

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
LUMINANT GENERATION COMPANY LLC)	Docket Nos. 52-034-COL
)	52-035-COL
(Comanche Peak Nuclear Power Plant Units 3 and 4))	May 1, 2009
)	

**LUMINANT'S ANSWER OPPOSING PETITION FOR INTERVENTION AND
REQUEST FOR HEARING**

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I. INTRODUCTION

In accordance with 10 C.F.R. § 2.309(h), Luminant Generation Company LLC and Comanche Peak Nuclear Power Company LLC,¹ applicants in the above-captioned matter (jointly, “Luminant” or “Applicant”), hereby file this Answer to the Petition for Intervention and Request for Hearing (“Petition”) filed on April 6, 2009, by the Sustainable Energy and Economic Development Coalition (“SEED”), Public Citizen, True Cost of Nukes, and Lon Burnam (jointly, “Petitioners”). The Petition responds to the U.S. Nuclear Regulatory Commission (“NRC” or “Commission”) “Notice of Order, Hearing, and Opportunity to Petition for Leave to Intervene,” published in the *Federal Register* on February 5, 2009 (74 Fed. Reg. 6177) (“Hearing Notice”) concerning Luminant’s application for combined licenses (“COLs”) to construct and operate two

¹ On February 5, 2009, Luminant notified the NRC that Nuclear Project Company LLC (the co-applicant listed in the application) has been renamed Comanche Peak Nuclear Power Company LLC. See Letter from M. L. Lucas, Luminant, to NRC Document Control Desk (Feb. 5, 2009), *available at* ADAMS Accession No. ML090540056. Luminant Generation Company LLC remains the lead applicant in this proceeding and will submit an update to the application. *Id.*

U.S.-Advanced Pressurized Water Reactors (“US-APWRs”) at the Comanche Peak Nuclear Power Plant (“Comanche Peak” or “CPNPP”) site, located near Glen Rose, Texas.

As discussed below, Petitioners have not satisfied the Commission’s requirements to intervene in this matter, having failed to proffer at least one admissible contention. Therefore, pursuant to 10 C.F.R. § 2.309, the Petition should be denied.

II. BACKGROUND

On September 19, 2008, Luminant submitted an application to the NRC for COLs for Comanche Peak Units 3 and 4 (“COLA”).² The NRC accepted the application for docketing on December 2, 2008, and published a Hearing Notice on February 5, 2009.³ 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 file a petition for leave to intervene within 60 days of the Notice (*i.e.*, April 6, 2009) in accordance with 10 C.F.R. § 2.309.⁴ Petitioners filed the instant Petition on April 6, 2009.

To be admitted as a party to this proceeding, Petitioners must demonstrate standing and submit at least one admissible contention.⁵ Luminant does not object to Petitioners’ standing in this proceeding. As discussed in Section III below, however, Petitioners have not submitted any admissible contentions. Therefore, the Petition should be denied in its entirety.

² See Receipt and Availability of Application for a Combined License, 73 Fed. Reg. 66,276 (Nov. 7, 2008).

³ Acceptance for Docketing of an Application for Combined License for Comanche Peak Nuclear Power Plant, Units 3 and 4, 73 Fed. Reg. 75,141 (Dec. 10, 2008); Hearing Notice, 74 Fed. Reg. at 6177.

⁴ Hearing Notice, 74 Fed. Reg. at 6177.

⁵ See 10 C.F.R. § 2.309(a).

III. PETITIONERS HAVE NOT PROFFERED AN ADMISSIBLE CONTENTION

A. Applicable Legal Standards and Relevant NRC Precedent

To intervene in an NRC licensing proceeding, a petitioner must propose at least one admissible contention.⁶ Under 10 C.F.R. § 2.309(f)(1), a hearing request “must set forth with particularity the contentions sought be raised.” In addition, that section specifies that 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.⁷

The purpose of these six criteria is to “focus litigation on concrete issues and result in a clearer and more focused record for decision.”⁸ The NRC will deny a petition to intervene and request for hearing from a petitioner who has standing but has not proffered at least one admissible contention.⁹ The Commission has stated that it “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.”¹⁰

⁶ *Id.*

⁷ See 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 only applicable in proceedings arising under 10 C.F.R. § 52.103(b) and, therefore, has no bearing on the admissibility of Petitioners’ proposed contentions in this proceeding.

⁸ Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

⁹ *Fla. Power & Light Co.* (Turkey Point Nuclear Power Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 26 (2001).

¹⁰ Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2202.

The Commission's rules on contention admissibility are "strict by design."¹¹ 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.'"¹² As the Commission has stated:

Nor does our practice permit "notice pleading," with details to be filled in later. 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.¹³

Furthermore, the failure to comply with any one of the six admissibility criteria is grounds for rejecting a proposed contention.¹⁴

The legal standards governing each of the six pertinent criteria from 10 C.F.R. § 2.309(f)(1) are discussed below.

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 The petitioner must "articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party]."¹⁶ Namely, an "admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of

¹¹ *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)).

¹² *Millstone*, CLI-01-24, 54 NRC at 358 (citing *Oconee*, CLI-99-11, 49 NRC at 334).

¹³ *N. Atlantic Energy Serv. Corp.* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999).

¹⁴ See Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2221; see also *Private Fuel Storage, L.L.C.* (Independent 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.

the contested [application].”¹⁷ The contention rules “bar contentions where petitioners have only ‘what amounts to generalized suspicions, hoping to substantiate them later.’”¹⁸

2. Petitioners Must Briefly Explain the Basis for the Contention

A petitioner must provide “a brief explanation of the basis for the contention.”¹⁹ This includes “sufficient foundation” to “warrant further exploration.”²⁰ The petitioner’s explanation serves to define the scope of a contention, as “[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases.”²¹ Licensing Boards, however, must determine the admissibility of the contention itself, not the admissibility of individual “bases.”²²

As the Commission has observed, “[i]t is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of [the] proceeding.”²³ In other words, “[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.”²⁴

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

¹⁸ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 424 (2003) (quoting *Oconee*, CLI-99-11, 49 NRC at 337-39).

¹⁹ 10 C.F.R. § 2.309(f)(1)(ii); *see* Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,168 (Aug. 11, 1989).

²⁰ *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-942, 32 NRC 395, 428 (1990) (citation omitted).

²¹ *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988), *aff’d sub nom.*, *Mass. v. NRC*, 924 F.2d 311 (D.C. Cir. 1991).

²² *See 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).

²³ *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-14, 48 NRC 39, 41 (1998).

²⁴ *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998).

3. Contentions Must Be Within the Scope of the Proceeding

A petitioner must demonstrate “that the issue raised in the contention is within the scope of the proceeding.”²⁵ The scope of the proceeding is defined by the Commission’s notice of opportunity for a hearing.²⁶ Moreover, contentions are necessarily limited to issues that are germane to the specific application pending before the Board.²⁷ Any contention that falls outside the specified scope of the proceeding must be rejected.²⁸

A contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding.”²⁹ Furthermore, a contention that raises a matter that is, or is about to become, the subject of a rulemaking, is also outside the scope of this proceeding.³⁰ This includes contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking.³¹

Similarly, any contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must be rejected by the Board as outside the scope

²⁵ 10 C.F.R. § 2.309(f)(1)(iii).

²⁶ See *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790-91 (1985).

²⁷ See *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204 (1998).

²⁸ See *Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979).

²⁹ See 10 C.F.R. § 2.335(a).

³⁰ See *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)). See also Final Policy Statement, Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008) (“New Reactor Policy Statement”).

³¹ See *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159, *aff’d*, CLI-01-17, 54 NRC 3 (2001).

of the proceeding.³² Accordingly, a contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue.³³

Furthermore, challenges to the NRC Staff's safety review are outside the scope of this proceeding because "[t]he adequacy of the applicant's license application, not the NRC staff's safety evaluation, is the safety issue in any licensing proceeding, and under longstanding decisions of the agency, contentions on the adequacy of the [content of the] SER are not cognizable in a proceeding."³⁴

4. Contentions Must Raise a Material Issue

A petitioner must 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."³⁵ The standards defining the findings that the NRC must make to support issuance of a COL in this proceeding are set forth in 10 C.F.R. §§ 51.107 and 52.97. As the Commission has observed, "[t]he dispute at issue is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'"³⁶ In this regard, each contention must be one that, if proven, would entitle the petitioner to relief.³⁷ Additionally, contentions alleging an error or omission in an

³² *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)).

³³ *See Peach Bottom*, ALAB-216, 8 AEC at 20-21. Within the adjudicatory context, however, a petitioner may submit a request for waiver of a rule under 10 C.F.R. § 2.335(b) as discussed in Section III.A.7 of this Answer, *infra*. Conversely, outside the adjudicatory context, a petitioner may file a petition for rulemaking under 10 C.F.R. § 2.802 or request that the NRC Staff take enforcement action under 10 C.F.R. § 2.206.

³⁴ Final Rule, Changes to the Adjudicatory Process, 69 Fed. Reg. at 2202 (citations omitted). Although the adequacy of the NRC Staff's environmental review may be within the scope of this proceeding, a petitioner is initially required to base its environmental contentions on the applicant's environmental report. *See* 10 C.F.R. § 2.309(f)(2).

³⁵ 10 C.F.R. § 2.309(f)(1)(iv).

³⁶ *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).

³⁷ *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).

application must establish some significant link between the claimed deficiency and protection of the health and safety of the public or the environment.³⁸

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

A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so requires the Board to reject the contention.³⁹ The petitioner's obligation in this regard has been described as follows:

[A]n intervention petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable [the petitioner] to uncover any information that could serve as the foundation for a specific contention. Stated otherwise, neither Section 189a. of the Act nor Section [2.309] of the Rules of Practice permits the filing of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or staff.⁴⁰

Where a petitioner neglects to provide the requisite support for its contentions, the Board may not make assumptions of fact that favor the petitioner or supply information that is lacking.⁴¹ The petitioner must explain the significance of any factual information upon which it relies.⁴²

With respect to factual information or expert opinion proffered in support of a contention, “the Board is not to accept uncritically the assertion that a document or other factual information

³⁸ *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).

³⁹ *See* 10 C.F.R. § 2.309(f)(1)(v); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 262 (1996).

⁴⁰ *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983).

⁴¹ *See Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 155 (1991).

⁴² *See Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 203 (2003).

or an expert opinion supplies the basis for a contention.”⁴³ Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.”⁴⁴ The Board will examine documents to confirm that they support the proposed contentions.⁴⁵ A petitioner’s imprecise reading of a document cannot be the basis for a litigable contention.⁴⁶ Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.⁴⁷ The mere incorporation of massive documents by reference is similarly unacceptable.⁴⁸

In addition, “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” as it is alleged to provide a basis for the contention.⁴⁹ Conclusory statements cannot provide “sufficient” support for a contention, simply because they are made by an expert.⁵⁰ In short, a contention “will be ruled inadmissible if the petitioner ‘has

⁴³ *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181, *aff’d on other grounds*, CLI-98-13, 48 NRC 26 (1998).

⁴⁴ *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).

⁴⁵ *See Vt. Yankee Nuclear Power Corp.* (Vermont 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).

⁴⁶ *See Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300 (1995).

⁴⁷ *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

⁴⁸ *Id.*; *see also Tenn. Valley Auth.* (Browns Ferry Nuclear Plant, Units 1 & 2), LBP-76-10, 3 NRC 209, 216 (1976).

⁴⁹ *USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

⁵⁰ *See USEC*, CLI-06-10, 63 NRC at 472.

offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”⁵¹

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.”⁵² The Commission has stated that 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.⁵³ If a petitioner believes the license application fails to adequately address a relevant issue, then 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 application is subject to dismissal.⁵⁵

Similarly, a petitioner’s oversight or mathematical error does not raise a genuine issue. For example, if a petitioner submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine issue.⁵⁶ Further, an allegation that some aspect of a license application is “inadequate” or “unacceptable” does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect.⁵⁷

⁵¹ *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear Inc. (Oyster Creek Nuclear Generating Station)*, CLI-00-6, 51 NRC 193, 208 (2000)).

⁵² 10 C.F.R. § 2.309(f)(1)(vi).

⁵³ Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone*, CLI-01-24, 54 NRC at 358.

⁵⁴ Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Palo Verde*, CLI-91-12, 34 NRC at 156.

⁵⁵ *See Tex. Utils. Elec. Co. (Comanche Peak Steam Electric Station, Unit 2)*, LBP-92-37, 36 NRC 370, 384 (1992).

⁵⁶ *See Millstone*, LBP-04-15, 60 NRC at 95-96.

⁵⁷ *See Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 & 4)*, LBP-90-16, 31 NRC 509, 521, 521 n.12 (1990).

7. Waiver of Regulations Under 10 C.F.R. § 2.335

As discussed above, a contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding.”⁵⁸ In order to seek waiver of a rule in a particular adjudicatory proceeding, a petitioner must submit a petition pursuant to 10 C.F.R. § 2.335. The requirements for a Section 2.335 petition are as follows:

The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.⁵⁹

Further, such a petition, “*must be accompanied by an affidavit* that identifies the specific aspect or aspects of the subject matter of the proceeding as to which the application of the rule or regulation (or provision of it) would not serve the purposes for which the rule or regulation was adopted,” and “*must state with particularity* the special circumstances alleged to justify the waiver or exception requested.”⁶⁰

In accordance with NRC precedent, a Section 2.335 petition “can be granted only in unusual and compelling circumstances.”⁶¹ The Commission decision in the *Millstone* case states the test for Section 2.335 petitions, under which the petitioner must demonstrate that it satisfies each of the following four criteria:

(1) the rule’s strict application “would not serve the purposes for which [it] was adopted”; (2) the movant has alleged “special circumstances” that were “not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the

⁵⁸ See 10 C.F.R. § 2.335(a).

⁵⁹ *Id.* § 2.335(b).

⁶⁰ *Id.* (emphasis added).

⁶¹ *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-895, 28 NRC 7, 16 (1988), *aff’d*, CLI-88-10, 28 NRC 573, 597, *recons. denied*, CLI-89-3, 29 NRC 234 (1989) (citation omitted).

rule sought to be waived”; (3) those circumstances are “unique” to the facility rather than “common to a large class of facilities”; and (4) a waiver of the regulation is necessary to reach a “significant safety problem.”⁶²

If the petitioner makes the required prima facie showing, then the Licensing Board must certify the matter to the Commission.⁶³ However, if the petitioner fails to satisfy any of the factors of the four-part test required for making a prima facie showing, then the matter may not be litigated, and “the presiding officer may not further consider the matter.”⁶⁴

B. Petitioners’ Proposed Contentions Are Inadmissible

Applying the legal standards summarized above, each of Petitioners’ nineteen proposed contentions is deficient on one or more grounds. As a result, the Petition should be denied for failure to proffer an admissible contention in accordance with 10 C.F.R. § 2.309(f)(1).

1. Contention 1 – The COLA References a Design Certification Application

Contention 1 requests a stay of all proceedings related to this COL proceeding because the COLA references the US-APWR, which is the subject of a pending design certification application.⁶⁵ Petitioners reference their separately filed petition requesting to stay or hold in abeyance this proceeding until the US-APWR design certification rulemaking process is complete.⁶⁶ According to Petitioners, proceeding to hearing on the COLA before completion of

⁶² *Millstone*, CLI-05-24, 62 NRC at 559-60 (citing *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-20, 30 NRC 231, 235 (1989), and *Seabrook*, CLI-88-10, 28 NRC at 597).

⁶³ See 10 C.F.R. § 2.335(c), (d).

⁶⁴ See *id.* § 2.335(c); see also *Millstone*, CLI-05-24, 62 NRC at 560 (“The use of ‘and’ in this list of requirements is both intentional and significant. For a waiver request to be granted, *all four* factors must be met.”) (emphasis in the original) (citations omitted).

⁶⁵ Petition at 8-9.

⁶⁶ *Id.* at 9 (referencing Petition for Order to Stay Comanche Peak Nuclear Power Units 3 and 4 Combined Construction and Operating Licensing Application Proceedings and Hold the Combined Operating License Application in Abeyance Pending Completion of the US-APWR Application Rulemaking (Apr. 6, 2009)). On April 16, 2009, Luminant filed its answer to the Stay Petition. See Luminant’s Answer Opposing Petition to Stay or Hold in Abeyance the Comanche Peak Units 3 and 4 Proceeding (Apr. 16, 2009).

the design certification rulemaking would be inconsistent with governing statutes and regulations, and would deprive Petitioners of a fair and meaningful opportunity for hearing.⁶⁷ In addition, Petitioners assert that this proceeding should be held in abeyance because the “US-APWR is a significantly different design from current operating US four-loop plants.”⁶⁸ The “differences” that Petitioners point to generally consist of claims that US-APWR is larger, uses different equipment, and produces more waste or liquid effluents than current four-loop plants.⁶⁹

Luminant opposes Contention 1 because the Commission has already rejected an essentially identical request from the Petitioners in the form of their petition for stay. Additionally, Luminant opposes the admission of Contention 1 because it fails to meet the admissibility criteria set forth in 10 C.F.R. § 2.309(f)(1). Petitioners’ proffered contention should be dismissed because it (1) impermissibly challenges the NRC’s Part 52 regulations, contrary to 10 C.F.R. § 2.335(a); (2) is not adequately supported by factual information or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(iv); and (3) fails to controvert relevant portions of the COLA, contrary to 10 C.F.R. § 2.309(f)(1)(v).

a. Contention 1 Should Be Rejected Based upon the Order Which Rejected the Petitioners’ Request for Stay

As a threshold matter, Contention 1 is simply a restatement of Petitioners’ stay petition. Luminant’s answer to the stay petition explained that (1) NRC regulations, as well as the Commission’s 2008 Policy Statement⁷⁰ and its recent decisions in *Fermi* and *Shearon Harris*,⁷¹

⁶⁷ Petition at 9.

⁶⁸ *Id.* at 10.

⁶⁹ *Id.* at 10-14.

⁷⁰ Policy Statement on the Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963 (April 17, 2008) (“New Reactor Policy Statement”).

⁷¹ *Detroit Edison Co.* (Fermi Unit 3), CLI-09-04, 69 NRC ___, slip op. at 6-7 (Feb. 17, 2009); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 & 3), CLI-08-15, 68 NRC ___, slip op. at 3-4 (July 23, 2008).

provide that the NRC may hold hearings on a COLA that references a design certification application; (2) the Atomic Energy Act and the Administrative Procedure Act do not prohibit proceeding with an adjudication for a COLA that references a design certification application; (3) the claim that it would be unfair to proceed to hearing on the COLA is groundless and does not warrant holding the proceeding in abeyance; and (4) holding the proceeding in abeyance would unnecessarily delay the licensing proceeding and would impose undue burden on all parties.⁷² In an Order dated April 27, 2009, the Secretary of the Commission denied Petitioners' petition for a stay on the grounds that it is inconsistent with the Commission's regulations, policy, and precedents. Since Contention 1 is simply a restatement of the petition for stay, Contention 1 should be denied based upon the Order.

Furthermore, as explained below, even if further consideration were to be given to Contention 1, it should be rejected for failure to satisfy the standards in 10 C.F.R. § 2.309(f)(1).

b. Contention 1 Improperly Challenges the Commission's Regulations and Policy

To the extent that this contention challenges Luminant's decision to reference the US-APWR design certification application, the contention is inadmissible as an attack on the Commission's regulations and policy. Subpart C of 10 C.F.R. Part 52 sets forth the process for obtaining a COL for a nuclear power facility and allows a COL applicant to reference a standard design certification or an application for a design certification.⁷³ Consistent with this regulation, Luminant's COLA references the US-APWR design certification application.⁷⁴ Specifically, Luminant has incorporated by reference Revision 1 of the US-APWR Design Control Document

⁷² See Luminant's Answer Opposing Petition to Stay or Hold in Abeyance the Comanche Peak Units 3 and 4 Proceeding at 5-23 (Apr. 16, 2009).

⁷³ See 10 C.F.R. §§ 52.55(c), 52.73(a).

⁷⁴ COLA, Part 1, Administrative and Financial Information, Rev. 0, at 3.

(“DCD”) into the COLA.⁷⁵ Because incorporation of Revision 1 of the US-APWR DCD is authorized by 10 C.F.R. § 52.55(c), Contention 1 constitutes an impermissible attack on the Part 52 process, contrary to 10 C.F.R. § 2.335(a).⁷⁶ Thus, Contention 1 should be rejected as an impermissible challenge to the Commission’s Part 52 regulations, as construed by the Commission in its recent Policy Statement and applied in recent adjudicatory proceedings.

For example, in the *William States Lee* COL proceeding, the Board applied the above-stated principles in dismissing a proposed contention that is similar to the Petitioners’ proposed contention in this proceeding.⁷⁷ There, the Licensing Board ruled that “[b]ecause [the petitioner] challenges the Applicant’s reliance on a pending design certification fundamentally on *procedural grounds*, [the contention] constitutes an impermissible challenge to NRC regulations that allow the procedure [the Applicant] has chosen.”⁷⁸ Here, too, Petitioners explicitly challenge Luminant’s use of the same procedural regulation—10 C.F.R. § 52.55(c).

Although Petitioners ostensibly challenge aspects of the US-APWR design, Petitioners really take issue with the provisions of Part 52 discussed above. Stated another way, Petitioners have “not identified a dispute with the Application,”⁷⁹ but rather are essentially demanding that US-APWR design issues “be carefully considered and . . . resolved in the [US-APWR]

⁷⁵ COLA, Part 2, Final Safety Analysis Report, Rev. 0, at 1.1-1 (“Portions of the information required for this FSAR are incorporated by reference from the US-APWR DCD revision 1 . . .”) (“FSAR”).

⁷⁶ Contention 1 also constitutes a direct attack on the NRC’s Rules of Practice as it challenges the longstanding requirements that the NRC publish a notice of hearing “as soon as practicable after the NRC has docketed the application” and that contentions “be based on documents or other information available at the time the petition is to be filed.” 10 C.F.R. §§ 2.104(a), 2.309(f)(2). For example, Petitioners suggest that the COLA does not meet the NRC’s “docketing standards.” Petition at 9. The “docketing decision is not challengeable in an adjudicatory proceeding” because “in adjudicatory proceedings ‘it is the license application, not the NRC staff review that is at issue.’” *Shearon Harris*, CLI-08-15, slip op. at 2 n.2 (quoting *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-25, 48 NRC 325, 350 (1998)).

⁷⁷ *Duke Energy Carolinas* (Combined License Application for William States Lee III Nuclear Station, Units 1 & 2), LBP-08-17, 68 NRC ___, slip op. at 10-12 (Sept. 22, 2008).

⁷⁸ *Id.* at 11-12 (emphasis added).

⁷⁹ *Id.* at 10.

rulemaking before proceeding with the COLA adjudication.”⁸⁰ But Petitioners have not requested a waiver of the applicable Part 52 provisions here (nor would such a waiver be justified), and this adjudicatory proceeding plainly is not a forum for reviewing or challenging the adequacy of NRC rules.⁸¹ Accordingly, Contention 1 should be dismissed as “an impermissible attack on the design certification process.”⁸²

Even if the Board were to consider Contention 1 as a challenge to the adequacy of the US-APWR design, the Commission’s Policy Statement indicates that a contention relating to a pending design certification application should only be held in abeyance “if it is otherwise admissible.”⁸³ As explained in the following sections, Contention 1 fails to meet the admissibility requirements in 10 C.F.R. § 2.309(f)(1)(v) and (vi), and, therefore, should be rejected regardless of the status of the design certification rulemaking.

c. Contention 1 Lacks Adequate Factual Support

Contention 1 also should be dismissed because it fails to meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1)(v). Aside from the attacks on NRC procedural regulations, this contention consists of nothing more than a series of vague, conclusory, and unfounded statements that the differences between the US-APWR design and current operating U.S. four-loop plants “may impact” aspects of the proposed new Comanche Peak units and “may have radiological ramifications.”⁸⁴ Petitioners point out that the US-APWR is a larger reactor than current operating U.S. four-loop plants and thus has higher gross electrical and core thermal

⁸⁰ Petition at 10.

