LBP-09-17

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judges:

Ann Marshall Young, Chair
Dr. Gary S. Arnold
Dr. Alice C. Mignerey

In the Matter of LUMINANT GENERATION COMPANY, LLC (Comanche Peak Nuclear Power Plant, Units 3 and 4)	Docket Nos. 52-034-COL and 52-035-COL ASLBP No. 09-886-09-COL-BD01 August 6, 2009

MEMORANDUM and ORDER
(Ruling on Standing and Contentions of Petitioners, and Other Pending Matters)

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[1] "COLA" is an acronym for "combined construction permit and operating license application," or "combined license application."

[2] "US-APWR" is an acronym for "United States Advanced Pressurized Water Reactor."

[3] "ER" is an acronym for "Environmental Report."

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I. Introduction

This proceeding involves an Application by Luminant Generation Company, LLC, (Luminant or Applicant) to construct and operate two U.S.-Advanced Pressurized Water Reactors (US-APWR) at the Comanche Peak Nuclear Power Plant (Comanche Peak) site, located in Somervell County, Texas. On April 6, 2009, Petitioners Sustainable Energy and Economic Development (SEED) Coalition, Public Citizen, True Cost of Nukes, and State Representative Lon Burnam filed a Petition for Intervention and Request for Hearing, seeking admission of 19 contentions. Neither Applicant nor the Nuclear Regulatory Commission (NRC) Staff contests the standing of Petitioners to participate in the proceeding. Applicant, however, opposes the admissibility of all 19 contentions set forth in the petition, and while the NRC Staff

initially conceded that Petitioners submitted one admissible contention, it now agrees that information Applicant subsequently submitted renders that contention moot.

For the reasons set forth below, we find that Petitioners have established standing to intervene in this proceeding and have proffered at least one admissible contention as required by 10 C.F.R. § 2.309(a). Accordingly, we grant Petitioners' Request for Hearing.

II. Background

On September 19, 2008, Luminant submitted an application for a combined license (COL[4]) to construct and operate two US-APWRs, Units 3 and 4, adjacent to the existing Comanche Peak Units 1 and 2.[5] The NRC accepted the COL Application (COLA) for docketing on December 2, 2008.[6] On February 5, 2009, the Commission published a Notice providing that members of the public had sixty days to file a petition for leave to intervene in the proceeding.[7] On April 6, in response to the Notice, Petitioners filed a Petition for Intervention and Request for Hearing.[8] On May 1, Applicant and the NRC Staff filed timely Answers to the Petition,[9] and

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[4] The term "COL" was first used in the Commission's 1992 notice of its final rule "amending its regulations governing the issuance of combined construction permits and operating licenses," as an abbreviation or acronym for the term "combined license" in Commissioner Curtiss' Separate View. *See* Combined Construction Permits and Operating Licenses; Conforming Amendments, 57 Fed. Reg. 60,975, 60,976 (Dec. 23, 1992). Since that time, the term has variously been described as standing for "combined construction permit and operating license," "combined operating license," and "combined license." It basically refers to the concept of a combined construction permit and operating license, as described in the 1992 rulemaking. *See also infra* text accompanying note 156.

[5] *See* Letter Transmitting Combined License Application for Comanche Peak Nuclear Power Plant, Units 3 and 4 (Sept. 19, 2008) (ADAMS Accession No. ML082680250); http://www.nrc.gov/reactors/new-reactors/col/comanche-peak/documents.html; *see also* Notice of Receipt and Availability of Application for a Combined License, 73 Fed. Reg. 66,276 (Nov. 7, 2008).

[6] 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).

[7] Notice of Order, Hearing, and Opportunity to Petition for Leave to Intervene, 74 Fed. Reg. 6177 (Feb. 5, 2009).

[8] Petition for Intervention and Request for Hearing (Apr. 6, 2009) [hereinafter Petition]. Along with their intervention Petition, Petitioners also filed a petition to stay the adjudication on the COL Application and hold in abeyance all related proceedings pending completion of a current

Petitioners filed timely Replies to the Answers on May 8.[10] Meanwhile, on May 4 this Licensing Board was established to preside over the proceeding.[11]

On May 15, 2009, Luminant filed a Motion to Strike portions of Petitioners' two Replies, arguing that the Replies "impermissibly include new arguments, references, and attachments."[12] On May 26, Petitioners filed a timely Response opposing the Motion to Strike.[13] On the same date, Applicant filed a letter providing notification that it had filed certain information asserted to render Petitioners' Contention 7 moot.[14] Earlier, on April 29, Applicant had filed a letter indicating that it had provided additional information related to Contention 17.[15]

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rulemaking on the US-APWR design. 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) [hereinafter Petition for Stay]. This Petition for Stay was denied by the Commission prior to forwarding this proceeding to the Atomic Safety and Licensing Board Panel (ASLBP) for adjudication. Commission Order (*Luminant Generating Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4)) (Apr. 27, 2009) (unpublished) [hereinafter Order Denying Petition for Stay]; Memorandum from Annette L. Vietti-Cook, NRC Secretary, to E. Roy Hawkens, ASLBP Chief Administrative Judge (Apr. 29, 2009). We address the subject of the Order Denying Petition for Stay in our discussion of Contention 1.

