[64]

Concerning EPZ sizes, 10 C.F.R. § 50.47(c)(2) states that "[g]enerally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles (16 km) in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 km) in radius." However, the regulation also notes that "[t]he size of the EPZs also may be determined on a case-by-case basis for gas-cooled nuclear reactors and for reactors with an authorized power level less than 250 MW thermal." The technical basis for the 10-mile and 50-mile EPZs established in 10 C.F.R. § 50.47(c)(2) is found in NUREG-0396, *Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants*, which describes the plume and ingestion exposure pathways and provides guidance for both.[65] NUREG-0396 bases its recommendations for EPZ size on the Environmental Protection Agency's Protective Action

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[64] 10 C.F.R. § 50.47(a)(1)(iii), (iv); 10 C.F.R. § 52.17(b)(2)(i), (ii). *See also* Early Site Permits, Standard Design Certifications, and Combined Licenses for Nuclear Power Reactors; 54 Fed. Reg. 15,372, 15,381 (Apr. 18, 1989) (Final rule) ("[10 C.F.R.] § 52.17 now gives applicants for early site permits the option of submitting partial or complete emergency plans, for final approval.").

[65] NUREG-0396 (EPA 520/1-78-016), *Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants* at 9-17 (Dec. 1978) (ADAMS Accession No. ML051390356). The Petitioners also cite this document in their Petition at 8.

Guides (PAGs), which "are expressed in units of radiation dose (rem) and 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 a protective action exceeds the PAG."[66] Radiation doses at different distances, as well as the potential for offsite releases from a range of different accidents (including severe accidents), were considered in setting the EPZ sizes in 10 C.F.R. § 50.47(c)(2).[67]

The NRC Staff recently began the rulemaking process for a new rule that recognizes that smaller reactors may have smaller accident source terms and therefore require smaller EPZs than the large light-water reactors considered in NUREG-0396,[68] a possibility already contemplated for some facilities in 10 C.F.R. § 50.47(c)(2). The new rule, if approved, would provide the methodology for SMR applicants to justify smaller EPZs using a dose-at-distance approach similar to that used in NUREG-0396; this rulemaking is proceeding in parallel with the NRC's review of the Clinch River exemption request, and could ultimately allow SMR applicants to provide technical justification for smaller EPZs without going through the exemption process.[69] The NRC Staff has noted that appropriate accident source terms will be important for applicants that elect to use the methodology in the new rule.[70] The Draft Regulatory Basis for this rulemaking was published for comment in the *Federal Register* on April 13, 2017, and the public comment period closed on June 27, 2017.[71] However, the rulemaking is not complete, and the Clinch River ESP application therefore includes an exemption request related

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[66] *Id*. at 3. *See id*. at 15-17.

[67] *Id*. at 4-6.

[68] *See* Draft Regulatory Basis for Rulemaking on Emergency Preparedness for Small Modular Reactors and Other New Technologies (Apr. 2017) (ADAMS Accession No. ML16309A332) (SMR EPZ Regulatory Basis).

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

[70] *Id*. at 3-1 to 3-2.

[71] Emergency Preparedness for Small Modular Reactors and Other New Technologies, 82 Fed. Reg. 17,768 (Apr. 13, 2017).

to EPZ size.

2. Regulations Concerning Exemptions

Pursuant to 10 C.F.R. § 52.7, consideration of specific exemptions in licensing actions under 10 C.F.R. Part 52 are governed by 10 C.F.R. § 50.12 unless otherwise specified. 10 C.F.R. § 50.12(a)(1) states that exemptions from NRC regulations may be granted only if they are "Authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security." 10 C.F.R. § 50.12(a)(2) further states that exemptions will be granted only if special circumstances are present, and defines special circumstances as present whenever:

> (i) Application of the regulation in the particular circumstances conflicts with other rules or requirements of the Commission; or
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> (ii) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule; or
>
> (iii) Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated; or
>
> (iv) The exemption would result in benefit to the public health and safety that compensates for any decrease in safety that may result from the grant of the exemption; or
>
> (v) The exemption would provide only temporary relief from the applicable regulation and the licensee or applicant has made good faith efforts to comply with the regulation; or
>
> (vi) There is present any other material circumstance not considered when the regulation was adopted for which it would be in the public interest to grant an exemption. If such condition is relied on exclusively for satisfying paragraph (a)(2) of this section, the exemption may not be granted until the Executive Director for Operations has consulted with the Commission.