⁸¹ *See Gen. Pub. Utils. Nuclear Corp.* (Three Mile Island, Unit 1) LBP-86-10, 23 NRC 283, 285 (1986) (generalized views on what applicable policies ought to be are not proper issues for adjudication).

⁸² *S.C. Car. Elec & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 & 3), LBP-09-2, 69 NRC ___, slip op. at 8 (Feb. 18, 2009).

⁸³ New Reactor Policy Statement, 73 Fed. Reg. at 20,972.

⁸⁴ Petition at 10.

outputs; a larger containment; larger fuel assemblies, pressurizers, and coolant pipes; and additional spray nozzles and high-pressure safety injection pumps.⁸⁵ Petitioners also indicate that, unlike current operating U.S. four-loop plant designs, the US-APWR uses residual heat exchangers, gas turbine generators, and a neutron reflector.⁸⁶ According to Petitioners, the greater size of the US-APWR will result in more irradiated materials that must be disposed of, and greater radioactive material in liquid effluent discharges than existing reactors.⁸⁷

These claims fall far short of meeting the requirements in Section 2.309(f)(1)(v). Tables 1.3-1 through 1.3-4 and Table 4.1-1 of Tier 2 of the US-APWR DCD provide major design parameters for the US-APWR and compares these parameters to the parameters for current operating U.S. four-loop plants. Contention 1 consists of nothing more than a summary of these design parameters as stated in the DCD. Section 2.309(f)(1)(v) requires that a contention contain a concise statement of “the alleged facts or expert opinions” and “the specific sources and documents” on which the petitioner intends to rely to support its position.⁸⁸ In particular, this provision requires a petitioner to “provide documents or other factual information or expert opinion that set forth *the necessary technical analysis* to show *why* the proffered bases support its contention.”⁸⁹ Petitioners provide *no technical analysis* that suggests that any of the parameters or systems described in the US-APWR DCD present any safety or environmental problems.

⁸⁵ *Id.* at 10-14.

⁸⁶ *Id.* at 11-12.

⁸⁷ *Id.* at 11.

⁸⁸ 10 C.F.R. § 2.309(f)(1)(v).

⁸⁹ *PFS*, LBP-98-7, 47 NRC at 180 (*citing Ga. Tech*, LBP-95-6, 41 NRC at 305) (emphasis added).

The only information the Petitioners provide to support their claim is a reference to an article entitled, “Hydraulic Flow Tests of APWR Reactor Internals for Safety Analysis.”⁹⁰ Based on this article, Petitioners indicate that “there appear to be problems with the neutron [r]eflectors in a 1/5 scale model of an APWR vessel in Japan, specifically in terms of flow induced vibration.”⁹¹ However, the Petitioners have lifted statements from this article out-of-context, and the article does not state what the Petitioners purport that it states. The portion of the article quoted by the Petitioners comes from the “Introduction” section of the article.⁹² The body of the report does not discuss any problems with flow-induced vibration. The identification of flow-induced vibration as a “safety problem” in the “Introduction” is nothing more than a statement that this issue requires further evaluation. In fact, the portion of the “Introduction” quoted in the Petition that is replaced with ellipses indicates that the computational fluid dynamics (“CFD”) code is expected to “solve” these flow-induced vibration issues.⁹³ The “Introduction” further explains that the 1/5 scale model testing described in this article was performed “to demonstrate the new design of the neutron reflector and to obtain test data for validating the CFD code.”⁹⁴ Thus, the “Conclusion” section of the article finds that data obtained as part of this testing is sufficient to validate the CFD code.⁹⁵ Notably, the article does *not* find that flow-induced vibration would have any impact on the safe operation of the US-APWR. As another Licensing Board has ruled, any supporting material provided by a petitioner, including those portions

⁹⁰ Petition at 12-13 (citing Tadashi Morii, *Hydraulic Flow Tests of APWR Reactor Internals for Safety Analysis*, 238 Nuclear Engineering & Design 469 (2008)). A copy of this article is provided as an attachment to this Answer.

⁹¹ *Id.* at 12.

⁹² Tadashi Morii, *Hydraulic Flow Tests of APWR Reactor Internals for Safety Analysis*, 238 Nuclear Engineering & Design at 469.

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.* at 478-79.

thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.”⁹⁶

This article offers no support for Petitioners’ claim that there are “problems” with the neutron reflector in the US-APWR.

d. Contention 1 Does Not Directly Controvert the COLA or the US-APWR DCD, Nor Does It Demonstrate the Omission of Any Material Information

Contention 1 also fails to meet the admissibility criterion set forth in 10 C.F.R.

§ 2.309(f)(1)(vi). Section 2.309(f)(1)(vi) “requires that there be a concrete and genuine dispute appropriate for litigation.”⁹⁷ Thus, with respect to an alleged error or deficiency in an application, this criterion requires a petitioner to cite *specific portions* of the application that the petitioner disputes and to provide *supporting reasons for each dispute*.⁹⁸ In the case of an alleged failure to include relevant information required by law (*i.e.*, an omission), a petitioner must identify “each failure and the supporting reasons for the petitioner’s belief.”⁹⁹

As explained above, Petitioners summarize major design parameters for the US-APWR and the comparison of these parameters to the parameters for current operating U.S. four-loop plants that is contained in Tables 1.3-1 through 1.3-4 and Table 4.1-1 of Tier 2 of the US-APWR DCD, and then claims that these differences “may impact” aspects of the proposed new Comanche Peak units and “may have radiological ramifications.”¹⁰⁰ Petitioners do not explain why they believe these differences are significant or what additional information should have been provided in the COLA or the DCD.

⁹⁶ See *Yankee Atomic*, LBP-96-2, 43 NRC at 90, *rev’d in part on other grounds*, CLI-96-7, 43 NRC 235.

⁹⁷ *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, LBP-06-23, 64 NRC 257, 358 (2006).

⁹⁸ 10 C.F.R. § 2.309(f)(1)(vi); see also *Fansteel*, CLI-03-13, 58 NRC at 205 (noting that to meet its pleading burden, a petitioner must provide “plausible and adequately supported claims that the data [in the application] are either inaccurate or insufficient, *i.e.*, by specifically identifying each failure and explaining why the data are flawed”).

⁹⁹ 10 C.F.R. § 2.309(f)(1)(vi).

¹⁰⁰ Petition at 10.

The very information that Petitioners claim “should be carefully considered,” is in fact addressed both in the US-APWR DCD and the COLA. Attachment 1 to this Answer, “Comanche Peak COLA Sections and US-APWR DCD Sections That Address Contention 1,” demonstrates this fact by listing each of the items identified by Petitioners and pointing to the *specific sections* of the COLA and the DCD that address those items. As fully documented in Attachment 1, Petitioners have failed to identify any deficiencies in those sections.

For example, Petitioners indicate that “there appear to be problems with the neutron [r]eflectors in a 1/5 scale model of an APWR vessel . . . in terms of flow induced vibration.”¹⁰¹ While Petitioners refer to an article that discusses tests that were performed by the Nuclear Power Engineering Corporation of Japan to validate the CFD code, they ignore the detailed flow-induced vibration analyses that were performed by Mitsubishi Heavy Industries, Ltd. (“MHI”) and are discussed in the DCD. Tier 2, Section 3.9.2, “Dynamic Testing and Analysis of Systems, Components, and Equipment,” of the DCD specifically addresses flow-induced vibration of reactors internals. Based on structural modeling that has been confirmed by MHI’s 1/5 and 1/7 scale model tests, the DCD concludes that flow-induced vibration of “the neutron reflector is no larger than that of the core barrel beam mode and the resulting alternating stresses from both the beam and the shell modes are much lower than the limit for high cycle fatigue.”¹⁰² Nothing in Contention 1 (or in the article Petitioners cite) controverts any of these specific analyses or conclusions.

¹⁰¹ *Id.* at 12.

¹⁰² US-APWR DCD, Tier 2, at 3.9-23; *see also id.* at 1.5-2, 3.9-24 to 3.9-25. In addition, as referenced in the DCD for the US-APWR, Mitsubishi has provided topical reports to the NRC that provide the details of this testing. *See* MHI, MUAP-07022-NP (R0), US-APWR Reactor Vessel Lower Plenum 1/7 Scale Model Flow Test Report (June 2008) (non-proprietary version), *available at* ADAMS Accession No. ML081850533; MUAP-07023-NP, US-APWR Internals 1/5 Scale Model Flow Test Report (Dec. 2007) (non-proprietary version), *available at* ADAMS Accession No. ML080250185. The Petitioners do not cite or discuss either the relevant provisions in the DCD or these publicly available topical reports.

Accordingly, Petitioners have failed to identify specific portions of the application that they dispute and have not provided supporting reasons for such a dispute. Contention 1 is a “textbook” example of an inadmissible contention in which “the Petitioner’s assertion that the application[] [is] deficient is simply based upon a failure to read or perform any meaningful analysis of the application[].”¹⁰³ Therefore, this contention should be dismissed for failing to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

2. Contention 2 – Availability of a High-Level Waste Repository

Contention 2 asserts that the Environmental Report (“ER”) “erroneously assumes that there will be high-level waste/spent nuclear fuel disposal capacity available at a federal site, presumably Yucca Mountain, Nevada” and that, “even if Yucca Mountain is available as a federal repository for spent nuclear fuel and high-level nuclear waste, its capacity would be reached by waste from the current generation of operating reactors.”¹⁰⁴ According to Petitioners, this means that “the spent nuclear fuel and high-level waste generated by Comanche Peak Units 3 and 4 would have to be dispositioned to a subsequent repository that has been neither sited nor authorized.”¹⁰⁵

As demonstrated below, this contention should be dismissed because it challenges the Commission’s Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and it fails to satisfy the requirements for waiver of that regulation as set forth in 10 C.F.R. § 2.335(b).

This contention represents an impermissible challenge to NRC’s Waste Confidence Rule in 10 C.F.R. § 51.23. Section 51.23(a) plainly states:

The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely

¹⁰³ *Millstone*, LBP-04-15, 60 NRC at 95.

¹⁰⁴ Petition at 14.

¹⁰⁵ *Id.*

and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.¹⁰⁶

Thus, the Commission has clearly stated that it has confidence that sufficient repository capacity will be available for waste generated by “*any reactor.*”¹⁰⁷ Moreover, the regulatory history of the Waste Confidence Rule demonstrates an intention to cover new reactors. Specifically, the Commission noted that it believes that, “if the need for an additional repository is established, Congress will provide the needed institutional support and funding, as it has for the first repository.”¹⁰⁸ Furthermore, the Commission found that “[t]he availability of a second repository would permit spent fuel to be shipped offsite well within 30 years after the expiration of these reactors’ [operating licenses]. The same would be true of the spent fuel discharged from any new generation of reactor designs.”¹⁰⁹ The Commission clearly reaffirmed its 1990 findings in a 1999 Status Report on the Waste Confidence Decision.¹¹⁰

¹⁰⁶ 10 C.F.R. § 51.23(a).

¹⁰⁷ *Id.* (emphasis added).

¹⁰⁸ Review and Final Revision of Waste Confidence Decision, 55 Fed. Reg. 38,474, 38,502 (Sept. 18, 1990).

¹⁰⁹ *Id.* at 38,504.

¹¹⁰ See Status Report on the Review of the Waste Confidence Decision, 64 Fed. Reg. 68,005, 68,007 (Dec. 6, 1999) (“These considerations confirm and strengthen the Commission’s 1990 findings and lead the Commission to conclude that no significant and unexpected events have occurred – no major shifts in national policy, no major unexpected institutional developments, no unexpected technical information – that would cast doubt on the Commission’s Waste Confidence findings or warrant a detailed reevaluation at this time.”).

Importantly, the NRC amended the Waste Confidence Rule in 2007 to clarify that the rule encompasses COL applications.¹¹¹ Therefore, in light of the plain language of the rule and its regulatory history, the Waste Confidence Rule applies to this proceeding and this contention is an impermissible challenge to this Rule.

This contention is essentially identical to contentions rejected by Licensing Boards in at least nine other proceedings.¹¹² The rationale of these prior Board decisions is equally applicable here—such contentions impermissibly challenge NRC regulations. Accordingly, this proposed contention should be rejected as an unauthorized attack on the Waste Confidence Rule.¹¹³

Furthermore, Petitioners have not submitted a petition for waiver of the Waste Confidence Rule pursuant to 10 C.F.R. § 2.335(b) with the required supporting affidavit, nor have they addressed the required four-part *Millstone* test for Section 2.335 petitions.¹¹⁴ And even if Petitioners had submitted a waiver request, the Commission has stated unambiguously that “[w]aiver of a Commission rule is simply not appropriate for a generic issue.”¹¹⁵ Accordingly, this issue does not qualify for a waiver.

¹¹¹ Final Rule, Licenses, Certifications, and Approvals for Nuclear Power Plants, 72 Fed. Reg. 49,352, 49,429 (Aug. 28, 2007) (“The NRC is revising §§ 51.23(b) and (c) to indicate that the provisions of these paragraphs also apply to combined licenses.”).

¹¹² See *Calvert Cliffs 3 Nuclear Project, LLC* (Combined License Application for Calvert Cliffs Unit 3), LBP-09-4, 69 NRC ___, slip op. at 58-59 (Mar. 24, 2009); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 & 3), LBP-08-21, 68 NRC ___, slip op. at 39-40 (Oct. 30, 2008); *William States Lee*, LBP-08-17, slip op. at 29-30; *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant Units 3 & 4), LBP-08-16, 68 NRC ___, slip op. at 61-62 (Sept. 12, 2008); *Va. Elec. & Power Co.* (Combined License Application for North Anna Unit 3), LBP-08-15, 68 NRC ___, slip op. at 52-54 (Aug. 15, 2008); *S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 267-68 (2007); *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-04-17, 60 NRC 229, 246-47 (2004); *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 268-70 (2004); *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-04-19, 60 NRC 277, 296-97 (2004).

¹¹³ See 10 C.F.R. § 2.335(a) (absent a waiver, “no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding”).

¹¹⁴ See *Millstone*, CLI-05-24, 62 NRC at 560.

¹¹⁵ *Conn. Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-03-7, 58 NRC 1, 8 (2003) (citing *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-80-16, 11 NRC 674, 675 (1980)).

For the foregoing reasons, this contention impermissibly attacks the Waste Confidence Rule and fails to satisfy the requirements for waiver of that regulation. Therefore, the Board should reject this contention.

3. Contention 3 – Environmental Impacts of Long-Term Spent Fuel Storage

Contention 3 asserts that the COLA should have considered “the environmental consequences and public health impacts from long-term storage of high-level waste and spent fuel on site at Comanche Peak” because “no spent nuclear fuel and high-level radioactive waste repository site is now available and future availability of such site is problematic.”¹¹⁶ As with Contention 2, this contention should be dismissed because it challenges the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and it fails to satisfy the requirements for waiver of that regulation as set forth in 10 C.F.R. § 2.335(b).

This contention, like Contention 2, by its very terms, is an impermissible attack on Section 51.23(a) of the Waste Confidence Rule, which provides that “spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation . . . of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations” and “sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.”

In addition, this contention also attacks Section 51.23(b) of the Waste Confidence Rule, which further states:

¹¹⁶ Petition at 17.

[N]o discussion of any environmental impact of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSI) for the period following the term of the . . . reactor combined license . . . is required in any environmental report, environmental impact statement, environmental assessment, or other analysis prepared in connection with the . . . issuance . . . of a combined license for a nuclear power reactor under part[] 52.¹¹⁷

Accordingly, to the extent that this contention questions the future availability of repository capacity for high-level waste and spent fuel generated at Comanche Peak Units 3 and 4, or the environmental impacts of onsite storage of spent fuel until such a repository becomes available, it directly attacks the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a).

Absent a waiver, “no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or others means in any adjudicatory proceeding.”¹¹⁸ Petitioners have made no attempt to satisfy the requirements for waiver of the Waste Confidence Rule.¹¹⁹ Therefore, the Board should reject this contention because it challenges Commission regulations and fails to satisfy the requirements for waiver.

4. Contention 4 – Environmental Impacts from Yucca Mountain

This contention alleges that ER Section 5.7.1.6 erroneously assumes no significant release of radioactivity to the environment related to management of radioactive waste at Yucca Mountain.¹²⁰ Petitioners contend that the ER is wrong and should be disregarded or resubmitted using dose assessments based on estimates of radiological releases from the U.S. Environmental Protection Agency (“EPA”) and the U.S. Department of Energy (“DOE”).¹²¹

¹¹⁷ 10 C.F.R. § 51.23(b).

¹¹⁸ *Id.* § 2.335(a).

¹¹⁹ *See id.* § 2.335(b).

¹²⁰ Petition at 19.

¹²¹ *Id.* at 19-20.

As demonstrated below, this contention should be dismissed because it (1) presents an attack on the adequacy of NRC's rule at 10 C.F.R. § 51.51(b), Table S-3, which is precluded under 10 C.F.R. § 2.335(a); (2) is not adequately supported, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

First, Petitioners' attack on ER Section 5.7.1.6, "Radioactive Wastes," represents a frontal challenge to 10 C.F.R. § 51.51. That regulation requires that the ER "take Table S-3 . . . as the basis for evaluating the contribution of the environmental effects of . . . management of . . . high level wastes related to uranium fuel cycle activities."¹²² In accordance with this requirement, ER Section 5.7.1.6 references Table 5.7-2, which repeats Table S-3 as the reference reactor data, and after applying a scaling factor, provides the plant-specific data for Comanche Peak Units 3 and 4. Based on those values, the ER concludes that the environmental impacts of radioactive waste disposal are SMALL.

Petitioners assert that NRC's prescribed method of dose assessment is inappropriate because EPA and DOE sources assume some unspecified releases from Yucca Mountain. In essence, Contention 4 focuses not on the ER, but rather on the radiological effluent releases in NRC's Table S-3, upon which the ER is required to rely.¹²³ As such it presents a challenge to this regulation, contrary to 10 C.F.R. § 2.335(a).

¹²² 10 C.F.R. § 51.51(a).

¹²³ Table S-3 contains no specific entry for post-closure radiological releases from the high-level waste repository. However, as indicated in Note 1 to Table S-3, "[i]n some cases where no entry appears it is clear from the background documents that the matter was addressed and that, in effect, the Table, should be read as if a specific zero entry had been made." Table S-3 background documents assume "that after the repository is sealed there would be no further release of radioactive materials to the environment." Final Rule, Licensing and Regulatory Policy and Procedures for Environmental Protection; Uranium Fuel Cycle Impacts from Spent Fuel Reprocessing and Radioactive Waste Management, 44 Fed. Reg. 45,362, 45,368 (Aug. 2, 1979). The Commission found that "taking post-sealing releases as zero does not significantly reduce the overall conservatism of the table" because Table S-3 also assumes complete release of all gaseous and volatile radionuclides during the handling and emplacement of the waste prior to the sealing of the repository. *See id.*

Second, the contention should be rejected because Petitioners fail to provide adequate support for their allegations. In a passing reference to a Nuclear Waste Technical Review Board (“NWTRB”), Repository Panel meeting in 1999, Petitioners assert that DOE “recognizes” significant releases of radioactivity from Yucca Mountain.¹²⁴ Petitioners say nothing about how, where, or in what manner the 300 page meeting transcript evidences DOE’s “recognition,” much less undermines the Commission’s conclusion in Table S-3.¹²⁵ A presentation given at that meeting matching the contention’s citation discusses approaches to selection of measures for defense-in-depth in the design of Yucca Mountain.¹²⁶ As such, it presents an approach to assess the relative contribution of different engineered barriers, and provides—as examples—dose estimates over time *assuming* individual barriers were removed. Significantly, nowhere does this presentation purport to represent the DOE’s assessment of the size or likelihood of releases from Yucca Mountain.

Petitioners also assert that EPA’s rulemaking, establishing the performance criteria for Yucca Mountain, is “premised on an assumption that there will be a significant release of radiation.”¹²⁷ This bare assertion is unsupported. In fact, Petitioners’ discussion proves exactly the opposite; they point out that the performance standard establishes a very low dose limit for the first 10,000 years (15 mrem/year) and another low dose limit (100 mrem/year) in the subsequent period. Nowhere do Petitioners point to supporting information indicating either the

at 45,368-69. In *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87 (1983), the U.S. Supreme Court held that the NRC’s use of the zero-release assumption in Table S-3 complied with NEPA.

¹²⁴ See Presentation by Dennis C. Richardson, DOE, Office of Civilian Radioactive Waste Management, NWTRB Repository Panel Meeting Postclosure Defense in Depth in the Design Selection Process (Jan. 25, 1999), available at <http://www.nwtrb.gov/meetings/1999/jan/richardson.pdf> (“Richardson Presentation”).

¹²⁵ See Transcript of NWTRB Repository Panel Meeting (Jan. 25, 1999) available at <http://www.nwtrb.gov/meetings/1999/jan/99jan25.pdf>.

¹²⁶ Richardson Presentation at 2.

¹²⁷ Petition at 20.

size or likelihood of release from Yucca Mountain. Furthermore, the EPA dose limits apply to all of the waste to be stored in Yucca Mountain. The Petitioners appear to be assuming that the entire amount of radioactive releases from Yucca Mountain will be attributable to the waste from Comanche Peak Units 3 and 4, ignoring the fact that the waste contributed by any single reactor will constitute only a small portion of the total waste to be stored at Yucca Mountain.

Finally, Petitioners fail to establish any genuine material issue of law or fact. Petitioners do not assert that the environmental impacts of radioactive waste disposal would be anything other than SMALL. Rather, they simply assert that the ER is wrong and should be disregarded. Petitioners do not contend—much less demonstrate—that an assessment based upon EPA dose limits would produce an assessment of the impacts that is materially different from that in the ER, or that the impact of such releases would be anything other than SMALL.

As discussed above, the contention presents an impermissible challenge to the Commission’s rule on environmental impacts of the uranium fuel cycle, it relies on only vague references to documents unrelated to the subject of the contention, and does not even suggest that a different analysis would have a material effect on ER’s conclusion that the environmental impacts of spent fuel disposal from Comanche Peak are SMALL. Accordingly, for each these reasons, the contention should be rejected.

5. Contention 5 – Environmental Impacts from Transportation and Offsite Disposal of Radioactive Waste

Petitioners assert that the discussion of the impacts of the uranium fuel cycle in Section 5.7 of the ER incorrectly states that there will be no significant radioactive releases due to offsite disposal of radioactive waste streams. The Petitioners assert that the ER “should fully

consider” the environmental consequences of major releases of radioactive material from onsite processing, transportation accidents, offsite processing, and long term releases.¹²⁸

As demonstrated below, this contention should be dismissed because (1) it presents an attack on the adequacy of NRC’s regulation in 10 C.F.R. § 51.51, which is precluded under 10 C.F.R. § 2.335(a); (2) the contention is not adequately supported, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) the contention fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

First, like their similar claims in Contention 4, Petitioners’ allegations regarding radioactive waste disposal, as discussed in ER Section 5.7 on the uranium fuel cycle effects, constitutes a collateral attack on NRC’s regulation for environmental reports in 10 C.F.R. § 51.51(a). The Commission has considered generically the environmental impacts of radioactive waste disposal as part of its evaluation of the uranium fuel cycle. This regulation requires that the ER use Table S-3 on the uranium fuel cycle. ER Section 5.7.1.6 references Table 5.7-2, which repeats Table S-3 as the reference reactor data, and after applying a scaling factor, provides the plant-specific data for Comanche Peak Units 3 and 4. Based on application of Table S-3, the ER concludes that the environmental impacts of radioactive waste disposal are SMALL.¹²⁹ As such, the contention presents a challenge to the rules and is prohibited under 10 C.F.R. § 2.335(a). As the Commission recently repeated, “[a]bsent a waiver, parties are prohibited from collaterally attacking our regulations in an adjudication.”¹³⁰ Petitioners have

¹²⁸ Petition at 20-21.

¹²⁹ COLA, Part 3, Environmental Report, Rev. 0, at 3.8-8, 5.7-9, 7.4-3 (“ER”).