[9] Luminant's Answer Opposing Petition for Intervention and Request for Hearing (May 1, 2009) [hereinafter Luminant Answer]; NRC Staff's Answer to Petition for Intervention and Request for Hearing (May 1, 2009) [hereinafter NRC Staff Answer].

[10] Petitioners' Reply to Applicant's Answer to Petition for Intervention and Request for Hearing (May 8, 2009) [hereinafter Reply to Applicant]; Petitioners' Reply to NRC Staff's Answer to Petition for Intervention and Request for Hearing (May 8, 2009) [hereinafter Reply to NRC Staff].

[11] Establishment of Atomic Safety and Licensing Board, 74 Fed. Reg. 21,837 (May 11, 2009).

[12] Luminant's Motion to Strike Portions of Petitioners' Reply (May 15, 2009) at 1 [hereinafter Motion to Strike].

[13] Petitioners' Response to Luminant's Motion to Strike Portions of Petitioners' Reply (May 26, 2009) [hereinafter Response to Motion to Strike].

[14] Letter from Steven P. Frantz, Counsel for Luminant, to Ann Marshall Young *et al*. (May 26, 2009), with attached Letter from Rafael Flores to NRC Document Control Desk (May 22, 2009); *see also* Letter from Steven P. Frantz, Counsel for Luminant, to Office of the Secretary (April 30, 2009), with attached Letter from Rafael Flores to NRC Document Control Desk (April 24, 2009).

[15] Letter from Steven P. Frantz, Counsel for Luminant, to Office of the Secretary (Apr.

On June 5, 2009, Petitioners filed a letter with the Office of the Secretary, requesting access to the information Applicant submitted regarding Contention 7.[16] Because the information was designated as "sensitive unclassified non-safeguards information" (SUNSI), Petitioners were not permitted access to it without first demonstrating a "need for the information in order to meaningfully participate in this adjudicatory proceeding."[17] On June 15, 2009, the NRC Staff granted Petitioners' request for access.[18] The parties subsequently filed a joint proposed Protective Order regarding protection of the SUNSI,[19] which the Board approved and issued on July 1, 2009.[20] Among other things, the Protective Order established a schedule for the filing of "SUNSI Contentions" – new contentions that might arise from the SUNSI.[21] Also on July 1, the Board issued an Order directing Petitioners to notify the Board whether, once granted access to the SUNSI, it still contested Applicant's and NRC Staff's assertion that Contention 7 had been rendered moot, and setting deadlines regarding any such notification and responses thereto.[22] On July 7, Petitioners were provided access to the SUNSI,[23] and on

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29, 2009), with attached Letter from Rafael Flores to NRC Document Control Desk (Apr. 28, 2009).

[16] Letter from Robert Eye, Counsel for Petitioners, to NRC Office of the Secretary (June 5, 2009).

[17] *See* 74 Fed. Reg. at 6179.

[18] Letter from James Biggins, Counsel for NRC Staff, to Robert Eye, Counsel for Petitioners (June 15, 2009).

[19] Joint Motion for Entry of a Protective Order (June 30, 2009).

[20] Licensing Board Memorandum and Order (Protective Order Governing the Disclosure of Protected Information) (July 1, 2009) (unpublished).

[21] *Id*. at 4 (stating that "Petitioners must file any proposed SUNSI contentions within twenty-five (25) days after receipt of or access to that information"). The Board later amended the Protective Order, on Petitioners' motion, extending the deadline for SUNSI contentions by seven days. Licensing Board Order (Amending Protective Order and Extending Time for Filing New Contentions Based on SUNSI Information) (July 16, 2009) (unpublished).

[22] Licensing Board Order (July 1, 2009) (unpublished).

[23] Letter from Jonathan M. Rund, Counsel for Luminant, to Robert V. Eye, Counsel for Petitioners (July 7, 2009).