The Commission has ruled that petitioners in proceedings on licensing actions may raise contentions challenging exemption requests when they are directly connected to licensing actions for which hearing rights exist.[72]

3. Factual Background Related to Clinch River

The Clinch River ESP application is based on a plant parameter envelope (PPE) that was developed from four light-water cooled SMR designs.[73] The maximum power level considered for one unit at the site is 800 megawatts thermal (MWt), with a maximum power level for the site of 2,420 MWt.[74] The Applicant has elected to provide the major features for the emergency plan in its application, as permitted by 10 C.F.R. § 52.17(b)(2)(i) and 10 C.F.R. § 50.47(a)(1)(iv).[75] According to the application, different reactor designs have different release pathways, and each pathway has different release rates and radionuclide removal mechanisms.[76] Because of these factors, and the fact that the Applicant has not yet selected a reactor design or determined site layout or the configuration of buildings at the site, the Applicant elected to use the highest resultant post-accident dose and the maximum potential offsite doses provided by vendors for the four SMR designs the Applicant is currently considering in order to provide the site-specific dose analysis in the ESP application.[77]

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[72] *Entergy Nuclear Vermont Yankee, LLC, & Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-16-12, 83 NRC 542, 549 (2016), citing *Private Fuel Storage, L.L.C*. (Independent Spent Fuel Storage Installation), CLI-01-12, 53 NRC 459, 467 (2001).

[73] Clinch River Nuclear Site, Early Site Permit Application, Rev. 0 (Application), Part 2, Site Safety Analysis Report (SSAR), Chapter 2 at 2.0-1 (ADAMS Accession No. ML16144A037).

[74] *Id*. at 2.0-7. In general, the electrical output of light water reactors (expressed in megawatts electric (MWe)) is approximately a third of the total power rating of the reactor (in MWt). For example, the Westinghouse AP1000 reactor has a power rating of 3,415 MWt and an electrical output of about 1,000 MWe. NUREG-1793, Sup. 2, *Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design* (Aug. 5, 2011) at 1-1 (ADAMS Accession No. ML112061231).

[75] *See* Application, Part 2, SSAR, Chapter 13 at 13.3-1 (ADAMS Accession No. ML16144A071).

[76] Application, Part 2, SSAR, Chapter 15, Section 15.1 at 1 (ADAMS Accession No. ML16144A072).

[77] Application, Part 2, SSAR, Chapter 15, Section 15.1 at 1 (ADAMS Accession No. ML16144A072).

The Applicant has submitted two versions of its emergency plan, one that sets a plume exposure pathway EPZ at the site area boundary[78] rather than at the 10-mile radius specified in 10 C.F.R. § 50.47(c)(2), and another that sets the plume exposure pathway EPZ at a 2-mile radius.[79] Because the two versions of the emergency plan do not meet the 10-mile EPZ requirement in 10 C.F.R. § 50.47(c)(2), the application also includes two alternate exemption requests, one for each of the alternate versions of the emergency plan.[80] According to the Applicant, both exemption requests involve comparison of projected accident radiation doses with EPA PAGs and the criteria for determining EPZ size as described in the ESP application, Part 2, Site Safety Analysis Report Section 13.3.[81] Section 13.3 of the Site Safety Analysis Report, together with the Emergency Plan in Part 5 of the ESP application, describes emergency preparedness for an SMR facility at the Clinch River Nuclear Site.[82] Although the Applicant has not yet selected an SMR design for the site, according to the application, "the selected SMR design will conform to the criteria described in [Site Safety Analysis Report] Section 13.3."[83] The Applicant further states that the selected SMR design must meet the criteria upon which one of the alternate Emergency Plans and EPZs are based in order for the Emergency Plan and EPZ to apply. [84]

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[78] Application, Part 5A, Emergency Plan (Site Boundary EPZ) (ADAMS Accession Nos. ML16144A146 & ML16144A147).

[79] Application, Part 5B, Emergency Plan (2-Mile EPZ) (ADAMS Accession Nos. ML16144A148 & ML16144A149).

[80] Application, Part 6, Exemptions and Departures at 2 (ADAMS Accession No. ML16144A151); Application, Part 2, SSAR, Chapter 13, Section 13.3 at 1 (ADAMS Accession No. ML16144A071).

[81] *Id*.

[82] Application, Part 2, SSAR, Chapter 13, Section 13.3 at 1 (ADAMS Accession No. ML16144A071).

[83] Application, Part 6, Exemptions and Departures at 4 (ADAMS Accession No. ML16144A151); Part 2, SSAR, Chapter 13, Section 13.3 at 1 (ADAMS Accession No. ML16144A071).