¹³⁰ *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant, Units 3 & 4), CLI 09-3, 69 NRC ___, slip op at 9 (Feb. 17, 2009) (citing 10 C.F.R. § 2.335).

neither requested such a waiver, nor addressed the criteria upon which a waiver request could be based. Accordingly, the contention should be rejected.¹³¹

Second, the contention should be rejected because Petitioners fail to provide support, as required by 10 C.F.R. § 2.309(f)(1)(v), for any alternative consideration of the issues associated with radioactive wastes. The contention asserts that these issues “should” be addressed, but fails to say why, how, or in what manner the ER’s analysis is flawed. Further, the contention lacks reference to any document, information, or authority explaining how the ER’s analysis is lacking.

Finally, Petitioners fail to establish any genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Petitioners do not dispute that the environmental impacts of radioactive waste disposal or waste transportation are SMALL. Rather, they simply assert that some unspecified assumption in ER should not be used. Importantly, Petitioners do not contend that an assessment using other assumptions or methodologies would produce conclusions that are materially different from those in the ER.

As discussed above, the contention presents an impermissible challenge to the Commission’s rules, it offers no support whatsoever for its allegations, and does not even suggest that a different analysis would have a material effect on ER’s conclusions that the impacts of waste disposal and transportation are SMALL. Accordingly, for each of these reasons, the contention should be rejected.

¹³¹ See 10 C.F.R. § 2.335(c). To the extent that this contention raises issues related to transportation accidents, these issues are not covered by Table S-3. Because Comanche Peak Units 3 and 4 do not meet all of the conditions in 10 C.F.R. § 51.52(a), the ER contains a full description and detailed analysis of the environmental effects of waste transportation, including an analysis of transportation accidents. See ER Sections 3.8, 5.7.2, and 7.4. Petitioners fail to controvert any aspect of these analyses, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

6. Contention 6 – Environmental Impacts of Long-Term Spent Fuel Storage by Governmental Entities

Contention 6 asserts that this COL proceeding “should consider the public health impacts and environmental consequences of requiring governmental units to become the custodian of high-level waste and spent nuclear fuel at the Comanche Peak site after the operating license has lapsed.”¹³² Petitioners claim that a federal repository will not be available for spent fuel management and thus, the COLA should have considered the impacts of the State of Texas or the U.S. government “becoming the *de facto* custodians” of such spent fuel and high-level waste “for the indefinite future.”¹³³

As demonstrated below, this contention should be dismissed because it challenges the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and it fails to satisfy the requirements for waiver of a regulation as set forth in 10 C.F.R. § 2.335(b).

As noted in Luminant’s response to Contentions 2 and 3, the Commission’s Waste Confidence Rule in 10 C.F.R. § 51.23(a) specifically states that “spent fuel generated in *any reactor* can be stored safely and *without significant environmental impacts* for at least 30 years beyond the licensed life for operation . . . of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations” and that “the Commission believes there is reasonable assurance that . . . sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.”¹³⁴

Furthermore, based on this generic finding, 10 C.F.R. § 51.23(b) further states:

¹³² Petition at 21.

¹³³ *Id.*

¹³⁴ 10 C.F.R. § 51.23(a) (emphasis added).

[N]o discussion of *any environmental impact* of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSI) for the period following the term of the . . . reactor combined license . . . is required in any environmental report, environmental impact statement, environmental assessment, or other analysis prepared in connection with the . . . issuance . . . of a combined license for a nuclear power reactor under parts 52.¹³⁵

Here, Petitioners impermissibly challenge both of these aspects of the Waste Confidence Rule, by questioning (1) whether a federal repository will be available for high-level waste and spent fuel generated at Comanche Peak Units 3 and 4; and (2) the environmental impacts of onsite spent fuel storage. It is well established that, absent a waiver, “no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding.”¹³⁶ Thus, like Contentions 2 and 3, this contention is an impermissible challenge to the Waste Confidence Rule and Petitioners have not attempted to satisfy the requirements for waiver set forth in 10 C.F.R. § 2.335(b).

For the foregoing reasons, this contention impermissibly challenges the Waste Confidence Rule and fails to satisfy the requirements for waiver of that regulation, contrary to 10 C.F.R § 2.335(a) and (b). Therefore, the Board should reject this contention.

7. Contention 7 – Explosions and Fires

Contention 7 states that the COLA (and, in particular, the ER and the US-APWR DCD) is incomplete because it fails to address 10 C.F.R. § 52.80(d).¹³⁷ That section requires a description and plans for implementation of the guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under circumstances

¹³⁵ *Id.* § 51.23(b) (emphasis added).

¹³⁶ 10 C.F.R. § 2.335(a).

¹³⁷ Petition at 22-26.

associated with the loss of large areas of the plant due to explosions or fire as required by 10 C.F.R. § 50.54(hh)(2). For the reasons discussed below, this contention should be rejected.

First, 10 C.F.R. §§ 52.80(d) and 50.54(hh)(2) are not yet effective, and are not yet a requirement for COL applicants. Those sections were published in the *Federal Register* on March 27, 2009.¹³⁸ By the terms of that *Federal Register* notice, the rule is not effective until May 26, 2009.¹³⁹ Therefore, there is no basis for contending that the Comanche Peak COLA is defective for allegedly failing to address Sections 52.80(d) and 50.54(hh)(2), when those regulations have not been in effect and the COLA has not been required to address them.

Second, there is no genuine dispute that the COLA for Comanche Peak does not currently address the operational and programmatic aspects of 10 C.F.R. § 50.54(hh)(2), and therefore this contention should be dismissed pursuant to 10 C.F.R. 2.309(f)(1)(vi). After the rule becomes effective on May 26, 2009, Luminant will be required to revise its application to address the operational and programmatic aspects of the rule. At that time, the Petitioners will have an opportunity to submit a new contention challenging the sufficiency of that revision.

In this regard, Luminant is planning to augment its COLA with information to address the programmatic and operational aspects of 10 C.F.R. § 50.54(hh)(2). As provided in its letter dated April 24, 2009, Luminant will make such a filing with the NRC “by May 26, 2009 or soon thereafter.”¹⁴⁰ Assuming that the Licensing Board does not rule on Contention 7 prior to that date, Luminant will provide the Board and the parties with a copy of that filing (to the extent that

¹³⁸ Final Rule, Power Reactor Security Requirements, 74 Fed. Reg. 13,926 (Mar. 27, 2009).

¹³⁹ *Id.*

¹⁴⁰ Letter from Rafael Flores, Luminant, to NRC Document Control Center (Apr. 24, 2009), *available at* ADAMS Accession No. ML091190258. A copy of this letter was also provided to the Secretary of the Commission and the parties on April 30, 2009. *See* Letter from Steven P. Frantz, Counsel for Luminant, to NRC Office of the Secretary (Apr. 30, 2009).

it does not contain safeguards information or sensitive unclassified non-safeguards information). This filing will render the contention moot.¹⁴¹

Third, large portions of Contention 7 attack the contents of the DCD for the US-APWR.¹⁴² As explained in the statement of considerations for the new rule, the provisions in Section 50.54(hh)(2)¹⁴³ are similar to those that were previously imposed under section B.5.b of the Commission's February 25, 2002, Interim Compensatory Measures ("ICM") order on existing nuclear plants.¹⁴⁴ In anticipation that measures similar to the ICM order would be imposed on new nuclear plants, the design certification applicant for the US-APWR has submitted a report that identifies design features that help to minimize the operational burden necessary to meet the requirements in the ICM order and Section 50.54(hh)(2). That report entitled "Mitigative Measures Evaluation for the US-APWR," was filed on the docket of the design certification application for the US-APWR on November 14, 2008.¹⁴⁵ Furthermore,

¹⁴¹ *USEC Inc. (American Centrifuge Plant)*, CLI-06-9, 63 NRC 433, 444 (2006) (quoting *Duke Energy Corp. (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2)*, CLI-02-28, 56 NRC 373, 383 (2002)) ("where a contention alleges the omission of particular information or an issue from an application, and the information is later supplied by the applicant . . . the contention 'is moot.'").

¹⁴² Petition at 24, 26.

¹⁴³ Section 50.54(hh)(2) states as follows:

Each licensee shall develop and implement guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with loss of large areas of the plant due to explosions or fire, to include strategies in the following areas:

- (i) Fire fighting;
- (ii) Operations to mitigate fuel damage; and
- (iii) Actions to minimize radiological release.

¹⁴⁴ Final Rule, Power Reactor Security Requirements, 74 Fed. Reg. at 13,928.

¹⁴⁵ See Letter from Yoshiki Ogata, Mitsubishi Heavy Industries, Ltd., to NRC Document Control Desk (Nov. 14, 2008), available at ADAMS Accession No. ML091100585 (cover letter only). The Mitigative Measures Evaluation is not on NRC ADAMS, because it contains Security-Related Information that has been withheld under 10 C.F.R. § 2.390. Although the Evaluation focuses on design provisions and does not address the operational and programmatic provisions that are the responsibility of the COL applicant, the US-APWR design enhancements discussed in the Mitigation Measures Evaluation "are intended to help reduce the operational burden of addressing a B.5.b event." *Id.* at 1.

Luminant has incorporated by reference that report as part of its COLA.¹⁴⁶ Therefore, Contention 7 should be rejected to the extent that it pertains to design issues, because the US-APWR design certification application (and, by reference, the COLA), in fact, contain design-related information to help address Section 50.54(hh)(2). As other Licensing Boards have ruled, if a petitioner submits a contention of omission, but the allegedly missing information is indeed in the application, then the contention does not raise a genuine dispute of fact and can be dismissed.¹⁴⁷

Fourth, Petitioners contend that the ER for Comanche Peak and the Probabilistic Risk Assessment (“PRA”) for US-APWR DCD should have contained the analysis specified in Section 50.44(hh)(2).¹⁴⁸ Such a contention is legally without any basis. The revision to 10 C.F.R. § 52.80 states that the COL “application” must contain a description of the information required by Section 50.44(hh)(2). There is no requirement that such a description be included in either the ER or the PRA. Furthermore, inclusion of such information in the ER would be inappropriate given that the Section 50.44(hh)(2) pertains to the safety and not the environmental analysis, and inclusion of such information in the PRA would be inappropriate since Section

¹⁴⁶ See Letter from Rafael Flores, Luminant, to NRC Document Control Center (Apr. 24, 2009), available at ADAMS Accession No. ML091190258. A copy of this letter was also provided to the Secretary of the Commission and the parties on April 30, 2009. See Letter from Steven P. Frantz, Counsel for Luminant, to NRC Office of the Secretary (Apr. 30, 2009).

¹⁴⁷ See, e.g., *Bellefonte*, LBP-08-16, slip op. at 29, 64-65; *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 247-48 (1993), review declined, CLI-94-2, 39 NRC 91 (1994). Furthermore, to the extent that this contention pertains to the US-APWR design certification application, it is not litigable in this proceeding. As provided in the Commission’s Policy Statement, matters within the scope of a design certification application referenced by a COLA are not to be litigated in the COL proceeding. New Reactor Policy Statement, 73 Fed. Reg. at 20,972. Therefore, even if this contention were “otherwise admissible,” the Board should not admit this aspect of the contention, but instead, should hold this claim in abeyance, subject to denial upon completion of the US-APWR design certification. As demonstrated above, Contention 7 is not “otherwise admissible” for numerous reasons and should be denied.

¹⁴⁸ Petition at 23-24.

50.44(hh)(2) requires that a licensee deterministically postulate the loss of a large area of the plant due to explosions or fires.

Finally, the contention includes a number of allegations related to fires and temperatures in compartments, capabilities to extinguish fires, the capabilities of local fire departments, and fires spreading between units.¹⁴⁹ However, the Petitioners have not provided any references or expert support for any of those allegations. Therefore, such allegations do not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v).

For all of the above reasons, Contention 7 is defective and should be dismissed.

8. Contention 8 – Radioactive Sediment in Squaw Creek Reservoir

Contention 8 alleges that “[t]he COLA is inadequate because it fails to fully analyze the radiological hazards that will occur from operation of the Comanche Peak nuclear plants based on discharge of water that contains radioactive particulates and tritium to Squaw Creek Reservoir” (“SCR”).¹⁵⁰ Petitioners allege that the “SCR is and will continue to be an unlicensed radioactive waste disposal facility” for Comanche Peak operations, and that “there is no plan to do anything to remove or remediate the radioactive contamination that is systematically being placed in the SCR.”¹⁵¹ Finally, Petitioners assert that Luminant must consider the potential environmental and public health consequences resulting from the postulated (1) failure of the SCR dam and washing of radioactive sediment downstream; (2) “dewatering” of the SCR due to protracted drought and blowing of radioactive sediment offsite; and (3) migration of radionuclides from the SCR to groundwater.¹⁵²

¹⁴⁹ *Id.* at 24-26.

¹⁵⁰ *Id.* at 26.

¹⁵¹ *Id.* at 27.

¹⁵² *Id.* at 27-28.

As demonstrated below, this contention should be dismissed because Petitioners' speculative and hyperbolic allegations regarding the "radiological hazards" of the SCR lack adequate factual, documentary, and expert support, and fail to establish the existence of a genuine dispute on a material law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

a. Luminant Has Not Proposed to Use the SCR as a "Radioactive Waste Dump" and There Is No Basis for Petitioners' Claim that the SCR Sediment Contains Radioactivity from Operation of Comanche Peak

The linchpin of Contention 8 is Petitioners' erroneous assertion that the SCR is an "unlicensed radioactive waste dump," and that the Comanche Peak ER "candidly admits that the SCR is a radiological problem that has no solution."¹⁵³ These claims are factually and legally without basis.

Petitioners' claim that the ER "admits" the SCR is a "radiological problem with no solution" is factually without basis and misstates the applicable provisions in the ER. As discussed in detail below, the ER demonstrates that liquid radioactive effluents from Comanche Peak will comply with NRC regulations; that the results of monitoring programs show no problem with radionuclides in either the water or sediments in SCR; and that monitoring of SCR in the future will continue to ensure compliance with applicable regulatory requirements.

As discussed in ER Section 3.5.1, the liquid waste management system ("LWMS") for Comanche Peak Units 3 and 4 is designed to ensure that potentially radioactive liquids are not discharged to the environment *unless* they have first been permitted, monitored, and confirmed to be within acceptable limits.¹⁵⁴ The Offsite Calculation Dose Manual ("ODCM"), in particular, controls the release of liquid radioactive effluents from Comanche Peak. It also specifies the

¹⁵³ *Id.* at 26, 28.

¹⁵⁴ ER at 3.5-1 to 3.5-3.

radiological environmental monitoring activities that Luminant must perform as part of its NRC-required Radiological Environmental Monitoring Program (“REMP”).

As stated in ER Section 6.2, the REMP requires that Luminant perform routine monitoring and compare any potential radiological impacts to applicable standards, including the dose design objectives in Appendix I to 10 C.F.R. Part 50 and the dose limits in 10 C.F.R. Part 20.¹⁵⁵ The REMP requires routine monitoring of tritium levels in the SCR and other water bodies near the plant.¹⁵⁶ The Comanche Peak ODCM and REMP will apply to effluent releases from proposed Units 3 and 4.¹⁵⁷ Petitioners’ claim that there is no “plan for regular monitoring of SCR” ignores the pertinent ER discussion and thus lacks a factual basis.

Petitioners also ignore ER Subsection 6.2.5, which summarizes the results of pre-operational and operational radiological monitoring at Comanche Peak over the last 25 years. As stated therein, to the extent that tritium has been detected in the SCR, it is well below applicable regulatory limits.¹⁵⁸ Moreover, radionuclide particulate matter that is released into the SCR via liquid effluents, as permitted by NRC regulations, has not been detected in SCR sediments.¹⁵⁹ The 2007 Annual Radiological Environmental Operating Report for Comanche Peak confirms this fact. Section II.G. of that document states that, consistent with previous pre-operational and

¹⁵⁵ See *id.* at 6.2-1 to 6.2-4. Radiological releases, doses to members of the public, and the associated environmental impacts are summarized annually in two reports: (1) the Annual Radioactive Effluent Release Report and (2) Annual Radiological Environmental Operating Report.

¹⁵⁶ ER at 6.2-4; ER Table 6.2-3, “REMP Sampling Stations for Surface/Surface Drinking Water.”

¹⁵⁷ See *id.* at 6.2-1 (“The REMP is required for continued operation of CPNPP Units 1 and 2 and supports the construction and operation of CPNPP Units 3 and 4.”); *id.* at 6.2-2 (“The new reactor units and a new radioactive waste storage facility are located within the site boundaries and their locations would be adequately covered by the existing REMP locations.”).

¹⁵⁸ *Id.* at 6.2-4.

¹⁵⁹ *Id.*

operational radiological monitoring program results, “there were no results in any sediment sample that indicated any direct influence from CPNPP discharges to the local environment.”¹⁶⁰

Petitioners’ claim that the addition of Units 3 and 4 will cause Comanche Peak to exceed applicable tritium limits is based on a misreading of the Final Safety Analysis Report (“FSAR”). Specifically, FSAR Section 11.2.3.1 discusses the manner in which Luminant addresses the postulated “maximum tritium generation condition” (*i.e.*, all four units operating at full power), to ensure that the NRC-approved tritium concentration limit for the SCR (30,000 pCi/L) is *not* exceeded.¹⁶¹ As explained in Section 11.2.3.1, to prevent the potential accumulation of tritium in the SCR under this scenario (while also maintaining a 20-percent margin below the ODCM limit), Luminant would divert half of the liquid effluent into a new evaporation pond. In the absence of sufficient dilution flow, Luminant would store the effluent in the waste holdup tanks and waste monitor tanks, which have enough capacity to store more than a month’s worth of the daily liquid radioactive effluent waste from Comanche Peak operations.¹⁶² Thus, FSAR Section 11.2.3.1 describes “a *precaution* to prevent the buildup of tritium concentration in SCR.”¹⁶³ It does *not* indicate that the tritium limit for the SCR will be exceeded, as Petitioners incorrectly claim.

Finally, as a matter of law, Petitioners are incorrect in claiming that “[d]ischarging radioactive particulate into SCR hardly meets the definition of ‘disposal’ under 42 USC 2021b

¹⁶⁰ See Luminant Comanche Peak Nuclear Power Plant – Annual Radiological Environmental Operating Report for 2007 at 33 (Apr. 23, 2007), available at ADAMS Accession No. ML081220927.

¹⁶¹ FSAR at 11.2-2. The 30,000 pCi/L tritium concentration for the SCR is a condition of operation and subject to routine monitoring. Any exceedance would be reported to the NRC and require appropriate corrective action. See 10 C.F.R. Part 50, App. I, Sec. IV.A.

¹⁶² FSAR at 11.2-3.

¹⁶³ ER at 6.2-2 (emphasis added).

that requires ‘permanent isolation’ of radioactive materials.”¹⁶⁴ Section 2 of the Low Level Radioactive Waste Policy Act, 42 U.S.C. § 2021b, defines “disposal” as the “permanent isolation of low-level radioactive waste pursuant to the requirements established by the Nuclear Regulatory Commission.” In turn, 10 C.F.R. § 61.2 defines disposal as the “isolation of radioactive wastes from the biosphere inhabited by man and containing his food chains by emplacement in a land disposal facility.” Radioactive discharges into the air and water do not constitute “disposal” as defined by statute or NRC regulations, and such discharges do not need a license under Part 61 for a waste disposal facility. As the Commission recently ruled in a slightly different context in the *Bellefonte* COL proceeding, “Part 61 is inapplicable here because it applies only to land disposal facilities that *receive* waste from others, not to onsite facilities such as Bellefonte’s where the licensee intends to *store* its own low-level radioactive waste.”¹⁶⁵ Thus, Luminant does not need to seek a license (other than a COL) to discharge radioactive effluents to SCR.

In short, contrary to the entire premise of Contention 8, there is no appreciable radioactivity in the water or sediment of the SCR due to the operation of Comanche Peak Units 1 and 2. NRC-required effluent controls and routine radiological monitoring ensure that proposed Units 3 and 4 will not cause the accumulation of appreciable radioactivity in SCR water and sediment. Petitioners have taken statements from the COLA out-of-context to allege incorrectly that the SCR sediment contains, or will contain, excessive radioactivity. Since the premise of Contention 8 is without any factual or legal basis, it should be rejected.

¹⁶⁴ Petition at 26, 28.

¹⁶⁵ *Bellefonte*, CLI-09-3, slip op. at 5-6 (emphasis in the original).

b. Petitioners' Claims Regarding Squaw Creek Dam Failure, Dewatering of the SCR, and SCR-Related Groundwater Contamination Are Irrelevant and Lack Any Factual, Documentary, or Expert Support

Contention 8 should be rejected for the foregoing reasons alone. As shown above, there is no factual or technical underpinning for the contention's central premise (*i.e.*, that Comanche Peak has released, or will release, unacceptable quantities of "radioactive particulates and tritium" into the SCR). As such, Petitioners' subsidiary claims regarding failure of the Squaw Creek Dam, dewatering of the SCR, and migration of radionuclides from the SCR to groundwater are not material. In any event, those claims lack any factual or technical support.

First, Petitioners offer no facts, documents, or expert opinion to support their claim that the Squaw Creek Dam is not "structurally reliable" or may fail during the licensed operating life of any Comanche Peak unit.¹⁶⁶

Second, Petitioners provide no support for their claim that Luminant must evaluate potential airborne transport of radioactive particulates caused by dewatering of the SCR. Petitioners again hypothesize, without any supporting information or analysis, that the SCR may become a "dry lakebed" due to protracted drought conditions and the effects of global warming.¹⁶⁷

Finally, Petitioners provide no basis for the claim that "the COLA fails to analyze the potential for radioactive groundwater contamination."¹⁶⁸ The ER and FSAR provide detailed information on regional, local, and site hydrogeological conditions, including the results of a

¹⁶⁶ Operation and maintenance of Squaw Creek Dam is subject to Texas Commission on Environmental Quality oversight. Title 30, Chapter 299 of the Texas Administrative Code and the associated guidelines referenced therein ensure that the Squaw Creek Dam meets all TCEQ requirements. Those requirements include, but are not limited to, monthly inspections, preventive maintenance, and third-party inspection of the dam.

¹⁶⁷ Petition at 28.

¹⁶⁸ *Id.*

recent, detailed hydrological investigation conducted for Comanche Peak Units 3 and 4.¹⁶⁹ Additionally, in late 2005, Luminant initiated a groundwater monitoring program to monitor potential radionuclide releases in the immediate vicinity of Comanche Peak Units 1 and 2.¹⁷⁰ That program includes analysis of groundwater samples for the possible presence of gamma-emitting radionuclides and tritium.¹⁷¹ Results to date indicate that all parameters are reported below detection limits or below minimum detected activity levels.¹⁷²

Petitioners, including George Rice whom Petitioners use as support, ignore this substantial, relevant information in the ER and FSAR, and fail to provide any credible factual information or analysis of their own. In his scant 2-page statement, Mr. Rice merely states that he has had insufficient time to “assess the potential for groundwater contamination at the Comanche Peak Nuclear Power Plant.”¹⁷³ Nevertheless, he speculates that “if” released from the plant or associated facilities, radionuclides “may” contaminate the local groundwater system and any lakes and streams to which groundwater discharges.¹⁷⁴ But Mr. Rice provides no “reasoned basis or explanation” to support the notion that Comanche Peak will release unacceptable quantities of radionuclides into the SCR, and that such radionuclides “may” migrate to

¹⁶⁹ See ER Sections 2.3.1.5, 2.3.2.3, 5.2.3.5; FSAR Section 2.4.

¹⁷⁰ ER at 2.3-56.

¹⁷¹ *Id.*

¹⁷² *Id.*

¹⁷³ George Rice, “Potential for Groundwater Contamination at the Comanche Peak Nuclear Power Plant” at 1 (“Rice Report”).

¹⁷⁴ *Id.*

groundwater.¹⁷⁵ Indeed, he fails to address any of the extensive hydrogeologic data and analyses contained in the COLA, including the radionuclide transport analyses in FSAR Section 2.4.¹⁷⁶

In summary, the Petitioners have offered no support for their speculation that SCR dam could fail, that SCR could dry up, or that groundwater beneath SCR may become contaminated. Accordingly, these allegations in Contention 8 should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v).

c. Contention 8 Does Not Raise a Material Dispute

Even if Petitioners' factual allegations were assumed to be accurate (*i.e.*, that there is radioactivity in the SCR sediment that could be released to the public through a break in the SCR dam or wind-blow sediment from a dry SCR), Contention 8 still would not raise a genuine dispute of material fact.