July 14, after reviewing it, provided notice that Petitioners did not agree that Contention 7 was moot.[24] On July 20, Petitioners filed a brief in support of this position,[25] and on July 27, Applicant and the NRC Staff filed responses to Petitioners' brief.[26] Petitioners filed a reply brief on August 3, 2009.[27]

Meanwhile, the Board heard oral argument on the admissibility of Petitioners' 19 contentions and on Applicant's Motion to Strike on June 10 and 11, 2009, in Granbury, Texas.[28]

III. Standing of Petitioners to Participate in Proceeding

Any person requesting a hearing and seeking to intervene in an NRC proceeding must demonstrate that he or she has "standing" to participate in the proceeding. Section 189a of the Atomic Energy Act (AEA) provides the basis for the standing of a petitioner in an NRC proceeding, requiring the NRC to provide a hearing "upon the request of any person whose interest may be affected by the proceeding."[29] The Commission has implemented the requirements of section 189a in its regulations at 10 C.F.R. § 2.309(d)(1), which provides in relevant part that a licensing board shall consider three factors when deciding whether to grant standing to a petitioner: the nature of the petitioner's right under the AEA to be made a party to the proceeding; the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and the possible effect of any order that may be entered in the proceeding on

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[24] Letter from Robert V. Eye, Counsel for Petitioners, to Ann Marshall Young (July 14, 2009).

[25] Petitioners' Brief Regarding Contention Seven's Mootness (July 20, 2009) (document filed as a non-public submission pursuant to the July 1, 2009, Protective Order).

[26] Luminant's Response to Petitioners' Brief Regarding Mootness of Contention 7 (July 27, 2009) (document filed as a non-public submission pursuant to the July 1, 2009, Protective Order); NRC Staff's Answer to Petitioners' Brief Regarding Contention Seven's Mootness (July 27, 2009).

[27] Petitioners' Consolidated Response to NRC Staff's Answer and Applicant's Answer to Petitioners' Brief Regarding Contention Seven's Mootness (Aug. 3, 2009) (document filed as a non-public submission pursuant to the July 1, 2009, Protective Order).

[28] Transcript of Proceeding (Tr.) at 1-413.

[29] 42 U.S.C. § 2239(a)(1)(A).

the petitioner's interest.[30] And for an organization to establish standing, it must show "either immediate or threatened injury to its organizational interests or to the interests of identified members."[31]

Under Commission case law, there are some circumstances in which petitioners may be presumed to have standing based on their geographical proximity to a facility or source of radioactivity. In nuclear power reactor licensing proceedings, a "rule of thumb" has been developed whereby "persons who reside or frequent the area within a 50-mile radius of" the reactor are presumed to have standing to participate in a proceeding involving that reactor.[32] All of the Petitioners herein, either on their own or through individual members, have demonstrated residence within fifty miles of the proposed units.[33] Moreover, individual members of True Cost of Nukes, SEED Coalition, and Public Citizen who live within 50 miles of the proposed new units have stated that they authorize these organizations to request a hearing on their behalf.[34]

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[30] 10 C.F.R. § 2.309(d)(1)(ii)-(iv). In determining whether a petitioner in an NRC proceeding has established the necessary "interest" under the rule, licensing boards are directed to follow the guidance found in judicial concepts of standing, as stated in federal court case law. *See, e.g.*, *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998); *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 5-6 (1998); *Ga. Inst. of Tech.* (Georgia Tech Research Reactor), CLI-95-12, 42 NRC 111, 115 (1995). Under these concepts, a board considers whether a petitioner has alleged (1) a "concrete and particularized injury that is (2) fairly traceable to the challenged action and (3) likely to be redressed by a favorable decision." *Yankee*, CLI-98-21, 48 NRC at 195 (citing *Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 102-04 (1998); *Kelley v. Selin*, 42 F.3d 1501, 1508 (6th Cir. 1995)). In this proceeding, however, we need not address these considerations, given that we find standing (which, as indicated above, is not contested) under the fifty-mile "proximity presumption" that has been established in Commission case law. *See infra* text accompanying note 32.

[31] *Georgia Tech*, CLI-95-12, 42 NRC at 115.

[32] *See Sequoyah Fuels Corp. & Gen. Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n.22 (1994).

[33] *See* Petition, Declaration of J. Nile Fischer ¶ 2 (Apr. 3, 2009), Declaration of Nita O'Neal ¶ 2 (Apr. 4, 2009), Declaration of Don Young ¶ 2 (Apr. 3, 2009), Declaration of Ron Burnam ¶ 2 (Apr. 3, 2009); *see also* Petition at 2-3.

[34] *See* Petition, Declaration of J. Nile Fischer ¶ 5 (Apr. 3, 2009), Declaration of Nita O'Neal ¶ 5 (Apr. 4, 2009), Declaration of Don Young ¶ 5 (Apr. 3, 2009), Declaration of Ron Burnam ¶ 5 (Apr. 3, 2009); *see also* Petition at 2-3.

Based on the preceding, we find that all of the Petitioners have demonstrated standing to participate in this proceeding.