[84] *Id*.

4. Contention 1 Is Inadmissible Under 10 C.F.R. §2.309(f)(1)

Under 10 C.F.R. § 2.309(f)(1)(i)-(ii), a contention must include a "specific statement of the issue of law or fact to be raised" and "provide a brief explanation of the basis for the contention." With respect to the general statement of their contention, the Petitioners have provided a concise statement that the exemption should not be granted because the Applicant has not demonstrated that the time between uncovering of spent fuel and initiation of a zirconium fire in the spent fuel storage pool is ten hours or more. The Petitioners have also provided a basis for their contention by citing a document related to an NRC rulemaking on decommissioning, which proposes the ten-hour standard for evaluating exemptions to emergency planning requirements at reactors that are undergoing decommissioning. The Petitioners have also submitted a declaration of support for the contention from Dr. Edwin S. Lyman of the Union of Concerned Scientists, thereby satisfying 10 C.F.R. § 2.309(f)(1)(v).

However, Contention 1 fails to satisfy 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi) because the specific claims it raises are neither within the scope of this review nor material to any decision on the Applicant's exemption request, and therefore do not constitute a genuine dispute with the ESP application. While contentions challenging exemption requests may be within the scope of licensing proceedings and potentially material to the ultimate decision on whether to grant an ESP,[85] the specific issue the Petitioners wish to litigate – whether the Applicant can show that "the time between uncovering of spent fuel and initiation of a zirconium fire in the spent fuel storage pool is ten hours or more"[86] – is not.

In discussing Contention 1 and its basis, the Petitioners do not identify any specific legal requirements that the ESP application and associated exemption request fail to meet. They

[85] *See Vermont Yankee*, CLI-16-12, 83 NRC at 549; *Private Fuel Storage*, CLI-01-12, 53 NRC at 467. The Commission has held that exemptions "directly connected to an agency licensing action" can provide for hearing rights for interested parties. *Id*.

[86] SACE/TEC Petition at 5.

merely assert, without support, that the proper test for an emergency planning exemption in an ESP for an SMR is the same 10-hour test that has been proposed in draft and preliminary documents connected to an ongoing rulemaking on decommissioning. This assertion is incorrect. The 10-hour test currently exists only in guidance; it has not yet been formally adopted in a rulemaking for the decommissioning context for sites where the reactor has been shut down and defueled and where "[t]he only accident that might lead to a significant radiological release . . . is a zirconium fire."[87] Exemptions to emergency planning requirements for decommissioning plants are currently evaluated against Interim Staff Guidance in NSIR/DPR-ISG-02, Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants, which employs a similar dose-at-distance approach and comparison to EPA PAGs as that discussed above in connection with the technical basis for 10 C.F.R. § 50.47(c)(2)[88] and is considered by the Staff as one acceptable means to evaluate exemption requests in the decommissioning context. The 10-hour period for uncovered fuel is mentioned in this guidance as a factor to consider when determining how quickly mitigation measures and protective actions can be applied;[89] it is not, however, the sole criterion for evaluating exemption requests, even in guidance for the decommissioning context.

The Petitioners' implied assertion that the decommissioning and ESP contexts are the same is erroneous because an ESP site is analyzed for one or more operating reactors, with all associated emergency planning requirements. Since emergency plans for the reactor(s) will be required, the two situations are not obviously analogous. The Petitioners have provided no argument for why they should be treated as such, and they provide no explanation to support their argument that any finding related to the time between uncovering of spent fuel and

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[87] 80 Fed. Reg. at 72,359.

[88] *See* NSIR/DPR-ISG-02, Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants at 6 (May 11, 2015) (ADAMS Accession No. ML14106A057).

[89] *Id*. at 6-7.

initiation of a zirconium fire is needed in order to grant the exemption the Applicant requested. For these reasons, Contention 1 fails to satisfy the scope, materiality, and genuine dispute requirements in 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi), and should therefore be rejected.

B. Proposed Contention 2

SACE/TEC's proposed contention 2 states the following:

> The 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.

1. Basis for Contention 2

Petitioners allege that the ER omits an analysis of the environmental consequences of spent fuel pool fires.[90] They argue that in the absence of a documented conclusion that the consequences of spent fuel pool fires are remote and speculative, NEPA requires that the Applicant include in its ER an analysis of these consequences.[91] In support of their contention, Petitioners cite a portion of a statement from the 2013 Generic Environmental Impact Statement for License Renewal that "the environmental impacts of pool fires 'are comparable to those from the reactor accidents at full power.'"[92]

2. The Staff Opposes Admission of Proposed Contention 2

Petitioners' proposed contention that the ER omits an analysis of the environmental consequences of spent fuel pool fires, which they believe is required, is characterized as a

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[90] SACE/TEC Petition at 9.