Petitioners provide no basis for believing that either wind-blown or water-borne sediment would pose a significant environmental impact that needs to be discussed in the ER. To the contrary, as discussed in ER Section 3.5.1.3, the concentrations of radionuclides in liquid effluents will comply with the Commission's regulations in 10 C.F.R. Part 20, Appendix B, Table 2, and Petitioners have not contested that analysis. Furthermore, ER Table 5.10-1 states that the impacts of liquid radiological effluents will be SMALL.

Given that the effluents will comply with regulatory requirements, there is no material dispute that the impacts of those effluents will be SMALL. The ER adopts the NRC definition of SMALL found in 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1, which states that, "[f]or the purposes of assessing radiological impacts, the Commission has concluded that those impacts

¹⁷⁵ See USEC, CLI-06-10, 63 NRC at 472.

¹⁷⁶ Furthermore, while Mr. Rice cites a 2004 study that he reportedly prepared concerning groundwater transport of contaminants from the Lawrence Livermore National Laboratory in New Mexico to the Rio Grande River, he fails to explain the relevance (if any) of that study to Comanche Peak.

that do not exceed permissible levels in the Commission's regulations are considered small."¹⁷⁷

Thus, because there is no dispute that the liquid radioactive effluents will comply with NRC regulations, the environmental impacts of such effluents will be SMALL by definition.

Therefore, Contention 8 does not raise a genuine material dispute, and should be rejected for failure to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(vi).

9. Contention 9 – Use of LADTAP II Computer Program

Contention 9 asserts that “[t]he Applicant’s calculations of radiation doses to the general public as a result of consuming radioactively contaminated fish and invertebrates are incorrect.”¹⁷⁸ In particular, Petitioners allege that the estimated doses presented in ER Table 5.4-8, “Estimated Maximum Dose from Liquid Effluents,” are “unreliable” because they were calculated using the LADTAP II model.¹⁷⁹ They claim that LADTAP II is “obsolete” and “grossly underestimates the actual maximum individual does [sic] from liquid effluents,” which Petitioners aver “would be significantly higher.”¹⁸⁰ As redress, Petitioners request that the estimated doses shown in Table 5.4-8 “be either disregarded in this adjudication or withdrawn by the Applicant and amended using LADTAP XL as the analytical tool to determine individual doses from liquid effluents.”¹⁸¹

In support of Contention 9, Petitioners recite the declaration of Dr. Arjun Makhijani.¹⁸² Dr. Makhijani states that an unidentified “comparison study” of the results of the LADTAP II model with an “updated” version, LADTAP XL for the Savannah River Site (“SRS”), shows that

¹⁷⁷ See 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1, n.3; ER Section 5.0.

¹⁷⁸ Petition at 29.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

¹⁸² *Id.* (citing LADTAP II Model Declaration of Dr. Arjun Makhijani (“Makhijani LADTAP Declaration”).)

LADTAP II underestimates doses from commercial fish and saltwater invertebrates by almost eight times and over 700 times, respectively.¹⁸³ According to Dr. Makhijani, this study shows that “the systematic underestimation of doses is inherent in the [LADTAP II] model.”¹⁸⁴ Dr. Makhijani further criticizes the LADTAP model for using dose conversion factors that apply to adults instead of children.¹⁸⁵

Contention 9 should be rejected because it does not meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1). The contention lacks adequate factual or technical support and fails to establish a genuine *material* dispute, contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

a. Contention 9 Lacks Adequate Factual, Technical, or Expert Support

Section 5.4.1.1 of the ER presents detailed information concerning the specific liquid pathways evaluated by Luminant and the associated liquid operating pathway parameters used in the dose calculations.¹⁸⁶ As the ER explains, the LADTAP II computer program, as described in NUREG/CR-4013,¹⁸⁷ and the liquid pathway parameters presented in Table 5.4-1 and Table 5.4-2, were used to calculate the maximally exposed individual and population doses from the liquid effluent pathway.¹⁸⁸ The LADTAP II program implements the radiological exposure models described in Regulatory Guide (“RG”) 1.109, Revision 1,¹⁸⁹ for radioactivity releases in liquid

¹⁸³ Makhijani LADTAP Declaration; *see also* Petition at 29.

¹⁸⁴ Petition at 29.

¹⁸⁵ *Id.*

¹⁸⁶ *See* ER at 5.4-1 to 5.4-5; ER Tables 5.4-1 & 5.4-2. As stated in the ER, maximum dose rate estimates to the public due to liquid effluent releases were determined for the following pathways: eating fish or invertebrates; using the shoreline for activities, such as sunbathing or fishing; swimming and boating; ingestion of contaminated drinking water; and consumption of food produced with contaminated water. ER at 5.4-7.

¹⁸⁷ NUREG/CR-4013, “LADTAP II: Technical Reference and User Guide” (Apr. 1986).

¹⁸⁸ ER at 5.4-5.

¹⁸⁹ Regulatory Guide 1.109, Rev. 1, “Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I” (Oct. 1977).

effluent. Furthermore, LADTAP II has been explicitly approved in Regulatory Guide 1.206 for use in COL applications for calculating doses from liquid effluents.¹⁹⁰ Although compliance with the staff's guidance documents is not dispositive, the Commission has stated that "it is entitled to special weight."¹⁹¹ As discussed below, the Petitioners have not provided sufficient information to cast doubt on the use LADTAP II for Comanche Peak.

As the ER explains, the LADTAP II computer program was developed and approved by the NRC for the specific purpose at issue here (*i.e.*, to estimate radiation doses to individuals, population groups, and biota from radionuclide releases as liquid effluents from light-water nuclear reactors during routine operation).¹⁹² Petitioners' criticism of LADTAP II rests solely on the *unexplained* results of an *unidentified* study comparing use of LADTAP II with LADTAP XL at the SRS. To the extent Luminant can discern, Petitioners and their declarant allude to a November 1991 study prepared by Westinghouse Savannah River Company.¹⁹³ As explained in that study, LADTAP XL is an electronic spreadsheet that was developed to estimate the maximum individual and population dose from chronic liquid releases occurring over a 40 year period at the SRS.¹⁹⁴

The Petitioners make no attempt to explain the relevance of the 1991 SRS Study, which discusses use of the LADTAP XL spreadsheet at SRS, to Luminant's use of LADTAP II to calculate the estimated maximum individual doses from liquid effluents for Comanche Peak

¹⁹⁰ Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)" at C.I.11-3 (June 2007).

¹⁹¹ *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001).

¹⁹² ER at 5.4-2.

¹⁹³ D. M. Hamby, Westinghouse Savannah River Company, WSRC-RP-91-975, "LADTAP XL: An Improved Electronic Spreadsheet Version of LADTAP II" (Nov. 18, 1991) ("1991 SRS Study"), *available at* <http://www.osti.gov/energycitations/servlets/purl/6704105-cS9Awv/6704105.pdf>.

¹⁹⁴ *Id.* at 4.

Units 3 and 4. Notably, while the 1991 SRS Study states that it is “an improved electronic spreadsheet version of LADTAP II,” many of the “improvements” are the implementation of *SRS site-specific parameters*.¹⁹⁵ As the 1991 SRS Study makes clear, the LADTAP XL spreadsheet is specific to the SRS, and Petitioners provide no support indicating that this spreadsheet is applicable to the Comanche Peak site.¹⁹⁶

Furthermore, even a cursory review of the 1991 SRS Study demonstrates that some of the assumptions used in that report are simply inapplicable to the Comanche Peak site. For example, in the 1991 SRS Study, the population dose predictions obtained using LADTAP XL are larger than calculated by LADTAP II at least in part because LADTAP XL assumes that the total commercial fish harvest is ingested by the 50-mile population around SRS.¹⁹⁷ This assumption is specific to the SRS site, and Petitioners make no attempt to explain why it might be applicable to the Comanche Peak site, which as the ER notes, has no commercial fishing in the area.¹⁹⁸ Similarly, the 1991 SRS Study assumes that the local population consumes the entire shellfish production in the area around SRS. Although this assumption in LADTAP XL contributes to an increase in the doses from saltwater invertebrates, this assumption is SRS-specific, and, again Petitioners fail to explain how this assumption is applicable to the Comanche Peak site, which as the ER notes is an inland location with no sport or commercial harvest of invertebrates.¹⁹⁹

Thus, the 1991 SRS Study that apparently is the source of the “comparison study” discussed in Petitioners’ contention does not support the use LADTAP XL for Comanche

¹⁹⁵ *Id.* at 4, 13-16.

¹⁹⁶ The LADTAP XL spreadsheet, moreover, has *not* been approved or endorsed by the NRC for use outside of SRS.

¹⁹⁷ *Id.* at 9.

¹⁹⁸ *See* ER at 5.4-4.

¹⁹⁹ *See id.*

Peak.²⁰⁰ Instead, that study indicates that LADTAP XL was developed for use at SRS, and Petitioners provide no support indicating that the assumptions regarding commercial fishing and saltwater invertebrates used in LADTAP XL are applicable to Comanche Peak.

In short, Petitioners have not provided any alleged facts, documents, or technical analysis to support their claims that Luminant has “grossly” underestimated maximum doses to the public from liquid effluents. They rely exclusively on the conclusory statements contained in the one-page declaration. A declarant’s nominal imprimatur, however, does not cure a contention’s failure to provide factual or other support for the claims therein.²⁰¹ A declaration, like any other alleged factual basis for a contention, must be grounded in fact and reasoned explanation, and explain the significance of any factual information upon which it relies.²⁰² Dr. Makhijani’s cursory declaration, with its cryptic reference to a “comparison study,” fails completely in this regard, and thus does not support admission of Contention 9, especially since the study that appears to be the source of the declaration is limited, on its face, to SRS and has no apparent applicability outside of SRS.

b. Contention 9 Fails to Establish a Genuine Material Dispute

Contention 9 is flawed in another respect. The contention does not explain how Luminant’s alleged underestimation of maximum liquid effluent doses to the public due to consumption of commercial fish or invertebrates renders the ER inadequate in some *material* respect. In fact, while Petitioners assert that actual doses to the maximum exposed individual “would be significantly higher,” they fail to indicate approximately how much higher, or whether

²⁰⁰ Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.” See *Yankee Atomic*, LBP-96-2, 43 NRC at 90, *rev’d in part on other grounds and remanded*, CLI-96-7, 43 NRC 235.

²⁰¹ *USEC*, CLI-06-10, 63 NRC at 472.

²⁰² *Id.*

any applicable federal dose limits would be exceeded.²⁰³ In short, Petitioners “fail[] to make the minimal demonstration, as required by contention admissibility rules, that [Luminant’s] ER analysis fails to meet a statutory or regulatory requirement.”²⁰⁴

In particular, the only two alleged non-conservatisms in LADTAP II identified by Petitioners pertain to doses from consumption of commercial fishes and invertebrates. However, as noted above, there is no commercial fishing in the area of Comanche Peak or harvesting of shellfish or saltwater invertebrates because of the inland location of Comanche Peak.²⁰⁵ Therefore, even if the dose from Comanche Peak due to consumption of commercial fish were to increase by a factor of eight and due to consumption of saltwater invertebrates were to increase by a factor of 700 as alleged by Petitioners, Petitioners have not provided any basis for believing that the total doses to individuals near Comanche Peak would be significantly higher. In this regard, the estimated maximum individual and population doses for liquid effluents from the Comanche Peak site are very low and well below applicable regulatory limits.²⁰⁶ For example, the whole body dose is one third of the 10 C.F.R. Part 50, Appendix I objective (3 mrem/year), and the maximum individual TEDE dose is one-hundredth of the 10 C.F.R. § 20.1301 objective (100 mrem/year). Petitioners have provided no basis for believing that, even using the LADTAP XL, these limits would be exceeded.

²⁰³ Petition at 29.

²⁰⁴ See *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 67 NRC ___, slip op. at 183-84 (July 31, 2008).

²⁰⁵ ER at 5.4-4 (“[A]s is typical of freshwater sites, there is no sport or commercial harvest of invertebrates.”)

²⁰⁶ See ER at 5.4-8, 5.4-29 to 5.4-32. The maximally exposed individual dose calculated was compared to 10 C.F.R. Part 50, Appendix I criteria and is presented in Table 5.4-8. The estimated maximum individual doses are compared to the 10 C.F.R. § 20.1301 criteria in Table 5.4-9. The maximally exposed individual dose calculated for all units at the site was also compared to 40 C.F.R. Part 190 criteria and is presented in Table 5.4-10. The estimated population dose due to liquid effluent releases is given in Table 5.4-11.

In this regard, the 1991 SRS Study considered the impact of using LADTAP XL on the overall doses to the public around SRS and provides the following conclusion: “Comparisons of LADTAP II and LADTAP XL output show that these enhancements [in LADTAP XL] result in an *insignificant* increase in predictions of total dose to the maximum individual and a 10% increase in total dose to the Savannah River user population.”²⁰⁷ Given this conclusion in the 1991 SRS Study (which apparently forms the basis for this contention), Petitioners have provided no reason to believe that application of the SRS-specific values in LADTAP XL to Comanche Peak would have a material effect on the results of the dose calculation for liquid effluents at Comanche Peak.

Petitioners’ view that Luminant should redo its dose analyses using the LADTAP XL program is by itself insufficient to support admission of Contention 9. Petitioners provide no information showing that the results of such an analysis (even assuming LADTAP XL could be applied to Comanche Peak) would yield a materially different result.²⁰⁸ As another Licensing Board explained when confronted with a similar contention:

[T]he Intervenors have made no showing either that the models used by [the applicant] are defective or incorrect for the purpose used or that those models were used incorrectly by [the applicant]. Nor have the Intervenors demonstrated that the models they are recommending are superior in any way to those employed by [the applicant]. The Intervenors merely point out that, by using their models in the manner they are recommending, a different result

²⁰⁷ 1991 SRS Study at 4 (emphasis added).

²⁰⁸ Dr. Makhijani’s alleged concern regarding dose conversion factors fails to support Contention 9 for the same reason. Dr. Makhijani does not assert that the use of dose conversion factors for children (as opposed to adults) would produce a materially different result (*i.e.*, an estimated dose that exceeds NRC limits). Furthermore, Dr. Makhijani’s concern is unfounded. Luminant used the dose conversion factors recommended in NRC Regulatory Guide 1.109 and calculated maximum individual doses for an adult, teenager, child, and infant. *See* FSAR Table 11.2-15R. As indicated in FSAR Table 11.2-15R and ER Table 5.4-8, an adult receives the maximum individual total body dose, and a teenager receives the maximum individual organ dose, which is to the liver.

would be achieved. That is an insufficient basis to formulate a valid contention.²⁰⁹

Furthermore, ER Table 5.10-1 states that the impacts of liquid radiological effluents will be SMALL, and Contention 9 does not establish a material dispute regarding that conclusion. As discussed in ER Section 3.5.1.3, the concentrations of radionuclides in liquid effluents will comply with the Commission's regulations in 10 C.F.R. Part 20, Appendix B, Table 2. Petitioners have not contested that conclusion. As noted above, "[f]or the purposes of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small."²¹⁰ Thus, because there is no dispute that liquid radioactive effluents will comply with NRC regulations in 10 C.F.R. Part 20, Appendix B, Table 2, the environmental impacts of such effluents will be SMALL by definition. Therefore, Contention 9 does not raise a genuine material dispute.

In summary, Petitioners have failed to meet their burden of showing that there is a genuine dispute on an issue of material fact. Petitioners do not demonstrate how use of the LADTAP XL program, assuming it even applied to Comanche Peak, would materially change the results of Luminant's doses calculations. Furthermore, Petitioners have provided no basis for contending that the impacts of liquid effluents will be anything but SMALL. Therefore, Contention 9 should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

10. Contention 10 – Environmental Impacts of MOX Fuel

Petitioners contend that Comanche Peak Units 3 and 4 will use mixed oxide ("MOX") fuel and that the ER fails to account for environmental impacts associated with its use.²¹¹ As

²⁰⁹ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), LBP-03-17, 58 NRC 221, 240 (2003), *aff'd on other grounds*, CLI-03-17, 58 NRC 419 (2003).

²¹⁰ 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1, n.3; *see also* ER Section 5.0.

²¹¹ Petition at 30.

demonstrated below, this contention should be dismissed because it (1) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi); and (2) seeks an analysis that is beyond the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

Petitioners claim that “Comanche Peak Units 3 and 4 will utilize MOX fuel.”²¹² That claim is simply untrue. Luminant has not proposed to use MOX fuel. ER Section 3.8.1.2 clearly states that the proposed new units will use sintered uranium dioxide (“UO₂”) pellets. Additionally, the US-APWR DCD, Tier 2, Section 4.1.1, states that the US-APWR will utilize UO₂ fuel, and that section is incorporated by reference without any departures in Comanche Peak FSAR Section 4.1. In fact, nothing in the COLA or the referenced DCD for the US-APWR authorizes the use of MOX fuel.

Petitioners’ reliance on a passage in Section 5.7, “Uranium Fuel Cycle and Transportation Impacts,” of the ER is misplaced. As part of a general background discussion on the uranium fuel cycle, Section 5.7.1 mentions that MOX fuel is sometimes used in nuclear reactors. Petitioners apparently have misconstrued that generic discussion and are under the mistaken impression that Comanche Peak will use MOX fuel. As noted above, the DCD, FSAR and the ER all state that Comanche Peak will use UO₂, and Luminant simply does not plan or intend to use MOX fuel. Accordingly, Petitioners have not established the existence of a genuine dispute regarding the use of MOX fuel.

To the extent that Petitioners suggest that the ER should nonetheless address the potential use of MOX fuel despite the fact that Luminant has not proposed to use MOX fuel, this claim is inconsistent with Commission case law. In the *Catawba-McGuire* license renewal proceeding, the Commission dismissed a contention concerning the hypothetical use of MOX fuel at those

²¹² *Id.*

facilities, holding that an NRC licensing proceeding is not “an occasion for far-reaching speculation about unimplemented and uncertain plans” of applicants or licensees.²¹³ Specifically, in *Catawba-McGuire*, the Commission stated “that to bring NEPA into play, a possible future action must at least constitute a ‘proposal’ pending before the agency (i.e., ripeness), and must be in some way interrelated with the action that the agency is actively considering (i.e., nexus).”²¹⁴ Here, as in *Catawba-McGuire*, there is no proposal before the NRC to use MOX fuel. Therefore, an evaluation of the use of MOX fuel at Units 3 and 4 is beyond the scope of this proceeding, and therefore the contention does not satisfy 10 C.F.R. § 2.309(f)(1)(iii).

In summary, Proposed Contention 10 has mischaracterized the COLA and should be rejected for failure to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iii) and (vi).

11. Contention 11 – Global Warming Impacts

This contention alleges that the application improperly “assumes there will be an adequate supply of fresh water for purposes of plant operations.”²¹⁵ According to the Petitioners, this assumption is flawed because the ER does not “analyze impacts of global warming on rainfall and the hydrological cycle.”²¹⁶ Petitioners assert that the ER is deficient because it fails to address drought-related impacts from global warming. As demonstrated below, this contention should be dismissed because Petitioners’ allegations regarding the impacts of global warming lack adequate factual, documentary, and expert support, and fail to establish the

²¹³ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-14, 55 NRC 278, 293 (2002).

²¹⁴ *Id.* at 295.

²¹⁵ Petition at 31.

²¹⁶ *Id.*

existence of a genuine dispute on a material law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

Additionally, apparently as a basis for their contention, Petitioners allege that the ER should have considered: (1) radiological impacts from additional discharges to the Squaw Creek Reservoir; (2) impacts from chemicals discharged as part of liquid effluents; (3) water use and water quality impacts; (4) impacts to aquatic biota; and (5) the impact of plant operations on global warming.²¹⁷ However, those allegations have no relevance to Petitioners' contention, which pertains to the impacts of global warming on water availability. Therefore, the Licensing Board can and should rule on this contention, without addressing those allegations other than to note that they are not relevant. In this regard, Petitioners are "responsible for formulating the contention,"²¹⁸ and therefore cannot be heard to complain if the Board does not address the substance of those allegations. Nevertheless, as discussed below, even if the Board considers the five additional bases that are unrelated to the Petitioners' issue statement, this contention should still be denied for failing to satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).

a. Petitioners' Claim Regarding the Impacts of Global Warming Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners state, without reference to any supporting documents or expert opinion, that "impacts from global warming will include protracted drought that may seriously compromise water resources required for plant operations."²¹⁹ Petitioners offer no support for this assertion, but simply claim that "compromised water resources should be considered from a quantitative

²¹⁷ *Id.* at 32-34.

²¹⁸ *See* Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC at 22.

²¹⁹ Petition at 31.

perspective and a temperature sensitive analysis.”²²⁰ Contrary to 10 C.F.R. § 2.309(f)(1)(v), Petitioners fail to provide *any* support for the basic, underlying premise of this contention (*i.e.*, global warming will impact drought frequency and intensity on the flow of the Brazos River into Lake Granbury, which is the source of cooling water for Comanche Peak Units 3 and 4). Such vague, unsupported claims of “protracted drought” and “compromised water resources” are insufficient bases for a proposed contention. Petitioners are required to provide *some* facts or expert opinion to support their claim, as well as references to specific sources and documents.²²¹ Here, Petitioners fail to offer any tangible information, expert opinion, or affidavits to support their global warming claims. Therefore, Contention 11 should be dismissed in its entirety, pursuant to 10 C.F.R. § 2.309(f)(1)(v).²²²

In addition, Petitioners’ claims regarding global warming-induced droughts fail to contain sufficient information to show the existence of a genuine dispute on a material issue of fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Although Petitioners allege that “[g]lobal warming and its impacts on rainfall are better understood now and must be considered in the context of determining whether adequate water resources will be available for nuclear plant operations,” Contention 11 fails to controvert the very portions of the ER that directly address water availability and precipitation trends.²²³ In particular, ER Section 2.3.1.2.2 and Table 2.3-13 present monthly flow data of the Brazos River for the years 1940 to 2006; Section 2.7.1.2.8 discusses recent and historic droughts dating back to 1893; and Section 2.7.2.1.5 contains recent

²²⁰ *Id.*

²²¹ *See* 10 C.F.R. § 2.309(f)(1)(v).

²²² *See William States Lee*, LBP-08-17, slip op. at 15 (rejecting a contention claiming water temperatures would be impacted by global warming because the petitioner provided “no meaningful support” for that allegation); *Bellefonte*, LBP-08-16, slip op. at 63 (rejecting a contention which claimed that global warming would increase severe weather events, without providing information on the magnitude of the increase).

²²³ Petition at 31.

site precipitation data and then compares this data to long-term regional precipitation data. The Petitioners fail to controvert any of the data presented in these sections of the ER and do not explain why such information is insufficient to capture any regional climate change-related trends.²²⁴

In the *Williams States Lee* COL proceeding, the Licensing Board rejected a similar contention for these reasons. There, the petitioner alleged that the applicant should have considered increases in regional surface water temperatures and drought frequency caused by global warming. The Board rejected the contention because the petitioner’s “assumptions about future increases in water temperatures and drought [were] entirely unsupported” and because the petitioner did not address the portion of the COLA that compared current and historical surface water temperatures.²²⁵ Similarly, in Contention 11, Petitioners failed to support their global warming claims and failed “to ‘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.”²²⁶ Therefore, Contention 11 must also be dismissed in its entirety.

Because the fundamental premise behind this contention is unsupported and does not raise a genuine issue of material fact with the COLA, the Board need not address Petitioners’ additional arguments that are unrelated to the Contention 11 issue statement. As the Board in the *William States Lee* COL proceeding observed in a similar situation, “licensing boards admit contentions, not bases,” and thus, the Board should not “try to rewrite” this contention, “transforming it into numerous additional contentions that [Petitioners have] not clearly set

²²⁴ See *William States Lee*, LBP-08-17, slip op. at 15 (rejecting a contention claiming water temperatures would be impacted by global warming because the petitioner did “not address the portions of the Application that discuss climate variations”).