IV. Board Ruling on Pending Motion to Strike

Applicant moves to strike certain material included in Petitioners' Replies to Applicant and the NRC Staff, arguing that the Replies "impermissibly include new arguments, references and attachments without satisfying the standards governing late-filed contentions set forth at 10 C.F.R. § 2.309(c) and (f)(2)."[35] Noting that a "reply is intended to give a petitioner an opportunity to address arguments raised in the opposing parties' answers," Applicant urges, relying on Commission case law, that a reply "may not be used as a vehicle to introduce new arguments or support, may not expand the scope of arguments set forth in the original petition, and may not attempt to cure an otherwise deficient contention."[36] Noting the Commission's directive that "[a]ny reply should be narrowly focused on the legal or logical arguments presented in the applicant/licensee or NRC staff answer,"[37] Applicant asks that we strike certain portions of Petitioners' Replies related to Contentions 2, 3, 8, and 9.[38]

Petitioners respond that their Replies provide only "legitimate amplifications of the original contentions . . . or a logical/legal response to the Answers of the Staff and Applicant,"

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[35] Motion to Strike at 1.

[36] *Id.* at 2 (citing *Entergy Nuclear Vt. Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 182, 198-99 (2006); *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), LBP-06-10, 63 NRC 314, 351-63, *aff'd*, CLI-06-17, 63 NRC 727 (2006)). Applicant in addition cites in support of its arguments *La. Energy Servs., L.P.* [*LES*] (Nat'l Enrichment Facility), CLI-04-25, 60 NRC 223, 225 (2004); *LES* (Nat'l Enrichment Facility), CLI-04-35, 60 NRC 619, 622-23 (2004); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 428-29 (2003); *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant, Units 3 and 4), LBP-08-16, 68 NRC 361, 399-400, 404, 407, 429 (2008).

[37] Motion to Strike at 4 (quoting Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2203 (Jan. 14, 2004)).

[38] *Id.* at 5-6.

citing Commission precedent for this principle,[39] and providing specific arguments relating to each contention at issue.[40]

The Commission in the *LES* case upheld a Licensing Board determination that, although it would take into account any information from reply briefs that "legitimately amplified" issues presented in the original petitions, it would not consider instances of what "essentially constituted untimely attempts to amend [the] original petitions."[41] Because the reply briefs in *LES* had not been accompanied by any attempt to address the nontimely-filing and new-contention factors in section 2.309(c) or (f)(2), they were not considered in determining the admissibility of the contentions.[42]

As we assured the parties at oral argument, in making our rulings below on the admissibility of Petitioners' contentions, we have not considered anything in the Replies that does not focus on the matters raised in the answers, that would not constitute "legitimate amplification" under relevant case law, or that would not be admissible under 10 C.F.R.

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[39] Response to Motion to Strike at 1-2 (citing *Palisades*, LBP-06-10, 63 NRC at 328).

[40] *Id.* at 1-6.

[41] *LES*, CLI-04-25, 60 NRC at 224 (quoting the Licensing Board's decision below, *LES*, LBP-04-14, 60 NRC 40, 58 (2004)); *see also LES*, CLI-04-35, 60 NRC at 625 (denying petitioner's motion for reconsideration of CLI-04-25). We note that the Commission in both *LES* rulings pointed out that a petitioner may in instances of exigent or unavoidable circumstances file a request for an extension of time to file an original hearing petition and contentions – an action which, as in this proceeding, was not done in *LES*. *LES*, CLI-04-25, 60 NRC at 225; *LES*, CLI-04-35, 60 NRC at 623 (citing 69 Fed. Reg. at 2200).

[42] *See LES*, CLI-04-25, 60 NRC at 224 (citing *LES*, LBP-04-14, 60 NRC at 58). We note that the Commission later remanded to the Licensing Board a request to consider several previously rejected contentions under the nontimely-filing and new-contention criteria of 10 C.F.R. § 2.309(c) and (f)(2), despite the fact that the Petitioner therein had addressed these criteria for the first time only in its interlocutory appeal to the Commission. *LES*, CLI-04-35, 60 NRC at 625. For this reason, in an abundance of caution and in order to give Petitioners every benefit of the doubt, we have also considered in making our rulings herein whether any of the material at issue that would not constitute "legitimate amplification" might be admissible under the criteria of 10 C.F.R. § 2.309(c) and (f)(2). In some cases we note this specifically, but even where not noted this has been done.

§ 2.309(c) or (f)(2).[43] To this extent, we grant Applicant's Motion to Strike, and to the extent any part of the Replies has been considered, we so state in our discussion of the various contentions at issue.

V. Board Analysis and Rulings on Petitioners' Contentions

A. Standards for Admissibility of Contentions

As has previously been noted in a number of NRC adjudications,[44] to intervene in such a proceeding a petitioner must, in addition to demonstrating standing, submit at least one contention meeting the requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi).[45] Failure of a contention to meet any of these requirements precludes its admission.[46]

These standards for the admissibility of contentions originally came into being in 1989, when the Commission amended its rules to "raise the threshold for the admission of contentions."[47] The Commission has stated that the "contention rule is strict by design," having been "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.'"[48] More

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[43] *See* Tr. at 17.