[91] *Id*. at 10.

[92] Petition at 9-10. The full context of the reference to the 2013 license renewal GEIS supports the level of detail included in the ER. Petitioners referenced a statement from the 2013 license renewal GEIS, in a section discussing public comments on the draft license renewal GEIS on spent fuel pool accidents at p. 1-28, that "accidents involving SFPs are comparable to those from the reactor accidents at full power." Petition at 9-10. The context of this statement is that, based on the qualitative evaluation presented in Appendix E of the 2013 license renewal GEIS, "the environmental impacts from accidents involving SFPs are comparable to those from the reactor accidents at full power that were evaluated in the 1996 GEIS, and as such, SFP accidents do not warrant separate evaluation." 2013 license renewal GEIS at 1-28.

contention of omission. A contention of omission is directed at an issue that by law should be discussed, but is not; in contrast, a contention of adequacy challenges the application's discussion of an issue substantively and specifically.[93]

Here, Petitioners' Proposed Contention 2 is inadmissible because the information they allege was omitted from the ER is present in it. The ER includes appropriate references to previous generic NRC analyses in the 1996 and 2013 revisions to the Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants (license renewal GEIS).[94] These analyses discuss the remote likelihood of spent fuel pool fires[95] and that their risk and impacts are "expected to be comparable to or lower than those from reactor accidents and are bounded by the 1996 GEIS)."[96] Therefore, this contention of omission does not state a genuine dispute of material fact or law with the application and should be dismissed.[97]

The content requirements for an ESP ER provide that an applicant must "include an evaluation of alternative sites to determine whether there is an obviously superior alternative to the site proposed.[98] Beyond that, an ESP ER may also "address one of more the environmental effects of construction and operation of a reactor, or reactors, which have design characteristics that fall within the site characteristics and design parameters for the [ESP] application."[99] The

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[93] *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382-83 (2002). Proposed SACE/TEC Contention 2 is a contention of omission because it alleges that the ER fails to discuss the consequences of spent fuel pool fires.

[94] NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants (Rev. 0, 1996) (ADAMS Accession Nos. ML040690705 and ML040690738) and (Rev. 1, Jun. 2013) (ADAMS Accession Nos. ML13106A241, ML13106A242, and ML13106A244).

[95] *See* 1996 license renewal GEIS at 6-70 and 6-75 (ADAMS Accession No. ML040690705) and 2013 license renewal GEIS at 1-28 - 1-29, 4-159 - 4-163 (ADAMS Accession No. ML13106A241) and Section E.3.7 (ADAMS Accession No. ML13106A244).

[96] 2013 license renewal GEIS at E-37.

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

[98] 10 C.F.R. § 51.50(b)(1).

[99] 10 C.F.R. § 51.50(b)(2).

ER addresses impacts from the uranium fuel cycle, which includes storage in spent fuel pools. ER Section 5.7.1 provides that both the 1996 and 2013 license renewal GEIS include detailed uranium fuel cycle analysis that "is relevant because the SMRs described by the plant parameter envelope (PPE) in Table 3.1-2 use the same fuel cycle process and the same type of fuel as the reference plant."[100] The evaluation of fuel cycle impacts in chapter 6 of the 1996 license renewal GEIS includes discussion of spent fuel pool fire probability.[101] Specifically, section 6.4.6.1 of the 1996 license renewal GEIS concludes that "NRC has also found that, even under the worst probable cause of a loss of spent-fuel pool coolant (a severe seismic-generated accident causing a catastrophic failure of the pool), the likelihood of a fuel-cladding fire is highly remote (55 FR 38474)."[102] The analysis conducted for the 2013 license renewal GEIS supports this conclusion of remoteness: "the risk and environmental impact from fires in SFPs as analyzed in NUREG-1738 are expected to be comparable to or lower than those from reactor accidents and are bounded by the 1996 GEIS."[103] The information in both analyses discusses the evaluation of consequences of spent fuel pool fires and their remote probability, demonstrating that the Applicant did not omit such consideration from the ER.

NEPA does not require consideration of matters that are remote or speculative."[104] The conclusions in the 1996 and 2013 license renewal GEIS that a fuel cladding fire in a spent fuel pool is "highly remote"[105] support the level of detail in the ER, which states that the fuel cycle

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[100] ER at 5.7-3.