²²⁵ *Id.*

²²⁶ *Id.* at 16 (quoting Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170).

forth.”²²⁷ Nonetheless, as demonstrated in the following sections, even if the Board considered Petitioners’ additional claims as separate contentions, Contention 11 remains inadmissible.

b. Petitioners’ Claim Regarding Radiological Impacts to Squaw Creek Reservoir Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners present an amalgam of allegations related to Luminant’s purported failure to consider radiological impacts related to additional discharges to the SCR. Specifically, Petitioners assert that the ER should have considered: (1) the cumulative impacts of discharging additional radionuclides to the SCR; (2) the radiological impacts that would result if the sediment layer at the bottom of the SCR becomes exposed during a “protracted drought,” this sediment becomes “dust,” and then the sediment is transported by “wind”; (3) the radiological impacts that would result if the Squaw Creek Dam failed and radionuclides in the sediment layer at the bottom of the SCR were transported downstream; and (4) issues related to the long-term ownership and responsibility of the SCR and the Squaw Creek Dam because the accumulation of radionuclides in the SCR constitutes a “radiological hazard.”²²⁸

Those allegations have essentially been “cut and pasted” from the allegations that the Petitioners have made with respect to Contention 8. As discussed above in Section III.B.8 with respect to Contention 8, those claims are unsupported and fail to controvert pertinent information in the COLA, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

²²⁷ See *id.* at 17 (quoting *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 557 (2004)).

²²⁸ Petition at 32-33.

c. Petitioners' Claim Regarding Impacts From Chemicals Discharged in Liquid Effluents Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners claim that Luminant should have considered “pollution impacts downstream from water contaminated by chemical treatment such as biocides, algaecides, pH adjustors, corrosion inhibitor and silt dispersant chemicals injected at the reactor site as well as chlorine, salts and non-radioactive effluent.”²²⁹ Furthermore, Petitioners assert that the “differential impact of treatment of 100 percent of the water versus the lesser amount of treatment proposed by the applicant should be considered.”²³⁰

Petitioners provide no support for their assertion that some further “analysis” of liquid effluents containing chemicals or biocides is required. Nor do Petitioners furnish factual information or expert opinion of their own challenging any of the ER’s discussions of these subjects. Accordingly, this claim should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(v) for failing to provide supporting facts or expert opinions.

In addition, Petitioners fail to identify or contest relevant portions of the ER that discuss chemical discharges. For example, Sections 3.3.2.1, “Water Treatment – Circulating Water System,” and 3.6.1, “Effluents Containing Chemical or Biocides,” describe chemical discharges from proposed Comanche Peak Units 3 and 4, and provide detailed information regarding chemical and biocide effluents. Additionally, Sections 5.2.3.4, “Water Quality Impacts – Wastewater Discharge,” 5.3.2.2, “Discharge System – Aquatic Ecosystems,” and 5.5.1.1.1, “Impacts of Discharges to Water – Liquid Effluents Containing Biocides or Chemicals,” discuss the potential for chemical discharges to impact water quality and aquatic ecosystems. Specifically, the ER concludes that these impacts are expected to be SMALL and thus, no

²²⁹ *Id.* at 33.

²³⁰ *Id.*

additional mitigation is warranted.²³¹ Petitioners do not mention—much less dispute—any of these analyses or conclusions. Finally, ER Sections 9.4.2.1.4, “Water Treatment,” and 9.4.2.2.5, “Alternatives to the Proposed Water Treatment System,” discuss alternative water treatment systems. Accordingly, this claim should be rejected for failing to satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).

d. Petitioners’ Claim Regarding Water Use and Water Quality Impacts Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners assert that Luminant should have considered whether operation of the proposed new units would impact the “water quantity and quality” for Lake Granbury, the Brazos River, the Paluxy River, Whitney Lake, and Possum Kingdom State Park.²³² Petitioners claim water at Possum Kingdom State Park is currently non-potable due to its high salinity, and that the potential to increase salinity in the local aquifer and drinking wells due to further drawdowns of water levels should be examined.²³³

The most fundamental and fatal defect in these claims is that, contrary to 10 C.F.R. § 2.309(f)(1)(v), Petitioners fail to provide any support for their fundamental argument (*i.e.*, operation of Comanche Peak Units 3 and 4 will have an adverse impact on water use and water quality). Petitioners provide no factual information or expert opinion that indicates that the water quality of Lake Granbury, the Brazos River, the Paluxy River, Whitney Lake, or Possum Kingdom State Park would be negatively affected by operation of the proposed new reactors. Nor do Petitioners provide any supporting information that indicates that operation of the new units would adversely impact water use or availability. Instead, Petitioners simply conclude that

²³¹ See ER at 5.2-15, 5.3-9, & 5.5-2.

²³² Petition at 33.

²³³ *Id.*

the “COLA should also consider whether regional waterways will be impacted in terms of water quantity and quality by the use of vast quantities of water for Units 3 and 4.”²³⁴

Although Petitioners note that water at Possum Kingdom State Park is *currently* non-potable due to its high salinity, they provide no factual or expert support indicating that operation of Comanche Peak Units 3 and 4 could somehow increase salinity at the Park or in any other regional drinking water sources. Petitioners are required to provide *some* facts or expert opinion to support their claim, as well as references to specific sources and documents.²³⁵ A contention will be ruled inadmissible “if the petitioner ‘has offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”²³⁶ Here, Petitioners fail to offer any tangible information, expert opinion, or affidavits that support their claims regarding water quality and water use impacts. Therefore, this contention is not properly supported and should be dismissed, pursuant to 10 C.F.R. § 2.309(f)(1)(v).

In addition, Petitioners’ claims regarding water quality and water use fail to contain sufficient information to show the existence of a genuine dispute on a material issue of fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Although Petitioners allege potential water use and quality impacts to various regional waterways, their contention fails to controvert the portions of the application that directly address such issues. In particular, ER Sections 2.3.1, 2.3.2, and 2.3.3 provide detailed descriptions of the surface water bodies and groundwater aquifers; the types, locations, and quantities of consumptive and non-consumptive water uses; and of water quality in the vicinity of the Comanche Peak site. As those sections make clear, the focus of these evaluations was on the Brazos River drainage basin between Possum Kingdom Lake and Lake

²³⁴ *Id.*

²³⁵ *See* 10 C.F.R. § 2.309(f)(1)(v).

²³⁶ *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear*, CLI-00-6, 51 NRC at 208).

Whitney, which includes each body of water mentioned in the contention.²³⁷ Additionally, ER Sections 5.2.1, 5.2.2, and 5.2.3 analyze the potential for hydrologic alternations from plant operations and for impacts to water use and on water quality. The ER concludes that these impacts are SMALL and that mitigation is not warranted.²³⁸ Petitioners do not dispute—or even mention—any of these analyses or conclusions in their water use and water quality claims.²³⁹ Accordingly, these elements of Contention 11 should be rejected for not satisfying 10 C.F.R. § 2.309(f)(1)(vi).

²³⁷ See, e.g., ER at 2.3-38 (“the most significant portion of the Brazos River drainage basin is that between Possum Kingdom Lake and Lake Whitney, and includes the CPNPP site and Lake Granbury”); *id.* at Figure 2.3-21.

²³⁸ *Id.* at 5.2-1.

²³⁹ Although the Trungale Engineering & Science Report, “Effects of Diversions of the Comanche Peak Nuclear Project on the Ecological Health of the Brazos River” (“Trungale Report”), mentions conclusions in Section 5.2.2 of the ER, Contention 11 only cites to the Report after a sentence related to “eutrophication, productivity and sediment impacts and potential contamination.” Furthermore, while the Trungale Report concludes that the consumptive use of water by Comanche Peak Units 3 and 4 would result in substantial increases in the frequency, duration, and severity of “drought events” where flows would fail to meet target environmental flow needs, this analysis is not based upon the water consumption by Comanche Peak Units 3 and 4 (*i.e.*, approximately 60,000 acre-feet per year) but instead from “the Comanche Peak project *and other future demands*” (*i.e.*, 300,000 acre-feet per year). Trungale Report at 1, 3, 5. Thus, Comanche Peak accounts for only a small portion (approximately one-fifth) of the additional water consumption evaluated in the Trungale Report, and the Trungale Report does not evaluate the impact of consumption of water by Comanche Peak itself. Furthermore, even with the higher consumptive rates used in the Trungale Report, the results of the Trungale analysis do not support the conclusions in the report. In particular, as shown on Tables 2 and 3 of the Trungale Report, the number of droughts events and severity of the maximum shortfalls under current conditions do not significantly increase under conditions assuming an additional consumption of 300,000 acre-feet per year. Instead, as is apparent from pages 3-5 of the Trungale Report, the conclusion that there is a substantial increase in “drought events” is based upon a comparison of “natural” conditions versus an additional consumption of 300,000 acre-feet per year beyond current consumption. Thus, the conclusion in the Trungale Report that Comanche Peak Units 3 and 4 will substantially increase “drought events” appears to be supported only if it is assumed that *all current and future consumption* on the Brazos River is attributable to Comanche Peak Units 3 and 4. Obviously, such an assumption is not reasonable or an appropriate basis for a contention. Furthermore, by using historic “natural” conditions as the point of comparison, the Trungale Report seeks an analysis in direct contravention of Council on Environmental Quality guidance, which indicates that a cumulative impact analysis can focus “on the current aggregate effects of past actions without delving into the historical details of individual past actions.” President’s Council on Environmental Quality, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis at 2 (June 24, 2005), *available at* <http://ceq.hss.doe.gov/nepa/regs/guidance.html>. As the Licensing Board in the *Calvert Cliffs* COL proceeding recently held in applying this guidance, “it would be inconsistent with NEPA’s rule of reason to require that the cumulative impacts analysis individually analyze the effects of remote facilities absent a demonstration that such additional effort would lead to a different conclusion.” *Calvert Cliffs*, LBP-09-4, slip op. at 42.

e. **Petitioners' Claim Regarding Impacts to Aquatic Ecosystems Lacks Adequate Support and Fails to Establish a Genuine Material Dispute**

Petitioners argue that the application should have considered impacts to coastal plant and animal populations caused by “alterations of freshwater flow into the Gulf of Mexico, affecting lagoons, estuaries and wetlands, altering salinity patterns, nutrients, dissolved oxygen levels.”²⁴⁰ According to the Petitioners, the COLA should have considered “biological impacts . . . including the possibility of eutrophication, productivity and sediment impacts and potential contamination.”²⁴¹ Petitioners reference the Trungale Report as support for this aspect of Contention 11.²⁴² As discussed below, this basis fails to provide Contention 11 with adequate factual support and fails to demonstrate the existence of genuine material dispute that warrants an adjudicatory hearing.

First, notwithstanding the Trungale Report, Petitioners fail to provide adequate factual or expert opinion support necessary to support this contention. In fact, Petitioners provide no support—expert or otherwise—for their assertion that plant operations would alter “freshwater flow into the Gulf of Mexico,” affect “lagoons, estuaries and wetlands,” or alter “salinity patterns, nutrients, dissolved oxygen levels.”²⁴³ These claims are not addressed in the Trungale Report or otherwise explained or supported in the contention. Similarly, Petitioners fail to provide any supporting information indicating that operations would impact the “productivity of coastal plant and animal populations” or would have any other “biological impacts.”²⁴⁴

²⁴⁰ Petition at 33.

²⁴¹ *Id.*

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ *Id.*

Petitioners' reference to the Trungale Report occurs immediately after a sentence that refers to "eutrophication, productivity and sediment impacts, and potential contamination." However, none of those topics is discussed in the Trungale Report. Therefore, while the contention cites to the Trungale Report, that Report has no apparent relevance to the proposition for which it is cited.

Although Petitioners have sought to bolster their claims by referencing the Trungale Report, neither Petitioners nor the Trungale Report identify *any* specific plant or animal that could be adversely impacted by plant operations.²⁴⁵ Indeed, other than vague statements regarding "ecological limits" and "ecological health," the Trungale Report contains no discussion of any particular species that might be adversely impacted and no indication of the mechanism by which operation of Comanche Peak would affect such species.²⁴⁶ Therefore, Petitioners fail to provide adequate factual support for their claims regarding impacts to aquatic ecosystems, contrary to 10 C.F.R. § 2.309(f)(1)(v).

Second, Petitioners fail to demonstrate the existence of a genuine dispute of material fact that warrants further inquiry by this Board. ER Section 2.4.2 provides a detailed description of aquatic ecosystems in the region with specific emphasis on species that could potentially be impacted by operation of the new Comanche Peak units. Sections 3.3 and 3.4 describe plant water needs and the operation of the cooling system. Additionally, Sections 5.3.1.2 and 5.3.2.2 describe the potential for the intake and discharge systems to impact aquatic ecosystems. The

²⁴⁵ See *Turkey Point*, LBP-01-6, 53 NRC at 156-57 (rejecting a contention alleging impacts to threatened and endangered species because the proposed contention failed to identify any particular species of concern).

²⁴⁶ Trungale Report at 1, 5. This lack of specificity regarding potential ecological impacts is in stark contrast to contentions that have been admitted in other proceedings. See, e.g., *Vogtle*, LBP-07-3, 65 NRC at 258-61 (admitting contention alleging that impingement, entrainment, and chemical and thermal effluents from cooling system would impact various species, including shortnose sturgeon); *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 271 (2004) (admitting contention alleging thermal effluent from cooling system would adversely impact striped bass).

ER concludes that these effects are not significant and are not expected to affect aquatic organism populations. Petitioners do not dispute—or even mention—any of these analyses or conclusions. Accordingly, Petitioners fail to demonstrate the existence of a genuine dispute of material fact regarding impacts to aquatic ecosystems, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

f. Petitioners’ Claim Regarding Impacts on Global Warming From the Cooling System Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners allege that Luminant should have discussed the contribution that emissions of heat energy into the atmosphere and water would have on global warming.²⁴⁷ According to the Petitioners, the proposed new “reactors . . . are global warming agents in terms of heat, including water vapor from steam and heat radiating from cooling towers and ponds.”²⁴⁸

Petitioners provide no support for their claim that the “most prevalent global warming impacts come from increased heat and humidity in the atmosphere.”²⁴⁹ But more importantly, Petitioners fail to provide any support suggesting that operation of the proposed Comanche Peak units could have any significant impact on global warming. As stated previously, a contention “will be ruled inadmissible if the petitioner ‘has offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”²⁵⁰ Accordingly, their unsupported assertions should be rejected.

Furthermore, Petitioners’ claim regarding global warming impacts does not contain sufficient information to show the existence of a genuine dispute on a material issue of fact. ER Sections 3.4.1.3, “Cooling System – Heat Generated, Dissipated to the Atmosphere, and Released in Liquid Discharges,” and 3.4.2.3, “Cooling System – Heat Dissipation,” provide

²⁴⁷ Petition at 34.

²⁴⁸ *Id.*

²⁴⁹ *Id.* at 33.

²⁵⁰ *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear*, CLI-00-6, 51 NRC at 208).

detailed information regarding the heat that is generated, dissipated to the atmosphere, and released in liquid discharges during operations. Section 5.3.3.1 discusses the potential for impacts associated with heat dissipation system.²⁵¹ Furthermore, in discussing the benefits of the proposed action, Section 10.3.2.2 points out that, “[w]hen combined with other nuclear and non-fossil fuel electrical generation projects, this proposed project would contribute to a substantial long-term cumulative avoidance of the generation of greenhouse gases that could have a beneficial impact on the maintenance and enhancement of environmental productivity.”²⁵² Petitioners ignore all of this information and fail to explain why the proposed units’ potential contribution to global warming would be different than what has already been disclosed in the ER. Accordingly, Petitioners have not met their burden under 10 C.F.R. § 2.309(f)(1)(vi) to show that a genuine dispute exists with the Luminant on a material issue of law or fact.

12. Contention 12 – Greenhouse Gas Impacts of the Uranium Fuel Cycle

This contention asserts that the uranium fuel cycle is a contributor to greenhouse gases and that the impacts of greenhouse gases, including carbon dioxide (“CO₂”), need to be fully considered.²⁵³ Petitioners assert that CO₂ emissions during production of reactor fuel, plant construction, routine operations, and decommissioning must be considered. As with Petitioners’ other contentions regarding Table S-3 and the uranium fuel cycle, this contention too must be rejected because it: (1) impermissibly challenges the Table S-3, contrary to 10 C.F.R. § 2.335(a); (2) fails to demonstrate that consideration of greenhouse gas impacts from the uranium fuel cycle is a material issue, contrary to 10 C.F.R. § 2.309(f)(1)(iv); (3) lacks adequate

²⁵¹ See also ER at 10.1-11 (“The cooling towers would emit a plume of water vapor The facilities natural gas and diesel generators would be occasionally operated and would contribute a SMALL amount of greenhouse gases to the atmosphere.”).

²⁵² *Id.* at 10.3-4.

²⁵³ Petition at 34.

support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (4) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

First, to the extent Petitioners are challenging the adequacy of the consideration of the impacts of greenhouse gases from the uranium fuel cycle, this contention presents an impermissible challenge to Table S-3 in 10 C.F.R. § 51.51. Table S-3 summarizes and codifies the NRC's assessment and determinations for evaluating the environmental effects of the uranium fuel cycle, and establishes values for various gaseous emissions, including several greenhouse gases. Although Table S-3 does not specify a value for CO₂ emissions, Table S-3, Note 1 states, "[i]n some cases where no entry appears it is clear from the background documents that the matter was addressed and that, in effect, the Table, should be read as if a specific zero entry had been made." Table S-3 background documents specifically discuss, and in some cases even quantify CO₂ emissions.²⁵⁴ Nonetheless, the Commission did not include CO₂ emissions in Table S-3, and thus, intended a "zero entry" for CO₂ emissions. Although Petitioners may disagree with the contents of Table S-3, this COL proceeding is not the proper forum to consider the merits of amending Table S-3.²⁵⁵ Therefore, any contention challenging the greenhouse gas values given Table S-3, or asserting that uranium fuel cycle CO₂ emissions must be considered, constitutes a challenge to Table S-3, and must be rejected in accordance with 10 C.F.R.

§ 2.335(a).

²⁵⁴ See U.S. Atomic Energy Commission, WASH-1248, "Environmental Survey of the Uranium Fuel Cycle," at A-11 (indicating that uranium mining involves the use of heavy earth moving equipment that emits CO₂), B-10 (stating that uranium milling operations involve the release small quantities of airborne chemical contaminants, including CO₂) (Apr. 1974); U.S. Nuclear Regulatory Commission, NUREG-0116, Supp. 1 to WASH-1248, "Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle," at 4-83 to 4-84 (estimating CO₂ emissions from high-level waste repository operations) (Oct. 1976).

²⁵⁵ If Petitioners seek to change Table S-3, then their remedy is to file a petition for rulemaking under 10 C.F.R. § 2.802.

Second, Petitioners fail to demonstrate that the consideration of greenhouse gas emissions from the uranium fuel cycle is a material issue in this proceeding. As the Licensing Board in the *Shearon Harris* COL proceeding explained, “unless in a particular instance there is in fact a *viable* alternative which has an extremely low carbon footprint, the footprint of the nuclear fuel cycle is immaterial to the decision the Agency must make, and therefore such a contention fails to create a genuine issue of *material fact*.”²⁵⁶ Here, Petitioners have made no such showing.²⁵⁷ Therefore, this contention should be rejected for not satisfying 10 C.F.R. § 2.309(f)(1)(iv).²⁵⁸

Third, even if this contention is viewed as an attack on the ER, Petitioners fail to provide any factual support indicating any specific error in the portions of the ER listed below, contrary to 10 C.F.R. § 2.309(f)(1)(v). A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so warrants rejection of the contention.²⁵⁹

Finally, while not stating that this contention is one of omission, Petitioners appear to contend that the ER fails to address these issues. In fact, the ER addresses greenhouse gases and CO2 emissions. For example, Section 5.7.1.4 discusses chemical effluents of the uranium fuel cycle, including the greenhouse gases denoted in Table S-3. Similarly, Section 5.7.2 addresses uranium fuel cycle transportation impacts. ER Sections 10.3.2.2 and 10.3.3 specifically consider

²⁵⁶ *Shearon Harris*, LBP-08-21, slip op. at 29.

²⁵⁷ Petitioners suggest that the U.S. Supreme Court’s decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), somehow necessitates some different consideration of CO2 emissions than is contained in the ER. Petitioners fail to demonstrate how this decision is material to their contention. The issue in *Massachusetts v. EPA* was whether the EPA was required to regulate CO2 under § 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1). Because that case dealt exclusively with whether EPA’s substantive regulation of CO2 emissions was discretionary, it contained no consideration whatsoever of Table S-3 or NEPA.

²⁵⁸ Although unrelated to their contention regarding the uranium fuel cycle, Petitioners also provide a single sentence stating that CO2 emissions are foreseeable during construction, operation, and decommissioning. Petition at 34. Since that sentence does not pertain to their contention (which relates to the uranium fuel cycle), the Board need not address it. Nevertheless, even if the Board were to consider that sentence, for the reasons discussed below, it would not provide an adequate basis for a contention.

²⁵⁹ See 10 C.F.R. § 2.309(f)(1)(v); *Yankee*, CLI-96-7, 43 NRC at 262.

the long-term benefits in terms of CO₂ avoidance.²⁶⁰ Sections 10.4.1.2.4 and 10.4.1.2.5 address “Air Pollution and Emissions Avoidance” and “Greenhouse and Global Warming Avoidance,” respectively. In fact, Section 10.4.1.2.4 specifically states:

[A] nuclear generating facility the size of CPNPP Units 3 and 4, with their combined annual electricity generation, provides substantial emissions avoidance over coal- or gas-powered generation alternatives. The generation of significant air emissions is avoided by forgoing construction of a comparably sized coal- or gas-fired alternative and constructing CPNPP instead. Some of the benefits of reduced emissions related to use of nuclear power for electricity generation are offset by emissions related to the uranium fuel cycle, see Section 5.7 (e.g., emissions from mining and processing the fuel). Similar types of emissions are associated with mining and production of coal and, to some extent, drilling for natural gas.²⁶¹

Accordingly, to the extent the contention is based on a view that the ER fails to address these issues, it must be dismissed for failing to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

Three similarly ill-founded contentions related to the “carbon footprint” have been considered and rejected by the Licensing Boards in the *Bellefonte*, *William States Lee*, and *Shearon Harris* COL proceedings, because (similarly to the Comanche Peak ER) the ERs for those plants included a summary of the overall benefits of nuclear power with respect to emission of greenhouse gases.²⁶² For the reasons discussed in those decisions, Contention 12 in this proceeding should be rejected.

In summary, Petitioners’ contention that the ER does not, but should, discuss greenhouse gases, is factually and legally baseless. Therefore, the Board should reject this contention.

²⁶⁰ See also ER Table 10.3-1.

²⁶¹ ER at 10.4-5.

²⁶² See *Shearon Harris*, LBP-08-21, slip op. at 27; *William States Lee*, LBP-08-17, slip op. at 12; *Bellefonte*, LBP-08-16, slip op. at 64.

13. Contention 13 – Impacts of Accidents on Other Operating Units

This contention alleges that the evaluation of the environmental impacts of accidents in Chapter 7 of the ER does not assess the impacts of an accident at one of the Comanche Peak units on the operation of other units at Comanche Peak.²⁶³ This contention should be rejected because it is based upon an unsupported premise and does not raise an issue that is material to the adequacy of the ER.

Contention 13 is premised on the proposition that an accident at one of the Comanche Peak units could affect operation of another Comanche Peak unit. Petitioners have provided absolutely no support for such a proposition. In particular, the Petitioners have not cited any references or provided any expert opinions to support their contention that an accident at one unit could affect another unit. As a result, the contention does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v). As a Licensing Board recently ruled in another COL proceeding, when a petitioner alleges that an environmental report is missing information, the petitioner must provide facts or expert opinions to support its contention that the allegedly missing information should be included in the application.²⁶⁴ In particular, under NEPA's rule of reason, if a petitioner contends that an external event could affect operation of a unit, it must provide some support for believing that the probability of occurrence of such an effect is credible.²⁶⁵ Since Petitioners have not provided such support for their contention, it should be rejected.²⁶⁶

²⁶³ Petition at 34-35.