[44] *See, e.g.*, *Entergy Nuclear Gen. Co. & Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 272-74 (2006); *PPL Susquehanna, LLC* (Susquehanna Steam Electric Station, Units 1 & 2), LBP-07-4, 65 NRC 281, 302-12 (2007). An Appendix to the *Pilgrim* decision provides a more detailed summary of relevant case law on contention admissibility than that found in this Memorandum and Order. *See Pilgrim*, LBP-06-23, 64 NRC at 351-59.

[45] *See* 10 C.F.R. § 2.309(a).

[46] *See Private Fuel Storage, LLC* [*PFS*] (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999); *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155-56 (1991).

[47] Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,168 (Aug. 11, 1989); *see also Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999).

[48] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (quoting *Oconee*, CLI-99-11, 49 NRC at 334).

recent amendments to the NRC procedural rules, which went into effect in 2004,[49] put into place additional restrictions and changes to provisions relating to the hearing process. The contention admissibility rule, however, contains essentially the same substantive admissibility standards for contentions.[50]

The Commission has explained that the "strict contention rule serves multiple interests."[51] These include the following (quoted in list form):

> First, it focuses the hearing process on real disputes susceptible of resolution in an adjudication. For example, a petitioner may not demand an adjudicatory hearing to attack generic NRC requirements or regulations, or to express generalized grievances about NRC policies.
>
> Second, the rule's requirement of detailed pleadings puts other parties in the proceeding on notice of the Petitioners' specific grievances and thus gives them a good idea of the claims they will be either supporting or opposing.
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> Finally, the rule helps to ensure that full adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions.[52]

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[49] *See* 69 Fed. Reg. at 2182.

[50] The current version of the rules, however, no longer incorporates provisions formerly found at 10 C.F.R. § 2.714(a)(3) and (b)(1), which permitted the supplementation of petitions and the filing of contentions after the original filing of petitions. Under the current rules, contentions must be filed with the original petition within sixty days of notice of the proceeding in the *Federal Register*, unless a longer period is therein specified; an extension is granted, *see LES*, CLI-04-25, 60 NRC at 225; *LES*, CLI-04-35, 60 NRC at 623-25; 69 Fed. Reg. at 2200; or the contentions meet certain criteria for late-filed or new contentions based on information that is available only at a later time, *see* 10 C.F.R. § 2.309(c), (f)(2).

In addition, although there is nothing in the rule itself speaking to the content of a petitioner's reply to NRC Staff or applicant answers to a petition, as noted *supra* at the text accompanying note 37, the Commission in its Statement of Considerations for the 2004 final rule stated that a petitioner's reply brief "should be narrowly focused on the legal or logical arguments presented in the applicant/licensee or NRC staff answer," and this has since been construed to permit only "legitimate amplification." *See supra* Section IV. Based on this authority, and because amendments to petitions are not permitted as they were prior to 2004, motions to strike, such as that we rule on in Section IV *supra*, are increasingly common in NRC adjudicatory proceedings.

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

[52] *Id.* (citations omitted); *see also* 10 C.F.R. § 2.335(a) (stating that "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding").

In its Statement of Consideration adopting the most recent revision of the rules, the Commission reiterated that "[t]he threshold standard is necessary to ensure that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues."[53] The purpose of the contention admissibility rule is, the Commission emphasized, to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[54]

Although it has been recognized that "technical perfection is not an essential element of contention pleading,"[55] the rules have nonetheless been held to "bar contentions where petitioners have only 'what amounts to generalized suspicions, hoping to substantiate them later.'"[56] Looking to each of the provisions of 10 C.F.R. § 2.309(f)(1) separately, we first observe that the requirements of subsections (i) and (ii) – that a "specific statement of the issue of law or fact to be raised or controverted" and a "brief explanation of the basis for the contention" be provided – are fairly straightforward, and indeed the issue that generally arises under the first of these is whether a contention is stated with sufficient specificity.[57]

Subsection (iii) of section 2.309(f)(1) requires that a petitioner must "demonstrate that the issue raised in the contention is within the scope of the proceeding." The scope of a

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[53] 69 Fed. Reg. at 2189-90.

[54] *Id.* at 2202.

[55] *PFS* (Independent Spent Fuel Storage Installation), LBP-01-3, 53 NRC 84, 99 (2001) (citing *Houston Lighting & Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), in which it is stated that "[i]t is neither Congressional nor Commission policy to exclude parties because the niceties of pleading were imperfectly observed").

[56] *McGuire/Catawba*, CLI-03-17, 58 NRC at 424 (citing *Oconee*, CLI-99-11, 49 NRC at 337-39).