[101] 1996 license renewal GEIS at 6-70 and 6-75.

[102] *Id*.

[103] 2013 license renewal GEIS at 1-28 and E-37.

[104] *See Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-90-4, 31 NRC 333, 334-35 (1990) (events considered sufficiently unlikely that they are remote and speculative do not require NEPA consideration as a matter of law).

[105] Petitioners state that spent fuel pool fires are a type of severe accident "that NRC views as reasonably foreseeable." Petition at 10. However, the Applicant references license renewal GEIS analyses that conclude that spent fuel pool fires are "highly remote," not reasonably foreseeable.

analyses in the license renewal GEIS are relevant to the SMR PPE.[106] Additional discussion is not required because the NRC requires applicants to discuss details of the impacts of their proposed actions "in proportion to their significance."[107] Because the Applicant referenced the license renewal GEIS, which provides that "the likelihood of a fuel-cladding fire is highly remote," Petitioner's claim of omission is incorrect. Petitioners have not taken issue with the Applicant's statement that the license renewal GEIS fuel cycle analyses are relevant to its proposed action or the underlying analyses in the license renewal GEIS. Therefore, Petitioners do not state a genuine dispute on a material issue of fact or law with the application as required by 10 C.F.R. § 2.309(f)(1)(vi). For this reason, the proposed contention should be dismissed.

C. Proposed Contention 3

Petitioner's proposed contention 3 reads as follows:

> The ESP application violates the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321-4370f, and NRC implementing regulations because it contains impermissible language comparing the proposed SMR to other energy alternatives and discussing the economic and technical advantages of the facility. The language is impermissible because TVA has explicitly invoked 10 C.F.R. §51.50(b)(2), which excuses it from discussing the economic, technical, or other benefits of the proposed facility such as need for power. *See* Environmental Report, Chapter 8 (postponing need for power discussion), Environmental Report Section 9.2 (postponing energy alternatives discussion). By formally choosing to exclude consideration of alternatives from its Environmental Report, TVA has effectively precluded Petitioners from submitting contentions on those subjects.
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> Under the circumstances, TVA must restrict the content of the Environmental Report to the impacts of construction and operation and a limited evaluation of alternatives related solely to the selection of the site. Any language comparing the proposed SMR to other energy alternatives, or purporting to justify the need for the SMR, should be stricken from the Environmental Report.
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> Furthermore, such language should not be included in the NRC's Environmental Impact Statement ("EIS") for the proposed ESP. Such an EIS would end up becoming an advertisement for SMRs rather than the rigorous,

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[106] *Id.* The ER's topical reference to the GEIS fuel cycle analyses identifies the applicable subject matter so that a reader need not sift through lengthy reports for unspecified information. It is, therefore, consistent with the Commission's policy of facilitating the review of NEPA documents by requiring that documentary references be more specific than wholesale incorporation of a document. *See*, *e.g.*, *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 332 (2012).

[107] 10 C.F.R. § 51.45(b)(1).

> unbiased and independent scientific study required by NEPA. *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 348 (1989); *National Audubon Society v. Dep't of Navy*, 422 F.3d 174, 185 (4th Cir. 2005); 40 C.F.R. §1500.1(b).
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> In the alternative TVA may elect to address energy alternatives and need for power in the Environmental Report. In that case, fairness requires that Petitioners must be provided a reasonable opportunity to submit contentions on the new alternatives analysis.

SACE/TEC Petition at 11-12.

1. Basis for SACE/TEC Contention 3

Petitioners contend that TVA's application violates the requirements of NEPA and NRC implementing regulations "because it contains impermissible language comparing the proposed SMR to other energy alternatives."[108] Petitioners argue that the "language is impermissible because TVA has explicitly invoked 10 C.F.R. § 51.50(b)(2)," which provides that environmental reports for ESP applications "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."[109]

Petitioners also contend that the ER, Chapter 9, in Sections 9.1 to 9.3, introduces energy alternatives considerations.[110] Petitioners argue that TVA's claims regarding energy alternatives "are not only impermissible but they are unsupported; some are even nonsensical ... [t]hus, to allow them to remain, unchallenged, would reduce the [ER] to an advertisement for SMRs, without support or verification, and without providing the context of a comprehensive environmental analysis."[111] Petitioners also argue that by formally choosing to exclude consideration of alternatives from its ER, TVA has effectively precluded Petitioners from

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[108] *Id.* at 11, 12 and 23.

[109] *Id.* at 11 (quoting 10 C.F.R. § 51.50(b)(2)).