²⁶⁴ *Calvert Cliffs*, LBP-09-4, slip op. at 47-49.

²⁶⁵ *Id.*

²⁶⁶ The Licensing Board in the *Calvert Cliffs* proceeding stated that, under NEPA's rule of reason, a reasonable probability threshold for considering events is 10^{-6} per year. *Id.* at 48. As provided in Comanche Peak FSAR Section 2.2.3.1, Luminant evaluated external events and accidents with a frequency of occurrence of 10^{-7} per year or greater and demonstrated that such accidents would not affect the safety of operation of Units 3 and 4. Therefore, to the extent that the Petitioners are postulating less frequent events, such events do not need to be evaluated under NEPA's rule of reason under the criteria discussed by the *Calvert Cliffs* Licensing Board.

In this regard, General Design Criterion (“GDC”) 4 requires that structures, systems, and components important to safety be appropriately protected “from events and conditions outside the nuclear power unit.”²⁶⁷ As provided in the US-APWR DCD Tier 2, Section 3.1.1.4.1, the US-APWR satisfies GDC 4. FSAR Section 3.1 incorporates this provision in the DCD without any departures. Given the requirements in GDC 4 and the provisions in the DCD and FSAR showing compliance with GDC 4, Contention 13 does not raise an issue that is material to the adequacy of the evaluation of environmental impacts of accidents provided in Chapter 7 of the ER.

Petitioners contend that “there is no discussion of how the other units would be protected in the event of a major fire or explosion at one of the other units.”²⁶⁸ However, this allegation does not accurately describe the COLA. For example, FSAR Section 2.2.3.1.1.2 evaluates the effects of explosive hazards at Comanche Peak Units 1 and 2 and concludes that those hazards do not pose a threat to Units 3 and 4 given the distance (approximately one-quarter mile) between the hazards and Units 3 and 4. Similarly, FSAR Section 2.2.3.1.4 evaluates the impact of onsite fires external to Units 3 and 4 and shows that such fires would not endanger the safe operation of those units.

Similarly, Petitioners contend that there is no discussion of the impacts of a severe radiological accident at one unit on the remaining units.²⁶⁹ However, this allegation also does not accurately describe the COLA. With respect to radiological accidents, Sections 15.6.5.5.1.2 and 15.6.5.5.3 of Tier 2 of the US-APWR DCD show that the whole body doses to operators within the main control room from an accident at that unit would be less than the 5 rem limit in

²⁶⁷ 10 C.F.R. Part 50, Appendix A.

²⁶⁸ Petition at 35.

²⁶⁹ *Id.*

GDC 19 as a result of a loss of coolant accident (“LOCA”). These sections are incorporated by reference without any departures in the Comanche Peak FSAR Section 15.6. Furthermore, in a letter to NRC dated November 4, 2008, Luminant committed to augment FSAR Section 6.4.4.1 in a future revision to the COLA to include the following additional information regarding the impacts of a radiological accident at one unit on another unit at Comanche Peak:

While it is possible that the other US-APWR unit may be downwind in an unfavorable location, the dose at the downwind unit would be bounded by what has already been evaluated for a single US-APWR unit in the DCD. In addition, because the shortest distance between existing Comanche Peak Unit 1 or Unit 2 and US-APWR Unit 3 or Unit 4 is several times the separation between Unit 3 and Unit 4, the dose to either US-APWR unit control room from either existing operating unit would be bounded by a release at the same US-APWR unit.²⁷⁰

In summary, the Petitioners have not alleged, and have provided no basis for alleging, that any of the Comanche Peak units would be unable to withstand an accident in another unit and continue to operate. As a result, this contention does not raise an issue that is material to the adequacy of the evaluation of the environmental impacts of accidents in Chapter 7 of the ER. Stated otherwise, Petitioners have not shown that any of the results or conclusions in Chapter 7 of the ER would be affected if it were to include the information identified in Contention 13. Accordingly, this contention should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

14. Contention 14 – Impacts of Foreign Uranium

The contention asserts that “[d]ependence on foreign sources for uranium should be considered in the COLA as a potentially harmful environmental and public health

²⁷⁰ Letter from M. L. Lucas, Luminant, to NRC Document Control Desk, Attachment, Resolution of Docketing Issues at 2 (Nov. 4, 2008), *available at* ADAMS Accession No. ML083250068.

consequence.”²⁷¹ As a basis, the Petitioners assert that “there is no analysis in the environmental report of environmental or public health impacts of mining and milling uranium in foreign countries.”²⁷² And, Petitioners argue that the “COLA should also consider the vulnerability of the uranium fuel cycle to disruption by terrorists or others and the radiological, environmental and public health consequences related thereto.”²⁷³

This contention should be dismissed because it (1) presents an impermissible challenge to Table S-3 in 10 C.F.R. § 51.51, contrary to 10 C.F.R. § 2.335(a); (2) calls for consideration of impacts not required under NEPA, contrary to 10 C.F.R. § 2.309(f)(1)(iv); (3) lacks adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (4) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

First, as with Petitioners’ other challenges related to consideration of uranium fuel cycle impacts, the contention presents an impermissible challenge to the Commission’s generic determinations codified in Table S-3 in 10 C.F.R. § 51.51. This collateral attack is specifically prohibited in 10 C.F.R. § 2.335(a). Because the Petitioners have not appropriately and specifically sought and received a waiver to challenge this rule, the contention falls outside the scope of this proceeding and should be dismissed.

Second, even if uranium fuel cycle impacts were not already determined by rule, and even if these impacts were not already discussed in the ER, Petitioners’ contention fails because it is contrary to NEPA precedent. It is settled law that NEPA only requires consideration of an impact if there is a “reasonably close causal relationship” between the impact and its alleged

²⁷¹ Petition at 36.

²⁷² *Id.*

²⁷³ *Id.*

cause.²⁷⁴ This requirement has been analogized to the doctrine of proximate cause from tort law.²⁷⁵ In *Department of Transportation v. Public Citizen*, the U.S. Supreme Court applied these principles and held that “where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant ‘cause’ of the effect.”²⁷⁶ Thus, in that case, the Court held the federal agency did not need to address the effects of an increase in cross-border operations of Mexican motor carriers in its NEPA analysis because the agency was not responsible for (*i.e.*, was not the proximate cause of) the increase in cross-border activity.²⁷⁷ The Court’s holding was grounded on the fact that NEPA’s “rule of reason” would not be served by requiring the agency to consider the environmental impact of the increase in truck operations where the agency “simply lacks the power to act on whatever information might be contained in the [environmental analysis].”²⁷⁸

The situation here is analogous. Petitioners assert that the ER for Comanche Peak Units 3 and 4 should consider impacts on uranium mining and milling in foreign countries. As noted below, the ER addresses uranium mining and milling generically. Regulations or controls other countries may chose to impose on mining and milling, and the impacts of such activities, fall far afield from the requested governmental action—issuance of a COL in Texas. Furthermore, NRC has no authority to prevent or mitigate impacts from fuel cycle activities in foreign countries. Accordingly, regardless of the extent that foreign fuel cycle impacts may differ from those described in the ER, the issuance of the Comanche Peak COL cannot be considered the proximate cause of such impacts. Therefore, Petitioners have not demonstrated

²⁷⁴ *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 (1983).

²⁷⁵ *Id.*

²⁷⁶ *Dep’t of Transp. v. Public Citizen*, 541 U.S. 752, 769 (2004).

²⁷⁷ *Id.* at 770-71.

²⁷⁸ *Id.* at 768.

that consideration of these impacts is a material issue in this proceeding, and this contention should be rejected for failing to satisfy 10 C.F.R. § 2.309(f)(1)(iv).

Further, to the extent that the contention asserts the ER should consider the consequences of disruption of the foreign fuel supply as a result of terrorism, this claim should also be rejected. Specifically, as discussed in more detail in our response to Contention 19, consideration of the environmental impacts of terrorism are barred by the Commission's decision in *Oyster Creek*.²⁷⁹ Furthermore, even if the foreign uranium supply were to be interrupted, ER Section 10.2.2.4 shows that there is a sufficient domestic supply of uranium that is available to serve Comanche Peak.

Third, the ER addresses environmental impacts associated with the uranium fuel cycle, including the health impacts of mining and milling in Section 5.7.1, and it does so in accordance with the requirements of 10 C.F.R. § 51.51. Section 5.7.1 notes that methods are improving and environmental impacts diminishing. ER Section 10.2.1.6 concludes that those impacts are SMALL. Section 10.2.2.4 includes a discussion of the domestic and international market for uranium and notes that there is sufficient domestic supply of uranium available for current and new reactors for the next decade and that known reserves of uranium ore are expected to increase significantly as little or no uranium exploration took place between 1985 and 2005, and known reserves have begun to increase. Thus, the Petitioners' suggestion that the ER fails to address the environmental impacts of mining and milling or foreign dependence are simply wrong, and insufficient to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

Finally, in addition to all the reasons above, the contention should be rejected because it lacks any supporting expert affidavits or references, contrary to 10 C.F.R. § 2.309(f)(1)(v).

²⁷⁹ *AmerGen Energy Co. (Oyster Creek Nuclear Generating Station)*, CLI-07-8, 65 NRC 124 (2007), *aff'd sub nom. N.J. Dep't of Env'tl. Protection v. NRC*, 561 F.3d 132 (3rd Cir. 2009).

Petitioners present no supporting information indicating uranium fuel cycle impacts in foreign countries would be any different than those impacts already discussed in the ER.

In summary, the contention should be rejected because it presents an impermissible challenge to the Commission's determinations regarding the impacts of the uranium fuel cycle in Table S-3 in 10 C.F.R. § 51.51, contrary to 10 C.F.R. § 2.335(a); calls for consideration of impacts not required under NEPA, contrary to 10 C.F.R. § 2.309(f)(1)(iv); lacks adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and fails to demonstrate a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

15. Contention 15 – Decommissioning Impacts

Contention 15 asserts that “[t]he COLA should consider all radiological, environmental and public health impacts related to decommissioning of Comanche Peak Units 3 and 4.”²⁸⁰ Petitioners contend that the ER contains only “an initial projection” of decommissioning-related impacts and “assumes” that the impacts “are either negligible or require, at most, a site-specific assessment.”²⁸¹

Contention 15 should be rejected because it is inconsistent with the Commission's regulatory structure governing decommissioning. Additionally, Contention 15 lacks adequate factual or expert support and fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). In short, Petitioners provide no credible legal basis for their assertions that the ER must include an assessment of the environmental impacts of final decommissioning plans, and provide no factual basis for their claim that the ER contains an insufficient assessment of decommissioning impacts. Moreover, in making these bald assertions, Petitioners simply ignore relevant information presented in the ER.

²⁸⁰ Petition at 36.

²⁸¹ *Id.* at 36-37.

a. Contention 15 Is Inconsistent with the Commission’s Regulatory Framework Related to Decommissioning

Contrary to the Petitioners’ apparent belief, an applicant for a COL need not describe its decommissioning plans. Instead, as provided by 10 C.F.R. §§ 50.82(a)(4) and 52.110(d), decommissioning plans for a power reactor must be provided in a post-shutdown decommissioning activities report (“PSDAR”) within two years of permanent cessation of operation. Additionally, those regulations require that the PSDAR provide “the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by appropriate previously issued environmental impact statements.”²⁸² Complementary provisions are contained in NRC environmental regulations in 10 C.F.R. §§ 51.53(d) and 51.95.

In recognition that a PSDAR does not need to be developed until the time of decommissioning, the NRC has issued a Generic Environmental Impact Statement (“GEIS”) for decommissioning of nuclear power plants.²⁸³ As stated in the GEIS:

This Supplement can be used by the public to understand the decommissioning process, the activities performed during decommissioning, and the potential environmental impacts resulting from these activities. It identifies activities that can be bounded by a generic evaluation. Licensees can rely on the information in this Supplement as a basis for meeting the requirements in 10 CFR 50.82(a)(6)(ii). This requirement states that the licensee must not perform any decommissioning activity that causes any significant environmental impact not previously reviewed. The NRC staff will also rely on this Supplement as a basis for determining if anticipated decommissioning impacts require an additional review.²⁸⁴

²⁸² 10 C.F.R. § 52.110(d)(1).

²⁸³ NUREG-0586, Supp. 1, “Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities—Regarding the Decommissioning of Nuclear Power Plants” (Nov. 2002) (“GEIS”).

²⁸⁴ *Id.* at xiv. At the time the GEIS was issued in 2002, 10 C.F.R. § 52.110 did not exist, and COLs were subject to the parallel provisions in 10 C.F.R. § 50.82.

In summary, at the COLA stage, an applicant need not provide its decommissioning plans, or describe in detail the site-specific impacts of decommissioning. At the time of decommissioning, the COL holder must provide a PSDAR, together with a supplement to its environmental report pursuant to 10 C.F.R. § 51.53(d), describing its decommissioning plans and showing how the environmental impacts of implementing those plans are bounded by previous environmental impact statements. To the extent that the Petitioners are contending that Luminant must describe its decommissioning plans (including a detailed discussion of the associated site-specific environmental impacts) now, its contention is inconsistent with the Commission's regulatory framework and should be rejected pursuant to 10 C.F.R. § 2.335(a).

b. Contention 15 Fails to Establish a Genuine Dispute with the Applicant on a Material Issue of Law or Fact

Contention 15 should also be rejected because it fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi), which requires a petitioner to provide "sufficient information" to show that a genuine dispute exists with the applicant on a material issue of law or fact. Section 2.309(f)(1)(vi) "requires that there be a concrete and genuine dispute appropriate for litigation."²⁸⁵ Petitioners fail to controvert relevant information contained in the ER and supporting documentation referenced therein, underscoring the lack of a genuine material dispute.

Contrary to Petitioners' claim, the ER does, in fact, provide information concerning the impacts of decommissioning the proposed new Comanche Peak units. Specifically, ER Section 5.9 incorporates by reference and summarizes (in ER Table 5.9-1) the GEIS on the decommissioning of NRC-licensed nuclear power reactors.²⁸⁶ As ER Section 5.9.1 explains, the

²⁸⁵ *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, LBP-06-23, 64 NRC 257, 358 (2006).

²⁸⁶ ER at 5.9-1, 5.9-3 (citing the GEIS).

GEIS determined, for those resource or impact areas not requiring site-specific analysis, that the impacts associated with decommissioning nuclear power plants in accordance with NRC-approved methods are SMALL.²⁸⁷ In view of the above, the ER states that “[detailed] plans regarding the decommissioning of the [proposed] units are expected to be developed as required by the [COL] and the NRC regulations prior to decommissioning the facilities.”²⁸⁸ The ER also notes that “[a] detailed environmental assessment is expected to be included as part of the detail[ed] plan prior to decommissioning.”²⁸⁹ Petitioners have presented no information or expert opinion to show that site-specific considerations at Comanche Peak preclude application of the GEIS’s generic, bounding environmental impact determination to the new units.

Section 4.3.8 of the GEIS, in particular, discusses in detail the NRC’s evaluation of the radiological impacts of nuclear power plant decommissioning activities, including radiological doses to workers and members of the public. Section 4.3.8.4 concludes that “radiological impacts of decommissioning will remain within regulatory limits,” and that the radiological impacts of decommissioning activities are thus SMALL.²⁹⁰ Section 4.3.17 of the GEIS, in turn, addresses the radiological impacts related to transporting decommissioning equipment and materials (radiological and nonradiological) offsite, and concludes that potential impacts are SMALL.²⁹¹ Finally, Section 4.3.18 of the GEIS contains an evaluation of the potential impacts of decommissioning on the irreversible and irretrievable commitments of resources—including the volume of land required for radioactive waste disposal—and concludes that those impacts

²⁸⁷ *Id.* at 5.9-1.

²⁸⁸ *Id.*

²⁸⁹ *Id.*

²⁹⁰ GEIS at 4-38.

²⁹¹ *Id.* at 4-76 to 4-81.

also are SMALL.²⁹² In view of these GEIS determinations—which Petitioners fail to controvert—there is no basis for Petitioners’ suggestion that offsite disposition of decommissioning materials is not feasible or poses unacceptable risks to public health or the environment.²⁹³

Furthermore, Petitioners’ claim that the ER does not evaluate the site-specific impacts of decommissioning is factually incorrect.²⁹⁴ ER Section 5.91 notes that the site-specific impacts occur beyond the operational area, that the new units will be contained almost entirely within the operational area, and therefore that the site-specific impacts beyond the operational area should be SMALL based upon the evaluation for construction and operation in ER Sections 2.5, 4.2, and 5.8.

Finally, Petitioners’ claim that decommissioning technology is “inadequate” fails to establish a litigable dispute. Specifically, the 2002 GEIS takes into account different reactor designs (including PWRs) and advances in decommissioning technology. As the GEIS explains:

The intent of this Supplement is to consider in *a comprehensive manner all aspects related to the radiological decommissioning of nuclear reactor facilities* by incorporating updated information, regulations, and analyses. Since the 1988 GEIS was written, the NRC and the industry have gained substantially more nuclear power facility decommissioning experience. Based on the number of reactors shut down and the date that they permanently ceased

²⁹² *Id.* at 4-81 to 4-83.

²⁹³ Petitioners’ suggestion that “contingencies” require “consideration of radiological impacts related to the long-term delay in decommissioning” is similarly insufficient to establish a genuine material dispute. Petition at 38. First, under 10 C.F.R. § 50.82(a)(3), decommissioning of a nuclear power reactor must be completed within 60 years of permanent cessation of operations. Completion of decommissioning beyond 60 years would require approval by the Commission and would be authorized only when necessary to protect public health and safety. Any factors warranting such an extension of time would be considered at the time of decommissioning (not now, in the context of the COLA or ER). Second, the GEIS evaluates the impacts associated with the full spectrum of NRC-approved decommissioning methods, which include DECON, SAFSTOR, and ENTOMB. Notably, some of these options involve, in Petitioners’ own words, “*in situ*, long-term radioactive decay” of structures, systems, and components facilitate the decommissioning and license termination processes. Petition at 37.

²⁹⁴ Petition at 37.

operations, over 200 facility-years' worth of decommissioning experience have accumulated since the NRC published the 1988 GEIS. Currently, there are 19 commercial power reactor facilities in the decommissioning process. This includes nine that permanently ceased operations after the NRC published the 1988 GEIS. Since the 1988 GEIS, there are three facilities that have completed decommissioning and terminated their licenses. There are also new technologies and approaches applicable to decommissioning that the 1988 GEIS does not address.²⁹⁵

As such, Petitioners' assertions that decommissioning technology is inadequate and that the environmental and public health implications of decommissioning are not well understood lack any basis in fact. Indeed, the actual, extensive decommissioning experience that underlies the NRC 2002 GEIS belies Petitioners' claims.²⁹⁶

In summary, Petitioners' unfounded assertion that the ER inappropriately "put off" evaluation of decommissioning-related impacts fails to raise a genuine dispute on a material issue of law or fact.²⁹⁷

c. Contention 15 Lacks an Adequate Factual or Technical Support

In addition to the fundamental defects in Contention 15 as discussed above, the Contention also fails to satisfy the requirements in 10 C.F.R. § 2.309(f)(1)(v). Section 2.309(f)(1)(v) requires a petitioner to "provide documents or other factual information or

²⁹⁵ GEIS at xi-xii (emphasis added).

²⁹⁶ See NRC Fact Sheet, Decommissioning Nuclear Power Plants, at 10 (listing decommissioned facilities), available at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.pdf>. In addition, Petitioners' claim that decommissioning may not be "feasible," and that the impacts of decommissioning activities "are not well understood," is belied by the Commission's own regulations. Petition at 37. Specifically, 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1, provides an assessment of the environmental impacts of decommissioning of nuclear power plants, including the impacts related to radiation doses, waste management, air quality, water quality, ecological resources, and socioeconomic impacts. In each of these areas, Part 51 states that the impacts of decommissioning are SMALL. Although this regulation pertains to license renewal and therefore is not strictly binding in this proceeding, it does reflect the Commission's generic determination that the environmental impacts of decommissioning nuclear power plants are SMALL.

²⁹⁷ Petition at 36.

expert opinion that set forth the necessary technical analysis to show why the proffered bases support its contention.”²⁹⁸ Importantly, a petitioner is required to include “references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue.”²⁹⁹ As the Commission has explained, “[d]ocuments, expert opinion, or at least a fact-based argument are necessary.”³⁰⁰

Here, Petitioners provide none of this in support of their bald assertions. Contention 15 is devoid of any technical analysis, whether it be expert opinion or appropriately-referenced technical documentation. Although Petitioners allude vaguely to “promotional materials” published by US-APWR vendor Mitsubishi, they fail to identify or furnish the specific document on which they rely.³⁰¹ They also fail to explain with any particularity how that document allegedly supports the proposition that “there is currently inadequate technology to carry out decommissioning.”³⁰² Vague references to documents are insufficient to support the admission of a contention,³⁰³ and a petitioner must explain the significance of any factual information upon which it relies.³⁰⁴ Petitioners’ “bare assertions and speculation” do not discharge their burden under 10 C.F.R. § 2.309(f)(1)(v).³⁰⁵ Accordingly, this contention should be dismissed for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v).

²⁹⁸ *PFS*, LBP-98-7, 47 NRC at 176; see also *Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 305 (1995) (stating that a petitioner must “provide the analyses and expert opinion showing why its bases support its contention”), *vacated in part and remanded on other grounds*, CLI-95-10, 42 NRC 1, and *aff’d in part*, CLI-95-12, 42 NRC 111 (1995).

²⁹⁹ 10 C.F.R. § 2.309(f)(1)(v).

³⁰⁰ *Oconee*, CLI-99-1, 49 NRC at 342.

³⁰¹ Petition at 37.

³⁰² *Id.*

³⁰³ *Seabrook*, CLI-89-3, 29 NRC at 240-41.

³⁰⁴ See *Fansteel*, CLI-03-13, 58 NRC at 204-05.

³⁰⁵ *Id.* at 203 (internal quotation marks and citation omitted).

16. Contention 16 – Decommissioning Funding Assurance

Contention 16 asserts that “[t]he Decommissioning Funding Assurance described in the application is inadequate to assure sufficient funds will be available to fully decontaminate and decommission Comanche Peak Units 3 and 4.”³⁰⁶ Petitioners further assert that “Applicant must use the prepayment method of assuring decommissioning funding.”³⁰⁷

Contention 16 should be rejected because it fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and Petitioners’ further arguments regarding a purported requirement to use the “prepayment method” are impermissible attacks on NRC’s regulations, prohibited by 10 C.F.R. § 2.335(a).

a. **Background Related to NRC Decommissioning Assurance Requirements and Applicable Texas Law**

NRC regulations in 10 C.F.R. § 50.75 require that an applicant for a COL provide a decommissioning report that contains a certification that decommissioning funding assurance is sufficient to cover the specified amount of decommissioning costs. Decommissioning funding assurance must be provided using one or more of the six methods provided in Section 50.75(e)(1): (i) prepayment; (ii) external sinking fund; (iii) a surety method, insurance, or other guarantee method; (iv) for governmental licensees, a statement that decommissioning funds will be obtained when necessary; (v) contractual obligations by the licensee’s customers; or (vi) any other mechanism that provides equivalent assurance. Section 50.75(e)(1)(ii) further states that an external sinking fund may be used as the *exclusive* method only: (A) by a licensee that recovers, directly or *indirectly*, decommissioning costs through rates established by cost of

³⁰⁶ Petition at 38.

³⁰⁷ *Id.*

service or “similar ratemaking regulation;” or (B) a licensee whose source of revenues for the sinking fund is a “non-bypassable charge.”