[57] *See*, *e.g.*, *Shieldalloy Metallurgical Corp.* (Licensing Amendment Request for Decommissioning of the Newfield, New Jersey Facility), LBP-07-5, 65 NRC 341, 352 (2007), *appeal denied by*, CLI-07-20, 65 NRC 499 (2007); *Palisades*, LBP-06-10, 63 NRC at 362-63.

proceeding may be defined by statute, rule, or the Commission notice or order referring the proceeding to the Atomic Safety and Licensing Board Panel (ASLBP). In addition, as noted above[58] and as stated at 10 C.F.R. § 2.335(a), no NRC rule may be attacked in an adjudicatory proceeding.

The materiality requirements of 10 C.F.R. § 2.309(f)(1)(iv) and (vi) mandate that petitioners show that any issue raised in a contention has significance regarding (*i.e.*, "is *material* to") the "findings the NRC must make to support the action that is involved in the proceeding."[59] In other words, does the issue make any difference to, or have any impact on, the grant or denial of an application at issue in a given proceeding?

Probably most disputes over contention admissibility arise with regard to subsections (v) and (vi) of section 2.309(f)(1), both of which concern the information a petitioner must provide in support of a contention in order to have it admitted for adjudication. Under subsection (vi), a petitioner must:

> (vi) Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to the specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.

This has been interpreted to require a petitioner to "read the pertinent portions of the license application, including the Safety Analysis Report [SAR] and the Environmental Report [ER], state the applicant's position and the petitioner's opposing view," and explain why petitioner disagrees with the applicant.[60] In other words, a contention must "explain why the application is

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[58] *See supra* note 52 and accompanying text.

[59] 10 C.F.R. § 2.309(f)(1)(iv).

[60] 54 Fed. Reg. at 33,170; *Millstone*, CLI-01-24, 54 NRC at 358.

deficient,"[61] through reference to "specific portions of the application," and it must directly controvert a position taken by the applicant in the application.[62] Enough information must be provided to show an actual and "genuine" dispute on a "material "issue.[63]

There is often, as has been the case in this proceeding, dispute among parties as to the nature and extent, or amount, of information that must be provided to support a contention in order for it to be admitted. While subsection (vi) speaks to the question of sufficiency – *i.e.*, extent or amount – of supportive information offered, subsection (v) speaks more to the nature of the information. Under this provision, a petitioner must

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

Taken literally, this provision might be read to require a petitioner to provide a statement that is both "concise" and also covers the full universe of "the alleged facts or expert opinions" [64] and additional information and material that supports a contention. It is clear that more than "mere 'notice pleading'" is required.[65] It has also been stated that a petitioner's 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.'"[66] Moreover, simply attaching material or documents in support of a contention, without explaining their significance,

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[61] 54 Fed. Reg. at 33,170; *Palo Verde*, CLI-91-12, 34 NRC at 156.

[62] *See Oconee*, CLI-99-11, 49 NRC at 341-42.

[63] *See supra* text accompanying note 59.

[64] 10 C.F.R. § 2.309(f)(1)(v).

[65] *Fansteel, Inc*. (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003). "Notice pleading" has been described as a broad standard requiring only "a short and plain statement of the claim." *Conley v. Gibson*, 355 U.S. 41, 47 (1957).

[66] *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)).

is inadequate to support the admission of a contention.[67] And any supporting material provided by a petitioner, including those portions of the material that are not relied upon, is subject to board scrutiny.[68] In making a ruling on contention admissibility a board is not, however, to look to the merits of the contention.[69]

In addition, while it is often argued in opposition to a contention that a petitioner has not "shown" that various alleged facts are as alleged, or provided "support" for various facts that themselves are offered in "support" of a contention, a petitioner is not "require[d] . . . to prove its case at the contention stage."[70] Nor need a petitioner "proffer facts in 'formal affidavit or evidentiary form,' sufficient 'to withstand a summary disposition motion.'"[71] And although it is the petitioner's burden to establish the admissibility of a contention, a "Board may appropriately view Petitioners' support for its contention in a light that is favorable to the Petitioner."[72]

Subsections 2.309(f)(1)(v) and (vi) have been subject to varying interpretations, by parties and indeed in the numerous decisions that licensing boards such as this one issue on contention admissibility. On a very basic level, however, we note some fundamental principles. First, as to the nature of supportive information that a petitioner must provide, the Commission has interpreted subsection (v), quite reasonably and simply, to require a petitioner to support its contentions with "[d]ocuments, expert opinion, or at least a fact-based argument."[73] On the other hand, as was observed even before the 1989 procedural rule amendments, "a protestant

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[67] *See Id.* at 204-05.

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

[69] *See*, *e.g.*, *USEC, Inc.* (American Centrifuge Plant), LBP-05-28, 62 NRC 585, 596-97 (2005) and authorities cited therein.