[110] *Id.* at 18.

[111] *Id.* at 19.

submitting contentions on those subjects.[112] In further support of their contention, Petitioners argue that the ER introduces impermissible energy alternative considerations in describing the disadvantages of the no-action alternative.[113] Petitioners claim to have provided "only a partial list of deficiencies in TVA's discussion of energy alternatives, provided for purposes of illustrating the bias and lack of rigor in TVA's discussion, as further grounds for Petitioners' argument that the discussion should be stricken from the [ER]."[114]

Petitioners further contend that language in the ER comparing the proposed SMRs to other energy alternatives should be stricken from the ER and not included in the NRC Staff's environmental impact statement.[115] According to the Petitioners, including such language comparing the proposed SMRs to other energy alternatives would result in the Staff's environmental impact statement becoming an advertisement for SMRs rather than the rigorous, unbiased and independent scientific study required by NEPA.[116]

2. The Staff Opposes Admission of Proposed Contention 3

For the reasons described below, the Petitioners' proposed contention 3 is inadmissible under the pleading standards of 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi) because Petitioners fail to identify a genuine dispute with the application that is within the scope of the proceeding and material to the decisions the NRC must reach for this ESP. Proposed contention 3 does not identify any specific areas in which the application fails to address the requirements of 10 C.F.R. §§ 52.16, 52.17, 51.50(b)(2), or any other substantive legal requirements. Rather, the Petitioners advance a claim that is neither a regulatory requirement for an ESP application nor a finding the NRC must make in order to reach a decision on the on the issuance of the ESP.

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[112] *Id.* at 11 and 19.

[113] *Id*. at 18.

[114] *Id.* at 23.

[115] *Id*. at 12.

[116] *Id*.

Although the Petitioners provided a specific statement of the issue they wish to challenge, a brief explanation of their proposed contention, and a statement of the facts that support their proposed contention, as required by 10 C.F.R. § 2.309(f)(1)(i), (ii), and (v), the Petitioners did not satisfy the Commission's contention admissibility standards of 10 C.F.R. § 2.309(f)(1)(iii), (iv) and (vi) because proposed contention 3 is outside the scope of the proceeding, immaterial, and fails to demonstrate a genuine dispute with the application. For these reasons, proposed contention 3 should be rejected.

(a) Petitioners Did Not Demonstrate That the Issues Raised Are Within the Scope of the Proceeding as Required by 10 C.F.R. §2.309(f)(1)(iii)

Petitioners assert that the ER introduces impermissible energy alternative considerations in describing the disadvantages of the no-action alternative and in its discussion of alternative sites.[117] To support their contention, Petitioners challenge various statements throughout the ER, which Petitioners see as discussing, promoting or justifying SMR technology.[118] The Commission's regulations provide that the environmental report need not include an evaluation of alternative energy sources. 10 C.F.R. § 51.50(b)(2) provides:

> The 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.

TVA, in the ESP Application, Part 3, ER, Chapter 9 (Alternatives, Sections 9.1 and 9.3) addressed the No-Action Alternative (Section 9.1), and Alternate Sites (Section 9.3).[119] Section 9.1 describes the environmental impact if an ESP is not issued and the SMRs are not constructed.[120] TVA, in Section 9.2, Energy Alternatives, stated that: "Section 9.2 is not included as part of the ESPA. The Energy Alternative discussion is provided at COLA [combined

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[117] SACE/TEC Petition at 18.

[118] SACE/TEC Petition at 13-23.

[119] ESP Application, Part 3, Environmental Report at 9.0-1, 9.1-1 to 9.1-2, 9.3-1 to 9.3-84.

[120] *Id*. at 9.1-1 to 9.1-2.

operating license application].[121] TVA's election to omit an evaluation of energy alternatives from its ER is permissible under the NRC's regulations, which do not require an ESP applicant to discuss energy alternatives in an early site permit application.[122] Moreover, Petitioners cite no Commission regulation or cases to support their position that TVA's statements about SMR technology are impermissible.

Concerning Petitioners' argument that TVA has "effectively precluded" Petitioners' ability to challenge an energy alternatives evaluation for the Clinch River site,[123] Petitioners misunderstand the nature of an ESP application and the options in the NRC's licensing framework under 10 C.F.R. Part 52. Issues that are not included in the ESP application and not reviewed at the ESP stage are not resolved and will be addressed at a later stage of the project, if and when an applicant applies for a combined license for the site.[124] Here, TVA has not addressed energy alternatives.[125] If an energy alternatives analysis is subsequently added to the ESP ER, or included in a future combined license application and associated environmental report for the site or NRC environmental impact statement, the Commission's rules provide the Petitioners with opportunities to file proposed contentions on the subject.[126] When the NRC Staff issues the EIS, Commission regulations provide Petitioners an opportunity to either amend admitted contentions or proffer new contentions based on "data or conclusions in the NRC draft

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[121] *Id*. at 9.0-1, 9.2-1.