As discussed in Comanche Peak COLA Part 1, Section 1.2, Luminant is not a regulated electric utility but instead is in the competitive power generation business. As a result, Luminant does not have rates that are set by regulation. Therefore, as discussed in COLA Part 1, Section 1.4, Luminant does not technically qualify to use the sinking fund method as its exclusive method for decommissioning funding assurance. However, as also discussed in that section of the COLA, Luminant is *not* proposing to use the external sinking fund as its exclusive method. Instead, in accordance with Section 50.75(e)(1)(vi), Luminant is proposing to use an external sinking fund in conjunction with a Texas law that provides that ratepayers would be obligated to fund the decommissioning cost if Luminant fails to do so. The State of Texas program for providing decommissioning assurance includes state regulatory oversight and a decommissioning assurance mechanism backed by ratepayers. In the language of Section 50.75(e)(1)(ii), Luminant could “indirectly” recover its decommissioning costs by ratemaking regulation. Thus, the COLA proposes to use Luminant payments into an external sinking fund, backstopped by the obligation by the State of Texas, as a method for satisfying the requirements in Section 50.75.

This Texas program allows a merchant generator such as Luminant to elect to become subject to the jurisdiction of the Public Utility Commission of Texas (“PUCT”) for purposes of decommissioning assurance, pursuant to regulations adopted by the PUCT and Texas law.³⁰⁸ By “opting in” to this Texas program, Luminant will be required to take funds from its operating revenues and deposit them into a nuclear decommissioning trust to accumulate with earnings

³⁰⁸ P.U.C. Subst. R. 25.304; Tex. Util. Code Ann. § 39.206.

over time. The requirements include a required annual amount of contributions established by the PUCT and an additional state-required assurance to satisfy creditworthiness.³⁰⁹ In exchange for doing so, the Texas statute provides that ratepayers will fund the decommissioning obligation in the event of a shortfall. Specifically, the Texas law provides that “[i]n the event the financial assurances provided by Subsection (k) are insufficient to meet the annual funding requirements of the decommissioning trust, the retail electric customers shall be responsible for funding any shortfall in the cost of decommissioning the nuclear generating unit.”³¹⁰

b. Contention 16 Fails to Establish a Genuine Dispute with the Applicant on a Material Issue of Law or Fact

Contention 16 should be rejected because it fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi), which requires a petitioner to provide “sufficient information” to show that a genuine dispute exists with the applicant on a material issue of law or fact. Petitioners have attempted to manufacture a legal dispute by mischaracterizing the provisions of a Texas statute and statements by Luminant. However, when Texas law and the Luminant statements are properly analyzed, it is clear that there is no material dispute of fact or law.

The terms of 10 C.F.R. § 50.75(e)(1)(ii) embody the principle that NRC will defer to state economic regulators where decommissioning funding is assured by the fact that any shortfall in decommissioning funds will be provided by ratepayers pursuant to state law.³¹¹ The

³⁰⁹ P.U.C. Subst. R. 25.304(i)-(l).

³¹⁰ Tex. Util. Code Ann. § 39.206(m); P.U.C. Subst. R. 25.304(m).

³¹¹ See, e.g., NUREG-1577, Rev. 1, “Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance” at 18 (Feb. 1999) (“In the 1988 decommissioning rule, the NRC deferred to the ratemaking authority of the PUCs and FERC to set annual rates for decommissioning.”) The NRC Staff explained in this guidance, which was issued after the adoption of 10 C.F.R. 50.75(e)(1)(ii)(B), that:

The NRC expects that, for licensees that continue to have direct or indirect rate regulatory oversight, it will continue to be able to defer to rate regulators to determine the appropriate amortization schedule for decommissioning funds, provided that there is reasonable assurance that, at the time of permanent cessation of operations, decommissioning funds plus

Texas statute provides precisely this type of assurance, which enables Luminant to use the external sinking fund method even though, under the Texas law, the plan and desire is that ratepayers would never be called upon to actually fund decommissioning.

Petitioners' argument rests on the false premise that the Texas statute requires that Luminant first provide reasonable assurance of decommissioning funding in accordance with the federal regulations "before it can rely on the ratepayer to fund decommissioning" under the provisions of the Texas statute.³¹² The only bases provided for this proposition are various quotations from the Texas statute, which require that: (1) "the terms of the trust must be consistent with trust terms and conditions" required by NRC;³¹³ (2) the period established by the PUCT for the company to collect cannot be longer than the "operating license period" established by NRC;³¹⁴ and (3) the trust fund investments must comply with both PUCT guidelines and be "consistent with" NRC guidelines.³¹⁵ These provisions merely reinforce the notion that the Texas statute is meant to operate in harmony with the federal requirements that govern the same subject matter. Petitioners do not and cannot cite any language in the Texas statute suggesting the requirement, implied by Petitioners, that the company must first satisfy federal financial assurance requirements, before turning to the state procedures. In fact, the opposite is true. The Texas procedures are intended to be a means by which a company *can* satisfy the federal requirements, precisely as advanced by Luminant here.

estimated earnings will be available in the amount estimated to be necessary to complete decommissioning.

Id.

³¹² Petition at 40.

³¹³ *Id.* at 39; Tex. Util. Code Ann. § 39.206(f); *see* 10 C.F.R. § 50.75(h)(1) (applicable NRC regulations).

³¹⁴ Petition at 39; Tex. Util. Code Ann. § 39.206(g).

³¹⁵ Petition at 39; Tex. Util. Code Ann. § 39.206(j); *see* 10 C.F.R. § 50.75(h)(1) (applicable NRC regulations).

Petitioners ignore language in the Texas statute which specifically recognizes that a company which otherwise can satisfy NRC’s decommissioning funding assurance mechanisms need not subject itself to the provisions of the statute and jurisdiction by the PUCT. In fact, Section 39.206(c) provides that “[n]othing in this section shall be construed to require a power generation company to use a [PUCT] approved method to provide funds for decommissioning, if the power generation company can otherwise satisfy the decommissioning financial assurance requirements of the [NRC].”³¹⁶ Thus, far from explicitly or implicitly requiring that a company first comply with federal requirements before the option of ratepayer funding can become available under the terms of the Texas statute, the Texas statute explicitly acknowledges that it might not be invoked at all if the company chooses to otherwise meet NRC requirements without “opting in” to the Texas program.³¹⁷

The Texas statute is an alternative method for satisfying NRC’s requirements and there is no sound basis for Petitioners’ suggestion that “Luminant must qualify to use the sinking fund method in its own right first.”³¹⁸ Under Petitioners’ interpretation of the statute, Luminant could only take advantage of the statute if it does not need the statute to satisfy NRC requirements. As interpreted by Petitioners, the Texas statute would be rendered meaningless, which defies both logic and common sense.

Finally, Petitioners do not salvage their contention by pointing out an “admission” by Luminant that it does not meet the terms of 10 C.F.R. § 50.75(e)(1)(ii)(A) and (B) to use an

³¹⁶ Tex. Util. Code. Ann. § 39.206(c).

³¹⁷ The PUCT rules reinforce that the company “is not required to use the methods set out in this section and may discontinue the use of the methods set out in this section, if it chooses to satisfy the financial assurance requirements of the [NRC] by using other methods acceptable to the [NRC].” P.U.C. Subst. R. 25.304(a)(1).

³¹⁸ Petition at 40.

external sinking fund as the “exclusive” method for decommissioning funding assurance.³¹⁹ The cited regulations contemplate that ratepayers provide the funding to be deposited in the external sinking fund, whereas the Texas procedures contemplate that the funding ordinarily comes from the company’s operating revenue and that ratepayers would only be called upon to provide funding if needed. Even assuming, *arguendo*, that this slight variance disqualifies Luminant from using the external sinking fund method in Section 50.71(e)(1)(ii), the provisions of Section 50.75(e)(1)(vi) allow for flexibility to approve another assurance mechanism or combination of mechanisms where the assurance provided is equivalent to mechanisms detailed in other parts of the rule.

As the Commission held in the *FitzPatrick-Indian Point* license transfer proceeding, Section 50.75(e)(1)(vi) “plainly establishes an ‘equivalence’ test.”³²⁰ Thus, in that decision the Commission rejected a challenge to the applicants’ proposal to use a Section 50.75(e)(1)(vi) funding arrangement because the intervenor argued only that there were differences between the proposed arrangement and the methods codified in NRC regulations. The Commission found that sustaining such a contention would render Section 50.75(e)(1)(vi) “superfluous” and “would also unduly constrain the flexibility that subsection (vi) accords to applicants in structuring their decommissioning funding methods.”³²¹ Similarly, the Comanche Peak COLA Part 1, Section 1.4, explicitly invokes the provisions in Section 50.75(e)(1)(vi) and, rather than contending that Luminant’s proposal does not satisfy that provision, Petitioners focus on whether Luminant satisfies the precise terms of another funding method. Accordingly, by focusing only on whether Luminant satisfies Section 50.75(e)(1)(ii), Petitioners have not provided a sufficient

³¹⁹ Petition at 38.

³²⁰ *Power Auth. of State of N.Y.* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-01-14, 53 NRC 488, 546 (2001).

³²¹ *Id.* at 550.

basis for their contention that Luminant's decommissioning funding assurance mechanism fails to satisfy Section 50.75.

c. Contention 16 is an Impermissible Attack on NRC Regulations to the Extent it Challenges the Options Available for Providing Decommissioning Funding Assurance

Petitioners contend that Luminant "must make a prepayment of the full amount of anticipated decommissioning costs in 2009 dollars."³²² Petitioners' assertions that Luminant "must" use the prepayment method are inconsistent with the regulations, which provide for a variety of methods that can be used and changed from time to time to provide decommissioning funding assurance.³²³ Addressing a similar contention, the Board in the *Calvert Cliffs* COL proceeding recently ruled:

Clearly it is beyond the authority of this Board to specify how Applicant must fulfill the decommissioning funding requirement. The Board can only decide whether or not the current funding proposal fulfills NRC requirements. Hence, the second statement of this contention, which states that the Applicant must use the prepayment option, *will not be admitted*.³²⁴

In summary, even if it is assumed, *arguendo*, that Luminant cannot use an external sinking fund pursuant to Section 50.75(e)(1)(ii), it would not necessarily be required to use the prepayment method. Instead, it could use any of the other available methods specified in Section 50.75(e)(1), including Section 50.75(e)(1)(vi). To the extent that Petitioners are arguing that prepayment is the exclusive method available to Luminant, their arguments constitute an

³²² *Id.* at 41.

³²³ 10 C.F.R. § 50.75(e).

³²⁴ *Calvert Cliffs*, LBP-09-4, slip op. at 36.

impermissible attack on Section 50.75(e)(1)(vi) and therefore should be rejected in accordance with 10 C.F.R. § 2.335(a).³²⁵

17. Contention 17 – Emergency Evacuation Model Assumptions

This contention alleges that the ER “makes unrealistic assumptions about the efficacy of the emergency evacuation model and plan.”³²⁶ Specifically, Petitioners claim that the ER improperly assumes that (1) “100% of the affected population” would be evacuated in the event of a radiological emergency; and (2) evacuees that are transported more than 25 miles from the Comanche Peak site “disappear” from the emergency evacuation analysis.³²⁷ According to Petitioners, these assumptions cause Luminant to underestimate the dose and dollar value resulting from a severe accident.³²⁸

As discussed below, Contention 17 should be rejected because Petitioners (1) fail to provide support for their assertion that the assumptions in the severe accident analysis are flawed, contrary 10 C.F.R. § 2.309(f)(1)(v); (2) fail to adequately controvert relevant information in the COLA, contrary to 10 C.F.R. § 2.309(f)(1)(vi); and (3) Luminant’s submission of a sensitivity analysis modifying the evacuation model assumptions moots this contention.

First, Petitioners offer nothing more than bare assertions that the emergency evacuation model assumptions in the severe accident analysis are unreasonable. Petitioners speculate that adopting their unspecified alternative assumptions would result in materially different results in

³²⁵ To the extent that Petitioners attempt to challenge Luminant’s decommissioning cost estimate, such a claim is also barred by 10 C.F.R. § 2.335(a) because the minimum cost estimate amount is established by regulation. See 10 C.F.R. § 50.75(c). The Commission has consistently ruled that in as much as an “argument generally attacks [NRC’s] formula for estimating decommissioning costs, it constitutes an impermissible collateral attack on [NRC’s] regulations.” *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 165-166 (2000). Moreover, a petitioner “is barred from challenging [the] regulation’s cost formula on the basis of site-specific conditions.” *Id.* at 166.

³²⁶ Petition at 41.

³²⁷ *Id.*

³²⁸ *Id.*

the severe accident evaluation.³²⁹ Petitioners fail to provide support for their claim that the assumptions in the severe accident analysis section of the ER are incorrect. In fact, Petitioners do not provide *any* expert opinion or other factual support for this contention. Instead, Petitioners merely point to statements in the ER and claim that they must be rejected.³³⁰ The Commission has emphasized that a contention “will be ruled inadmissible if the petitioner ‘has offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”³³¹ Furthermore, the Commission has stated that it is inappropriate for the petitioners to request the Board to make assumptions of fact to supply the support for their contentions.³³² Accordingly, this contention is unsupported and should be dismissed.

Second, Petitioners fail to provide sufficient information to show that a genuine dispute exists with Luminant on a material issue of law or fact. ER Section 7.2 discusses the probabilities and consequences of severe accidents. As part of this evaluation, the ER makes clear that Luminant selected an evacuation emergency response scenario (with no sheltering) for all individuals within 10 miles of the Comanche Peak site.³³³ Although Petitioners appear to dispute the selection of this scenario, they provide no supporting reasons for this dispute and fail to explain why adopting some other emergency response scenario would result in materially different severe accident dose estimates.

³²⁹ *See id.*

³³⁰ *Id.*

³³¹ *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *Oyster Creek*, CLI-00-6, 51 NRC at 208).

³³² *See Palo Verde*, CLI-91-12, 34 NRC at 155. Petitioners provide no information that suggests that the selection of the evacuation scenario was anything but a conservative decision. As the Emergency Plan recognizes, other protective actions such as sheltering result in lower doses under certain circumstances. *See COLA*, Part 5, Emergency Plan, Rev. 0, at II-62.

³³³ ER at 7.2-3.

The ER explains that once evacuees are more than 25 miles from the Comanche Peak site, they “disappear” from the emergency phase dose calculation.³³⁴ This portion of the ER is intended to convey that once an evacuee is more than 25 miles from the site, that evacuee no longer receives additional dose during the emergency phase. Petitioners merely summarize this portion of the ER and, without providing any further analysis, assert that Luminant should have considered doses to evacuees after they are transported more than 25 miles from the site. Again, while Petitioners disagree with the use of this assumption, they provide no explanation of the basis for this dispute and fail to explain how considering the dose to evacuees beyond 25 miles during the emergency phase would result in materially different conclusions in the severe accident analysis. Therefore, Petitioners have not provided sufficient information to demonstrate the existence of a material issue of law or fact.

Furthermore, even if Petitioners’ position were to be accepted, Petitioners have not demonstrated or even alleged that it would have any material impact upon the results discussed in ER Section 7.2 (*i.e.*, that there would be any significant increase in doses). In this regard, ER Section 7.2.4 concludes that “[t]he environmental impacts of a postulated severe accident at the CPNPP site could be severe but, due to the low likelihood of such an accident, the impacts are determined to be SMALL.” Nothing that the Petitioners have alleged casts any doubt upon that conclusion or the analysis in the ER showing that:

- Dose risk to a member of the public from an accident at Comanche Peak Units 3 and 4 is about six orders of magnitude less than the risk from background radiation (1.09×10^{-7} rem/RY from accidents versus 3.6×10^{-1} rem/yr from background radiation).
- Risk of cancer fatalities and early fatalities to a member of the public from an accident at Comanche Peak Units 3 and 4 is about two to three orders of magnitude less than the values provided in the Commission’s Safety Goal Policy Statement.

³³⁴ *Id.*

Therefore, even if the risk of accidents described in the ER were to be increased by several orders of magnitude, the risk would still be SMALL. Petitioners have not alleged that changing the assumptions regarding doses to evacuees would cause such increases in risk. Thus, as the Commission has pointed out, while “petitioners may raise contentions seeking correction of *significant* inaccuracies and omissions in the ER[,] . . . boards do not sit to ‘flyspeck’ environmental documents or to add details or nuances.”³³⁵

Additionally, information in the record confirms that use of Petitioners’ assumptions would have no significant impact on risk. In particular, as discussed in the ER, the design certification applicant for the US-APWR performed a generic analysis of the risk posed by accidents.³³⁶ Unlike the analysis for Comanche Peak, the analysis for the US-APWR assumed *no evacuation or sheltering*.³³⁷ Despite these assumptions, the risk calculated by the design certification applicant is the same order of magnitude as the risk calculated for Comanche Peak.³³⁸ Petitioners have not disputed this analysis, and therefore have not shown that their contention raises a genuine dispute of material fact.

Finally, in response to interactions with the NRC Staff, Luminant is modifying the provisions in the ER to use more conservative assumptions than the assumptions used in

³³⁵ *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005) (citation omitted) (emphasis added).

³³⁶ ER at 7.2-7

³³⁷ *Id.*

³³⁸ *Id.* There are several other differences between the US-APWR analysis and the Comanche Peak analysis. For example, as discussed in the ER at 7.2-7, the Comanche Peak analysis is more conservative than the US-APWR analysis, in that the Comanche Peak analysis considered Release Category RC5 events and considered doses after the first 24 hours of the event, unlike the US-APWR analysis. On the other hand, the US-APWR assumed a population distribution similar to that around the Surry plant, which is significantly greater than the population around Comanche Peak. Compare Comanche Peak ER Table 2.5-1, with US-APWR, MUAP-DC021, Applicant’s Environmental Report – Standard Design Certification, Rev. 1, Table A-4 (Aug. 2008), available at ADAMS Accession No. ML082590716. Despite these differences, the risks calculated for the US-APWR and Comanche Peak Units 3 and 4 are very similar.

Revision 0 of the COLA. As provided in a recent filing with the NRC,³³⁹ Luminant is modifying its severe accident dose analysis in ER Section 7.2 to use the assumptions that (1) 90 percent of the population within 10 miles of the site is evacuated; and (2) evacuees within 50 miles of the plant continue to receive dose. As provided in the revision to ER Table 7.2-5, this change in assumptions results in a slight increase in the risks of early fatalities and latent fatalities, but those risks are still of the same order of magnitude as provided in Revision 0 of the ER. Thus, not only does this response to the RAI demonstrate that Petitioners' claims are not material, but it also renders Contention 17 moot.³⁴⁰

For the foregoing reasons, this contention is not properly supported and does not demonstrate that a genuine material dispute exists. Moreover, the contention is now moot because the severe accident analysis no longer assumes that 100 percent of the population within 10 miles of the site is evacuated, or that evacuees stop receiving doses beyond 25 miles from the plant. Therefore, the Board should reject this contention.

18. Contention 18 – Alternative Energy Sources

Contention 18 alleges that the ER “is inadequate because it fails to make reasonable assumptions about alternatives to the proposed action of constructing and operating Comanche Peak Units 3 and 4.”³⁴¹ The contention asserts, in principal part, that:

- The ER improperly excludes “conservation/energy efficiency measures by citing to NRC policy that has determined that conservation measures are not reasonable alternatives to merchant power plants that sell wholesale power.”³⁴²

³³⁹ See Letter from Rafael Flores, Luminant, to NRC Document Control Desk (Apr. 28, 2009). A copy of this letter was also provided to the Secretary of the Commission and the parties on April 29, 2009. See Letter from Steven P. Frantz, Counsel for Luminant, to NRC Office of the Secretary (Apr. 29, 2009).

³⁴⁰ See USEC, CLI-06-9, 63 NRC at 444 (quoting *McGuire-Catawba*, CLI-02-28, 56 NRC at 383) (“where a contention alleges the omission of particular information or an issue from an application, and the information is later supplied by the applicant . . . the contention ‘is moot.’”).

³⁴¹ Petition at 42.

³⁴² *Id.* at 43.

- Recent advances in technology such as compressed air and improved battery storage capacity cast doubt on the ER’s conclusion that wind and solar power cannot provide baseload capacity.³⁴³
- The ER does not provide a side-by-side comparison of mortality and morbidity, the effects of catastrophic accidents, and greenhouse gases at nuclear facilities and at renewable energy facilities (e.g., wind power facility).³⁴⁴

a. Wind and Solar Power and Energy Conservation/Efficiency Are Not Reasonable Alternatives for Producing Baseload Power

The purpose of the proposed action is the construction and operation of a 3200-MWe nuclear power plant that is to be used as independent merchant baseload facility.³⁴⁵ As such, Luminant is not required, as a matter of law, to evaluate in depth any energy alternative or energy-efficient or conservation measure that cannot produce baseload power.

Controlling Commission and judicial precedent makes this fact clear. In the *Clinton* early site permit proceeding, the Commission held that the applicant (also a merchant generator) was “not obliged to examine general efficiency or conservation proposals that would do nothing to satisfy [the] particular project’s goals [of producing baseload power].”³⁴⁶ The Commission emphasized that “the NEPA ‘rule of reason’ does not demand an analysis of what the Board called the ‘general goal of energy efficiency.’”³⁴⁷ The Commission also rejected wind and solar power on the same grounds as energy efficiency, ruling that:

³⁴³ *Id.* at 42.

³⁴⁴ *Id.* at 43. In contending that the ER should “carefully compare the greenhouse gas effects expected from each of the alternative technologies” to those of Comanche Peak Units 3 and 4, Petitioners refer to alleged “expected” increases in the cost of using fossil fuels to support the uranium fuel cycle and the “anticipated use of foreign-produced uranium.” *Id.* For the reasons discussed in Luminant’s responses to Contentions 12 and 14, *supra*, Petitioners’ arguments relative to the uranium fuel cycle and foreign-produced uranium are not litigable in this proceeding and do not support the admission of Contention 18.

³⁴⁵ ER at 9.2-1.

³⁴⁶ *Exelon Generation Co. (Early Site Permit for Clinton ESP Site)*, CLI-05-29, 62 NRC 801, 808 (2005), *aff’d sub nom. Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676 (7th Cir. 2006).

³⁴⁷ *Id.* at 807.

Because a solely wind- or solar-powered facility could not satisfy the project's purpose [of providing baseload power], there was no need to compare the impact of such facilities to the impact of the proposed nuclear plant.³⁴⁸

In affirming the NRC's *Clinton* decision, the Seventh Circuit expressly agreed that "it was reasonable for the [NRC] to conclude that NEPA did not require consideration of energy efficiency alternatives when [the applicant] was in no position to implement such measures."³⁴⁹ Thus, as a matter of law, the ER is not required to evaluate wind and solar power, energy conservation and energy efficiency, or other alternatives that cannot accomplish the stated purpose of Comanche Peak—namely, to produce baseload power.

The rulings in *Clinton* have recently been reaffirmed and applied in the *Summer* COL proceeding with respect to a contention similar to Contention 18 in this proceeding. The Licensing Board in that proceeding ruled that energy efficiency or conservation "is not a substitute for addition of base-load power, which is the accepted project purpose."³⁵⁰ In the *Summer* COL proceeding, the Board further stated:

In the instant proceeding, the Applicant has selected base-load generation as its project purpose, and has examined several alternative ways of achieving that goal. NRC precedent dictates that we defer to that stated goal and, in these circumstances, find that challenges to an alternatives examination that assert a requirement to examine methods of achieving another goal are outside the scope of this proceeding and not material to the decision the NRC must make.³⁵¹

Accordingly, Petitioners' claims that Luminant must provide a more detailed analysis of wind and solar power and energy conservation as part of its NEPA-mandated alternatives

³⁴⁸ *Id.* at 810.

³⁴⁹ *Env'tl. Law & Policy Ctr.*, 470 F.3d at 684. Moreover, "[t]he NRC is not in the business of crafting broad energy policy involving other agencies and nonlicensee entities." *Hydro Res. Inc.* (PO Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 55 (2001).

³⁵⁰ *Summer*, LBP-09-2, slip op. at 23.

³⁵¹ *Id.* at 22 n.84.

analysis are inconsistent with NEPA’s rule of reason and are not material to the NRC’s required findings, contrary to 10 C.F.R. § 2.309(f)(1)(iv).

b. Petitioners’ Claims Regarding Use of Compressed Air and Batteries to Supplement Wind and Solar Power Lack Adequate Support and Fail to Establish a Genuine Material Dispute

Petitioners provide no support for the claim that the ER should evaluate wind and solar power, in conjunction with energy storage in the form of compressed air and batteries, as a means of producing baseload power.³⁵²

Petitioners do not actually claim that wind and solar power in combination with compressed air and batteries could produce baseload power equivalent to that from Comanche Peak Units 3 and 4. Instead, Contention 18 states that “recent advances in technology such as compressed air energy storage and improved battery storage capacity *cast doubt* on some of the [ER’s] assumptions concerning problems with intermittency.”³⁵³ Such a vague and conclusory statement does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(i) and (ii) for a specific statement of issue and basis for a contention.