[70] *Yankee*, CLI-96-7, 43 NRC at 249 (citing 54 Fed. Reg. at 33,171).

[71] *Id.* (citing *Ga. Tech*, CLI-95-12, 42 NRC at 118).

[72] *Palo Verde*, CLI-91-12, 34 NRC at 155.

[73] *Oconee*, CLI-99-11, 49 NRC at 342.

does not become entitled to an evidentiary hearing merely on request, or on a bald or conclusory allegation that . . . a dispute exists. The protestant must make a minimal showing that material facts are in dispute, thereby demonstrating that an 'inquiry in depth' is appropriate."[74] In other words, as the Commission has more recently observed, "a petitioner 'must present sufficient information to show a genuine dispute' and reasonably 'indicating that a further inquiry is appropriate.'"[75]

Thus, if a petitioner, through reference to the application itself, as well as through expert opinion, a document or documents, a fact-based argument, or some combination of all three, provides support for an otherwise admissible contention, sufficient to show a genuine dispute on a material issue of fact or law and reasonably indicating that further inquiry is appropriate, it should be admitted. And, particularly if no expert opinion or supporting relevant documents are submitted, any fact-based argument that is provided must be reasonably specific, coherent, and logical, sufficient to show such a dispute and indicate the appropriateness of further inquiry.

B. Rulings on Individual Contentions

We move now to our rulings on Petitioners' contentions, prefacing them with some general observations. First, we have gone into some detail in the previous section in order to clarify as much as possible for the parties and other interested persons the grounds for our rulings that follow. Second, as will become apparent in our rulings, some of the Petitioners' contentions and arguments in support thereof concern issues of some significance but are more

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[74] *Conn. Bankers Ass'n v. Bd. of Governors*, 627 F.2d 245, 251 (D.C. Cir. 1980) (quoting *Indep. Bankers Ass'n of Ga. v. Bd. Of Governors of Fed. Reserve Sys.*, 516 F.2d 1206, 1220 n.57 (D.C. 1975)); *see also* 54 Fed. Reg. at 33,171.

[75] *Yankee*, CLI-96-7, 43 NRC at 249 (citing 54 Fed. Reg. at 33,171; *Costle v. Pacific Legal Found.*, 445 U.S. 198, 204 (1980)); *Vt. Yankee Nuclear Power Corp. v. NRC*, 435 U.S. 519, 554 (1978)); *see also Gulf States Util. Co*. (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994). It has also been observed that a contention must demonstrate "that there has been sufficient foundation assigned for it to warrant further exploration." *Pub. Serv. Co. of N.H*. (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 428 (1990) (footnote omitted).

general and wide-reaching than specific and focused, and some are addressed in existing NRC rules and/or current rulemakings. For the most part, the legal authority and principles discussed in the preceding section of this Memorandum require that we deny the admission of contentions of this nature. Indeed, given that we operate under, and are bound by, the rule of law, we may not therefore admit any such contentions where there is a lack of relevant support for their admission under 10 C.F.R. § 2.309(f)(1)(i)-(vi) and other legal authority interpreting those provisions.[76] If, on the other hand, we find adequate support under these provisions and law, we are required to admit, and we do admit, certain contentions.

In some instances, Petitioners' contentions are not optimally supported. In the following rulings we have given close consideration to the support actually offered, in the context of the matters raised, and in light of the contention admissibility rule provisions themselves and relevant legal authority interpreting them. In some cases we find the support to be insufficient to admit the contentions; in others we find it to be sufficient, in nature, amount, specificity, basic logic, and persuasiveness, to show genuine disputes on material issues and to warrant further inquiry. By admitting or denying these contentions, however, we speak not to their merits substantively, nor do we express any opinion as to any ultimate outcome on those we admit.

Finally, in making all the rulings that follow, whether they result in admission or denial of contentions, we are fulfilling our duty to the best of our ability to rule without fear or favor toward any party, based solely on the pleadings of the parties and on the law.[77] Considering pleadings

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[76] Regarding those contentions that we deny, we note that in some cases there may be other ways in which to raise the issues they concern, including petitions for rulemaking or enforcement petitions. In addition, there may be opportunity to file additional contentions in the future, provided that such contentions are filed in compliance with the relevant regulatory provisions, including 10 C.F.R. § 2.309(c) and (f)(2). As noted in our Order below, if a party files a new contention within thirty days of the availability of the new information to that party, the contention will generally be considered timely under section 2.309(f)(2), although this does not, of course, rule out argument on matters including whether a contention is based on information that is in fact "new."

[77] Although this statement, as well as our observation regarding our duty to the rule of

and applying relevant law to the facts alleged and arguments made regarding them obviously requires some level of judgment and interpretation of regulatory provisions and legal principles, as well as of factual matters and related factors that are not on their face always clear in any "black and white" way. The law deals often in shades of gray, but we have endeavored to read and see as clearly and fairly as possible what has been placed before us, in the light of all relevant law of which we are aware, in making the following rulings, to which we now turn.