[122] 10 C.F.R. § 51.50(b)(2).

[123] SACE/TEC Petition at 11.

[124] Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors, 54 Fed. Reg. 15,372, 15,376 (April 18, 1989).

[125] ESP Application, Part 3, Environmental Report at 9.0-1 and 9.2-1.

[126] *Nuclear Management Company, LLC* (Palisades Nuclear Plant), LBP-06-10, 63 NRC 314, 338 (2006) (stating requirements of 10 C.F.R. § 2.309(f)(1)(iii) and elaborating that "Contentions are necessarily limited to issues that are germane to the application pending before the Board, and are not cognizable unless they are material to matters that fall within the scope of the proceeding for which the licensing board has been delegated jurisdiction as set forth in the Commission's notice of opportunity for hearing." (footnotes omitted)).

or final [EIS] . . . or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant's documents."[127] Petitioners' contention is, however, outside the scope of this proceeding and does not meet 10 C.F.R. §2.309(f)(1)(iii). It should therefore be rejected.

(b) Petitioners Are Not Unfairly Deprived of an Opportunity to Submit Contentions

Petitioners next argue that fairness requires that they be provided a reasonable opportunity to submit contentions on a new alternatives analysis, should the Applicant provide one.[128] As Petitioners correctly note, "[i]n hearings on NEPA issues, the NRC requires fairness to all parties."[129] The Commission's rules are designed to promote early resolution of issues and provide ample opportunities for members of the public to participate in its licensing process.[130] TVA has elected, pursuant to the Commission's regulations, to address the issues related to energy alternatives in a future combined license application proceeding.[131] At the ESP stage, however, an energy alternatives analysis is not required and TVA has elected not to provide one; therefore, the Petitioners' contention, which raises issues outside the scope of this proceeding, should be rejected for failure to meet 10 C.F.R. §2.309(f)(1)(iii). Should TVA elect to add an energy alternatives analysis to its ESP application or later apply for a combined license for the Clinch River site, Petitioners will have a full opportunity to raise their concerns, consistent with Commission regulations.[132]

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[127] 10 C.F.R. § 2.309(f)(2).

[128] SACE/TEC Petition at 2, 12, 15 and 18.

[129] *Id*. at 15.

[130] Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors, 54 Fed. Reg. 15,372, 15,374, 15,378, 15,381 (April 18, 1989).

[131] ESP Application, Part 3, Environmental Report at 9.0-1 and 9.2-1.

[132] *Palisades*, LBP-06-10, 63 NRC at 338 (Contentions are necessarily limited to issues that are germane to the application).

(c) Petitioners Have Not Shown That the Issues Raised Are Material to the Findings the NRC Must Make to Support the Licensing Action Pursuant to 10 C.F.R. § 2.309(f)(1)(iv)

Petitioners contend that the ER introduces energy alternatives considerations.[133] Petitioners expressly acknowledge that Commission regulation 10 C.F.R. § 51.50(b)(2) does not require an applicant to discuss alternative energy sources in an early site permit application.[134] Pursuant to 10 C.F.R. § 51.75(b), the Staff must not include a discussion of alternative energy sources in a draft environmental impact statement where the applicant did not address those matters.[135] Additionally, 10 C.F.R. § 52.21, which governs the administrative review of applications and hearings, provides that "[t]he presiding officer in an early site permit hearing shall not admit contentions proffered by any party concerning an assessment of the benefits of construction and operation of the reactor or reactors, or an analysis of alternative energy sources if those issues were not addressed by the applicant in the early site permit application."[136]

Here, there is no dispute that TVA opted not to address alternative energy sources in the ESP application.[137] The NEPA findings the NRC must make based on the current ESP application cannot, therefore, discuss alternative energy sources.[138] Thus, a discussion of alternative energy sources is not material to the findings the NRC must make in this ESP application proceeding.[139] The proposed contention fails to satisfy the contention admissibility

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[133] SACE/TEC Petition at 18.

[134] *Id.* at 13-15.

[135] 10 C.F.R. § 51.75(b).

[136] 10 C.F.R. § 52.21(a).