Petitioners do not provide any citation to support their statements regarding compressed air and batteries. At best, Petitioners provide a citation at the end of their contention, which merely refers to a report prepared by Dr. Makhijani “as further support” for the contention.³⁵⁴ Dr. Makhijani’s report does not provide sufficient information or analysis to establish a genuine material dispute regarding the viability of renewable energy technologies for producing baseload power. Although he claims that wind, solar, geothermal, and biomass “can be used for reliable

³⁵² Petition at 42-43.

³⁵³ *Id.* at 42 (emphasis added).

³⁵⁴ *Id.* at 44.

generation,” he does not assert, much less demonstrate, that “dispatchable electricity” from those sources is anywhere near equivalent to 3200 MWe of baseload power.³⁵⁵

While Dr. Makhijani mentions various energy storage technologies that are under development or in limited use, he does not assert or demonstrate that such technologies currently are capable of supplying the 3200 MWe of baseload generation power.³⁵⁶ For example, quoting the Shell company website, his report states that “[c]ompanies have experimented with batteries, flywheels, capacitors and hydroelectric systems to capture the wind’s energy for later use,” and that Shell is considering “plans” to develop a wind farm project that “may store energy underground in the form of compressed air.”³⁵⁷ Clearly, such “experiments” and “plans” are not technologically and commercially-proven surrogates for nuclear baseload power.

Dr. Makhijani’s report further notes that the National Renewable Energy Laboratory (“NREL”) has developed a “scheme” or “concept” for using wind power, compressed air energy storage, and natural gas for heating the compressed air as a baseload system.³⁵⁸ Again, however, Dr. Makhijani does not provide sufficient information to show that such storage devices are *reasonable alternatives to nuclear baseload generation* by a merchant plant. Thus, Petitioners’ statements regarding energy storage technologies fail to establish a genuine material dispute that is suitable for adjudication.³⁵⁹

³⁵⁵ Makhijani Report at 35, 39-40.

³⁵⁶ *See id.* at 39-42.

³⁵⁷ *Id.* at 40.

³⁵⁸ *Id.* at 40-41.

³⁵⁹ In fact, other recent, publicly-available information supports a contrary conclusion. For example, in its December 2008 draft EIS concerning proposed renewal of the Indian Point Unit 2 and Unit 3 operating licenses, the NRC Staff noted that “current energy storage technologies are too expensive to allow wind power to serve as a large baseload generator.” NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supp. 38, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment, Vol. 1, Main Report at 8-60 (Dec. 2008).

For the foregoing reasons, Petitioners fail to provide adequate support for the proposition that the alternatives they suggest are reasonable means by which to generate baseload power. Therefore, this allegation in Contention 18 does not satisfy the requirements in 10 C.F.R. § 2.309(f)(1)(v).

c. Petitioners' Claim That the ER Omits a Side-by-Side Comparison of the Impacts of Nuclear Power and Renewable Fuels Is Legally and Factually Baseless and Fails to Establish a Genuine Material Dispute

Petitioners' allegation that the ER omits an appropriate comparative evaluation of the environmental impacts of the proposed action (*i.e.*, nuclear baseload generation) and renewable energy alternatives is patently incorrect. The ER explicitly discusses the relative environmental impacts of an array of alternative energy sources for comparably-sized (*i.e.*, 3200 MWe) facilities. With regard to renewables in particular, those impacts are discussed in detail in ER Sections 9.2.2.1 (Wind), 9.2.2.2 (Solar Thermal Power and Photovoltaic Cells), 9.2.2.3 (Hydropower), 9.2.2.4 (Geothermal), 9.2.2.5 (Biomass), and 9.2.3.3 (Combinations of Alternatives). In each case, the ER found that the alternative energy source is not environmentally preferable to the proposed action, and, in some cases, would have greater environmental impacts.

Petitioners also claim that the ER should contain a side-by-side comparison of nuclear fuels and renewable fuels related to mortality and morbidity, the effects of catastrophic accidents, and greenhouse gases.³⁶⁰ Petitioners cite no statutory or regulatory requirement for such an analysis and, indeed, none exists. NRC's regulation that prescribes the content of an ER states that the discussion of alternatives should be "sufficiently complete to aid the Commission in developing and exploring, pursuant to Section 101(2)(E) of NEPA, 'appropriate alternatives to

³⁶⁰ Petition at 43.

the recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.”³⁶¹ That regulation further provides that, to the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form.³⁶² In fact, ER Table 9.2-1 contains such a comparative analysis for alternatives that were determined to be reasonable. There is no legal or factual basis for providing such an analysis for wind and solar power or other alternatives that were not determined to be reasonable alternatives to Comanche Peak. Notably, the Board considered and rejected a similarly ill-founded claim in the *Bellefonte* COL proceeding.³⁶³

In any event, Petitioners provide no factual support to substantiate their claim that “comparisons would indicate that renewable fuels do not cause increased mortality and morbidity while nuclear fuel clearly does.”³⁶⁴ Petitioners’ argument thus does not establish the existence of a genuine material dispute.

Petitioners’ call for a comparative analysis of the effects of “catastrophic accidents” similarly is ill-founded and fails to raise a genuine material dispute. ER Chapter 7 assesses the environmental impacts of postulated accidents involving radioactive materials at the Comanche Peak Units 3 and 4 site, including postulated design basis accidents (ER Section 7.1) and severe accidents (ER Section 7.2). ER Section 7.1.4 shows that the impacts of design basis accidents are within regulatory limits (*i.e.*, the site acceptance criteria of 10 C.F.R. § 50.34).³⁶⁵ Section 7.2.4 shows that environmental impacts of a postulated severe accident at the Comanche

³⁶¹ 10 C.F.R. § 51.45(b)(3).

³⁶² *Id.*

³⁶³ *Bellefonte*, LBP-08-16, slip op. at 73 (rejecting petitioners’ claim that “the ER is deficient because it fails to compare the cancer incidence and mortality effects of operating the proposed plant with the health effects of alternative energy-producing technologies, such as wind or solar power, or the alternative of energy conservation”).

³⁶⁴ Petition at 43.

³⁶⁵ ER at 7.1-3.

Peak site are SMALL due to the low likelihood of such an accident.³⁶⁶ Petitioners ignore the analyses in ER Chapter 7, and fail to explain how a side-by-side comparison of “catastrophic accidents” involving nuclear and alternative energy facilities (assuming NEPA required one) would materially alter any conclusion reached in the ER, especially given that the impacts of accidents at Comanche Peak are SMALL.

Finally, as discussed in response to Contention 12 above, Boards in three other COL proceedings have rejected contentions related to greenhouse gases produced by the uranium fuel cycle.³⁶⁷ Like the petitioners in those proceedings, Petitioners here fail to demonstrate that the consideration of greenhouse gas emissions from the uranium fuel cycle is a material issue in this proceeding, particularly as it relates to an applicant’s alternatives analysis. As the *Shearon Harris* Board explained, “unless in a particular instance there is in fact a *viable alternative* which has an extremely low carbon footprint, the footprint of the nuclear fuel cycle is immaterial to the decision the Agency must make, and therefore such a contention fails to create a genuine issue of *material fact*.”³⁶⁸ As explained above and in the ER, none of the “renewable fuel technologies” cited by Petitioners is a “viable alternative” to 3200 MWe of nuclear baseload power. Petitioners, moreover, do not provide any information to suggest a “comparative difference” between nuclear and renewable energy technologies with respect to greenhouse gas emissions.³⁶⁹

In summary, Petitioners’ arguments must be rejected because they are not material to the NRC’s findings under NEPA and Part 51, are legally and factually groundless, and fail to

³⁶⁶ *Id.* at 7.2-6.

³⁶⁷ See *Bellefonte*, LBP-08-16, slip op. at 64; *William States Lee*, LBP-08-17, slip op. at 12; *Shearon Harris*, LBP-08-21, slip op. at 27.

³⁶⁸ *Shearon Harris*, LBP-08-21, slip op. at 29 (emphasis added).

³⁶⁹ *Bellefonte*, LBP-08-16, slip op. at 74.

controvert the ER so as to raise a genuine material dispute, all contrary to 10 C.F.R.

§ 2.309(f)(1)(iv), (v), and (vi).³⁷⁰

19. Contention 19 – Environmental Impacts of Aircraft Crashes

Contention 19 alleges that “[t]he Comanche Peak Environmental Report fails to consider methods to prevent an aircraft attack on Comanche Peak Units 3 and 4 and the resulting environmental and public health consequences.”³⁷¹ In particular, Petitioners cite the U.S. Court of Appeals for the Ninth Circuit decision in *San Luis Obispo Mothers for Peace*, and assert that the COLA “should include a detailed analysis of the potential threats represented by terrorist attacks.”³⁷²

As discussed below, Contention 19 is inadmissible because it raises issues that are beyond the scope of the proceeding, lacks adequate factual or technical support, and fails to raise a genuine dispute with Luminant on a material issue of fact or law, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (v), and (vi).

Since the events of September 11, 2001, the Commission and its Licensing Boards have consistently held that the NRC does not need to consider, as part of its environmental review,

³⁷⁰ Although Contention 18 does not explicitly challenge the need for power from proposed Comanche Peak Units 3 and 4, or raise issues related to the commercial risks and relative costs of new nuclear power, Dr. Makhijani raises these issues in his report. For example, he asserts that “the two reactors proposed for Comanche Peak are not needed in order to meet projected electricity demand,” and that “[n]uclear power is too costly and risky financially compared to other sources of electricity.” Makhijani Report at 1. Putting aside the lack of any relevance to the issues explicitly raised in Contention 18 (as framed by the Petitioners), these assertions do not support admission of the contention. First, with respect to need for power, Dr. Makhijani does not dispute or controvert the need-for-power discussion contained in ER Chapter 8, which discusses the bases for the Electric Reliability Council of Texas (“ERCOT”) conclusion that a significant amount of new generation is needed to meet the demand in the ERCOT region. Second, the costs for a proposed project and any alternatives thereto are relevant to the NRC’s NEPA review “only if an environmentally preferable option is identified, which is not the case here.” See *Consumers Power Co.* (Midland Plant, Units 1 & 2), ALAB-458, 7 NRC 155, 163 (1978); *Summer*, LBP-09-2, slip op. at 25; *Shearon Harris*, LBP-08-21, slip op. at 25.

³⁷¹ Petition at 44.

³⁷² *Id.* (citing *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006)).

terrorist attacks on nuclear power plants.³⁷³ In *Oyster Creek*, the Commission expressly rejected the assertion that the Ninth Circuit’s decision in *San Luis Obispo Mothers for Peace* requires the NRC and its licensees to address the environmental impacts of a successful terrorist attack on a nuclear plant.³⁷⁴ The Commission explained that, while it was required to comply with the Ninth Circuit’s remand in the *Diablo Canyon* proceeding, it “is not obliged to adhere, in all of its proceedings, to the first court of appeals decision to address a controversial question.”³⁷⁵

The Commission has consistently held to this position in other proceedings. In *Grand Gulf*, for example, the Commission refused to admit a NEPA-terrorism contention in a 10 C.F.R. Part 52 licensing proceeding.³⁷⁶ Relying on the reasoning in its *Oyster Creek* decision, the Commission stated:

“The ‘environmental’ effect caused by third-party miscreants ‘is . . . simply too far removed from the natural or expected consequences of agency action to require a study under NEPA.’”
The claimed impact is too attenuated to find the proposed federal action to be the “proximate cause” of that impact.³⁷⁷

The Commission’s *Grand Gulf* and *Oyster Creek* decisions thus require that Contention 19 be rejected.³⁷⁸

³⁷³ See, e.g., *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124 (2007); *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-10, 65 NRC 144 (2007); *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), CLI-07-9, 65 NRC 139 (2007); see also *Vogtle*, LBP-07-3, 65 NRC at 269 & n.16 (citing cases).

³⁷⁴ See *Oyster Creek*, CLI-07-8, 65 NRC at 128-29.

³⁷⁵ *Id.*

³⁷⁶ *Grand Gulf*, CLI-07-10, 65 NRC at 146.

³⁷⁷ *Id.* at 146-47 (quoting *Oyster Creek*, CLI-07-8, 65 NRC at 129).

³⁷⁸ See also Attorney General of Commonwealth of Massachusetts, Attorney General of California; Denial of Petitions for Rulemaking, 73 Fed. Reg. 46,204, 46,211 (Aug. 8, 2008) (“Rulemaking Petition Denial”) (citing *Oyster Creek*, CLI-07-8, 65 NRC at 128-29 (stating that the Commission “remains of the view that an analysis of the environmental impacts of a hypothetical terrorist attack on an NRC-licensed facility is not required under NEPA”).

Notably, on March 31, 2009, the U.S. Court of Appeals for the Third Circuit affirmed the Commission’s ruling in *Oyster Creek*, holding that “the NRC correctly concluded that the relicensing of Oyster Creek does not have a ‘reasonably close causal relationship’ with the environmental effects that would be caused in the event of a terrorist attack.”³⁷⁹ The Court found that a terrorist aircraft attack “lengthens the causal chain beyond the ‘reasonably close causal relationship’” required by controlling Supreme Court NEPA precedent and traditional tort law concepts of causation.³⁸⁰ It noted that an aircraft attack on a nuclear power plant requires at least two intervening events: (1) the act of a third-party criminal; and (2) the failure of all government agencies specifically charged with preventing terrorist attacks.³⁸¹ The Third Circuit expressly “disagreed” with the Ninth Circuit’s “rejection of the ‘reasonably close causal relationship’ test set forth by the Supreme Court” and held that “this standard remains the law in this Circuit.”³⁸²

Consistent with controlling Commission precedent (which has now been affirmed by the Third Circuit), Licensing Boards in other COL proceedings have consistently denied proposed contentions alleging that the applicants had improperly excluded a NEPA analysis of the environmental impacts of hypothetical aircraft attack on their proposed new reactors.³⁸³ For example, as the *Bellefonte* Board noted:

In various rulings, the Commission has made clear its position that a NEPA analysis is not the vehicle for exploring questions about the potential for a terrorist attack upon a proposed nuclear facility. The Board is in no position to reconsider these legal rulings by the Commission. In this case being litigated far beyond the boundaries

³⁷⁹ *N.J. Dep’t of Env’tl. Protection v. NRC*, 561 F.3d at 143.

³⁸⁰ *Id.* at 140.

³⁸¹ *Id.*

³⁸² *Id.* at 142.

³⁸³ *See Summer*, LBP-09-2, slip op. at 16-17; *Shearon Harris*, LBP-08-21, slip op. at 14; *William States Lee*, LBP-08-17, slip op. at 27-28; *Bellefonte*, LBP-08-16, slip op. at 30.

of the Ninth Circuit, we must apply the Commission's case law directives. Consequently, the contention must be dismissed.³⁸⁴

This same legal principle applies to Petitioners' request for "reconsideration" of the Commission's *Diablo Canyon* ruling in CLI-08-26.³⁸⁵ As a basis for their request, Petitioners state that Comanche Peak is about 58 miles from the Dallas-Fort Worth Airport, which increases the probability of an aircraft attack.³⁸⁶ However, contrary to 10 C.F.R. § 2.309(f)(1)(v), the Petitioners provide no factual support for this allegation. More fundamentally, where a matter has been considered by the Commission, it may not be reconsidered by a Board.³⁸⁷ Clearly, this is not the proper forum for seeking reconsideration of a Commission decision that terrorist attacks need not be considered under NEPA.³⁸⁸

For the above reasons, this contention raises an issue that is beyond the scope of the proceeding, lacks adequate factual or technical support, and fails to raise a genuine dispute with Luminant on a material issue of fact or law. Therefore, Contention 19 should be rejected.

³⁸⁴ *Bellefonte*, LBP-08-16, slip op. at 30 (internal citation omitted). *See also* *Summer*, LBP-09-2, slip op. at 17 (stating that "the Commission has stated that it does not consider itself bound by the [*Mothers for Peace*] holding outside the Ninth Circuit, and this Board is bound by that position").

³⁸⁵ In *Pacific Gas & Elec. Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC ___, slip op. at 16 (Oct. 23, 2008), the Commission reiterated its prior ruling (in CLI-08-01) that the Ninth Circuit's remand decision does not "require a contested adjudicatory inquiry into the credibility of various hypothetical terrorist attacks against the Diablo Canyon ISFSI."

³⁸⁶ Petition at 44.

³⁸⁷ *See Va. Elec. & Power Co.* (North Anna Nuclear Power Station, Units 1 & 2), ALAB-584, 11 NRC 451, 463-65 (1980); *Vogtle*, LBP-07-3, 65 NRC at 269.

³⁸⁸ The Petition at 44 also references (somewhat confusingly) 10 C.F.R. § 73.1. To the extent that the Petitioners may be alleging that the design basis threat ("DBT") defined in that section should encompass airplane crashes, the Petitioners are engaging in an impermissible attack on Section 73.1. In the 2007 amendment to the DBT rule, the Commission specifically considered whether to include an aircraft attack within the DBT rule and declined to do so. *See* Final Rule, Design Basis Threat, 72 Fed. Reg. 12,705, 12,710-11, 12,725 (Mar. 19, 2007). Furthermore, to the extent that the Petitioners may be alleging that the ER should consider the environmental impacts associated with the DBT, such an allegation does not raise an issue that is material to the adequacy of the ER. The regulations in 10 C.F.R. § 73.55 require that a facility's onsite physical protection system be designed to protect against the design basis threat ("DBT"), as defined in 10 C.F.R. § 73.1(a). Therefore, there is no basis for the assertion that the DBT will have a significant environmental impact.

IV. PETITIONERS HAVE NOT REQUESTED USE OF THE HEARING PROCEDURES IN SUBPART G

The regulations in 10 C.F.R. Part 2 establish several hearing tracks. Of particular relevance to COL proceedings, Subpart L establishes informal hearing procedures and Subpart G establishes formal hearing procedures. The selection of the appropriate hearing track depends upon the nature of the contentions. Specifically, 10 C.F.R. § 2.309(g) states that “[a] request for hearing and/or petition for leave to intervene may, except in a proceeding under 10 CFR 52.103, also address the selection of hearing procedures, taking into account the provisions of § 2.310.” In turn, Section 2.310(d) presumes use of Subpart L unless the proceeding involves “resolution of issues of material fact relating to the occurrence of a past activity, where the credibility of an eyewitness may reasonably be expected to be at issue, and/or issues of motive or intent of the party or eyewitness material to the resolution of the contested matter.”

When it issued these regulations, the Commission stated that given the provision in Section 2.310(d), “Subpart L procedures would be used, as a general matter, for hearings on power reactor construction permit and operating license applications under Parts 50 and 52.”³⁸⁹ Petitioners have chosen not to address the selection of any hearing procedures in their Petition.³⁹⁰ Therefore, by default, this proceeding should be conducted under Subparts C and L.

Moreover, Petitioners largely raised issues of law that are outside the scope of this proceeding and, to the extent that they raise factual issues that pertain to Comanche Peak, none of the proposed contentions, if admitted, would require eyewitness or other fact-specific

³⁸⁹ Changes to Adjudicatory Process, 69 Fed. Reg. at 2206.

³⁹⁰ In their stay request, however, Petitioners acknowledge that Subpart L proceedings are the appropriate procedures in COL proceedings. *See* Petition for Order to Stay Comanche Peak Nuclear Power Units 3 and 4 Combined Construction and Operating Licensing Application Proceedings and Hold the Combined Operating License Application in Abeyance Pending Completion of the U.S.-APWR Application Rulemaking at 9 (Apr. 6, 2009) (“Procedural requirements for adjudications related to proposed nuclear power plant licenses are conducted under the informal hearing procedures in Subpart L at 10 CFR Part 2, as supplemented by Subpart C, 10 CFR 2.310 and 2.1200.”).

testimony pertaining to a past activity, motive, or intent. Therefore, under Section 2.310(d), there is no basis for applying the formal hearing procedures in 10 C.F.R. Part 2, Subpart G. Instead, the hearing procedures in 10 C.F.R. Part 2, Subpart C and L should be applied to this proceeding.

V. CONCLUSION

For the foregoing reasons, Petitioners have submitted no admissible contentions. Accordingly, Luminant respectfully asks that the Petition be denied.

Respectfully submitted,

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Dated in Washington, D.C.
this 1st day of May 2009

ATTACHMENT 1

**COMANCHE PEAK COLA SECTIONS AND US-APWR DCD SECTIONS
THAT ADDRESS CONTENTION 1**

Contention 1 Allegation	COLA Sections	Applicable Tier 1 DCD Sections Incorporated by Reference in the COLA	Applicable Tier 2 DCD Sections Incorporated by Reference in the COLA
Reactor	FSAR, Sections 4.1 and 4.3	Section 2.4.1, "Reactor System"	Section 4.1 "Reactor – Summary Description" and Section 4.3, "Nuclear Design"
Fuel Assemblies	FSAR, Sections 4.1, 4.2, and 4.3	Section 2.4.1, "Reactor System"	Section 4.1 "Reactor – Summary Description," Section 4.2, "Fuel System Design" and Section 4.3, "Nuclear Design"
Pressurizer	FSAR, Section 5.4	Section 2.4.2, "Reactor Coolant System"	Section 5.4.10, "Pressurizer"
Reactor Coolant Pipes	FSAR, Section 5.4	Section 2.4.2, "Reactor Coolant System"	Section 5.4.3, "Reactor Coolant Piping"
Residual Heat Removal Pump	FSAR, Section 5.4	Section 2.4.5, "Residual Heat Removal System"	Section 5.4.7, "Residual Heat Removal System"
Containment	FSAR, Sections 3.8 and 6.2	Section 2.11.1, "Containment Vessel"	Section 3.8, "Design of Category I Structures" and Section 6.2, "Containment Systems"
Residual Heat Exchanger	FSAR, Section 5.4	Section 2.4.5, "Residual Heat Removal System"	Section 5.4.7, "Residual Heat Removal System"
Containment Spray Nozzles	FSAR, Sections 6.2 and 6.5	Section 2.11.3, "Containment Spray System"	Section 6.2, "Containment Systems" and Section 6.5.2, "Containment Spray Systems"
High Pressure Safety Injection Pump	FSAR, Section 6.3	Section 2.4.4, "Emergency Core Cooling System"	Section 6.3, "Emergency Core Cooling Systems"
Accumulator	FSAR, Section 6.3	Section 2.4.4, "Emergency Core Cooling System"	Section 6.3, "Emergency Core Cooling Systems"
Emergency Water Storage Pit	FSAR, Section 6.3	Section 2.4.4, "Emergency Core Cooling System"	Section 6.3, "Emergency Core Cooling Systems"
Safety Power System	FSAR, Sections 8.0, 8.3, and 8.4	Section 2.6.4, "Emergency Power Sources"	Section 8.0, "Electric Power," Section 8.3, "Onsite Power Systems," and 8.4, "Station Blackout"
Neutron Reflector	FSAR, Sections 1.5 and 3.9	Section 2.4.1, "Reactor System"	Section 1.5.2.1.2, "Reactor Vessel Lower Plenum 1/7 Scale Model Flow Test" and Section 3.9.2, "Dynamic Testing and Analysis of Systems, Components, and Equipment"
Decommissioning and Disposal of Irradiated Material	FSAR, Section 11.2 and 11.4 ER, Section 5.7.1.6, "Radioactive Wastes" and Section 5.9, "Decommissioning"	Not applicable	Sections 11.2, "Liquid Waste Management System" and Section 11.4, "Solid Waste Management System"
Radioactive Liquid Effluents	FSAR, Section 11.2 ER, Section 3.5.1, "Liquid Radioactive Waste Management and Effluent Control Systems" and Section 5.4, "Radiological Impacts of Normal Operations"	Section 2.7.4.1, "Liquid Waste Management System"	Sections 11.2, "Liquid Waste Management System"

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