[137] ESP Application, Part 3, Environmental Report at 9.0-1 and 9.2-1.

[138] 10 C.F.R. § 52.21.

[139] 10 C.F.R. § 52.24(a)(1)(8).

requirements of 10 C.F.R. § 2.309(f)(1)(iv) and should not be admitted.[140]

(d) Petitioners' Request to Strike Information on SMRs and Alternatives Does Not Meet the Requirements of 10 C.F.R. § 2.309(f)(1)(iv)

The Petitioners state that "[a]ny language comparing the proposed SMR to other energy alternatives, or purporting to justify the need for the SMR, should be stricken from the [ER]."[141] This request appears to be a motion to strike or a motion in limine. As previously discussed, Commission regulation 10 C.F.R. § 51.50(b)(2) does not require an applicant to discuss alternative energy sources in an early site permit application. TVA opted not to address alternative energy sources in the ESP application.[142] The Petitioners will get an opportunity to contest the information when TVA provides it – either in an update to its ESP ER or at the COL application stage. Petitioners' concerns regarding unsupported or unverified claims regarding SMRs, alternative energy sources, and any other concerns can be raised at that time.

Petitioners are concerned that the NRC will repeat the ER's information in the NRC Staff's not-yet-written EIS. The NRC Staff will follow the Commissions regulations as set forth in 10 C.F.R. § 51.75(b) and those rules do not allow the NRC staff to include such information in an EIS where the applicant chooses not to address it in the application.[143] Petitioners' unfounded assertion does not raise an issue material to the findings the NRC must make in this ESP proceeding, and should be rejected for failure to meet 10 C.F.R. § 2.309(f)(1)(iv).

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[140] *Palisades*, LBP-06-10, 63 NRC at 339 (a petitioner must "[d]emonstrate 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," the Commission has defined a "material" issue as meaning one in which "resolution of the dispute would make a difference in the outcome of the licensing proceeding").

[141] SACE/TEC Petition at 12.

[142] ESP Application, Part 3, Environmental Report at 9.0-1 and 9.2-1.

[143] A presumption of regularity attaches to the actions of government agencies. *United States v. Postal Serv.*, 534 U.S. 1, 10 (2001). Here, that presumption of regularity presumes that the Staff EIS will follow the Commission's regulations.

(e) Petitioners' Proposed Contention 3 Does Not Satisfy the Contention Admissibility Requirements of 10 C.F.R. § 2.309(f)(1)(vi)

Petitioners proposed contention 3 challenges the ER's inclusion of information which Petitioners view as an alternative energy sources analysis promoting and justifying SMRs over other technologies.[144] This challenge, for the reasons set forth in sections (a) and (b) above also fails to satisfy the contention admissibility requirements of 10 C.F.R. § 2.309(f)(1)(iii) (as out of scope) and of 10 C.F.R. § 2.309(f)(1)(iv)(not material to the findings the NRC must make to support the action in this proceeding) and therefore should not be admitted. Specifically, the discussion of alternative energy sources has been deferred by TVA until the combined license application is filed; the contention does not demonstrate a material issue with this ESP application. Therefore, proposed contention 3 fails to satisfy contention admissibility requirement 10 C.F.R. § 2.309(f)(1)(vi) and should not be admitted.

For the reasons set forth above proposed contention 3 is not admissible and should be rejected by the Board as Petitioner did not satisfy the Commission's contention admissibility standards in 10 C.F.R. § 2.309(f)(1)(iii),(iv) and (vi).

[144] SACE/TEC Petition at 13-23.

CONCLUSION

For the reasons set forth above SACE/TEC proposed contentions 1, 2 and 3 should be denied for failing to satisfy the Commission's contention admissibility standards as set forth in 10 C.F.R. § 2.309(f)(1)(iii), (iv) and (vi).

Respectfully submitted,

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/Executed in accord with 10 C.F.R. 2.304(d)/

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Dated at Rockville, Maryland
This 7th day of July, 2017

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
TENNESSEE VALLEY AUTHORITY	)	Docket No. 52-047-ESP
	)	
(Clinch River Nuclear Site)	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that the foregoing NRC STAFF ANSWER TO SOUTHERN ALLIANCE FOR CLEAN ENERGY AND TENNESSEE ENVIRONMENTAL COUNCIL'S PETITION TO INTERVENE AND REQUEST FOR HEARING has been filed through the E-Filing System, in the above-captioned proceeding, this 7th day of July, 2017.

Respectfully submitted,

/Signed (electronically) by/

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Dated at Rockville, Maryland
This 7th day of July, 2017