1. COLA Should Be Stayed Pending US-APWR Rulemaking

Petitioners in Contention 1 state:

> The COLA adjudication should be stayed and COLA proceedings held in abeyance until the completion of the reactor design certification rulemaking process.[78]

Petitioners incorporate by reference into Contention 1 its earlier Petition for Stay that was denied by the Commission.[79] Petitioners argue that the NRC should "stay the Comanche Peak COLA adjudication and hold in abeyance proceedings related thereto pending completion of the US-APWR design certification rulemaking."[80] According to Petitioners, failure to stay the adjudication would violate the AEA, the Administrative Procedure Act (APA), and Part 52 of the Commission's regulations.[81]

First, Petitioners argue that the AEA requires a license applicant to provide any technical information bearing on protection of public health and safety,[82] suggesting that such information should include reference to a certified reactor design. Second, Petitioners contend that the docketing notice of this proceeding is inconsistent with the federal APA and NRC docketing

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law, may seem self-evident to attorneys and others who regularly participate in adjudicatory proceedings, we provide them for the benefit of any Petitioners or others who may not be as familiar with such proceedings.

[78] Petition at 8-9.

[79] *Id*. at 9; *see supra* note 8.

[80] Petition at 14.

[81] *Id.* at 9.

[82] *Id.* (citing 42 U.S.C. § 2133(b)(2), (3)).

standards, "because the underlying reactor design rulemaking is not completed [and thus] a proper notice consistent with these legal requirements is not possible."[83] Third, Petitioners argue that, under 10 C.F.R. Part 52, the NRC "may either conduct an adjudication on the entire Comanche Peak Units 3 and 4 COLA, including issues related to the US-APWR design or, alternatively, complete the US-APWR design certification rulemaking prior to commencing an adjudicatory hearing on the COLA."[84] To conduct a COLA adjudication in the absence of a reactor design certification rule, Petitioners insist, would violate the NRC's duty under the AEA at 42 U.S.C. § 2133(c), as well as the Commission's regulations at 10 C.F.R. Part 52[85] – but they do not specify exactly which regulations would allegedly be violated.

Petitioners list several ways in which the US-APWR is a "significantly different design from current operating US four-loop plants," with "generally greater dimensions and capacities" that may impact "other operational and technical aspects of the nonreactor parts of the plant and . . . have radiological ramifications as well."[86] For example, Petitioners note that the US-APWR boasts a larger gross electrical output, longer fuel assemblies, and a larger containment structure than current operating four-loop plants in the United States.[87] They also note that the US-APWR requires additional pieces of equipment, including a residual heat exchanger and extra containment spray nozzles.[88] These differences, Petitioners contend, highlight the dangers of adjudicating the COLA prior to completion of the reactor design certification process – particularly given the US-APWR's "lack of an operating history."[89] Petitioners also cite an

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[83] *Id.* (citing 5 U.S.C. § 554 *et seq*.; 10 C.F.R. §§ 2.101(a)(2) and 2.104(b)).

[84] *Id.*

[85] *Id.*

[86] *Id.* at 10.

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

[88] *Id.* at 11.

[89] *Id.* at 10.

article suggesting that, because the US-APWR utilizes different reactor internals than its US four-loop counterparts, it brings about "safety problems relevant to the flow induced vibration of reactor internals."[90] Petitioners contend that, given these problems, the details of the US-APWR design "should be carefully considered and issues related thereto resolved in the subject rulemaking before proceeding with the COLA adjudication."[91]

Luminant opposes Contention 1 on several grounds, first stating that Contention 1 is simply a restatement of the Petition for Stay, which the Commission has already rejected.[92] In addition, Applicant argues that Contention 1 constitutes an impermissible challenge to Part 52 of the Commission's regulations, in violation of 10 C.F.R. § 2.335(a).[93] Applicant also urges that 10 C.F.R. § 52.55(c) specifically allows a COL applicant to reference a design certification application in the COLA.[94] Thus, Applicant argues, it has acted consistently with Part 52 procedures in referencing the US-APWR design certification application,[95] and Petitioners' Contention 1 represents an impermissible attack on those procedures and should accordingly be dismissed.[96] Even treating Contention 1 as a challenge to the US-APWR design rather than a challenge to Part 52, the contention should not be considered in the context of this COLA proceeding, Applicant insists. Rather, Applicant argues, the Commission has determined that

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[90] *Id.* at 12-13 (quoting Tadashi Morii, *Hydraulic flow tests of APWR reactor internals for safety analysis*, 238 Nuclear Eng'g & Design 469 (2008)).

[91] *Id.* at 10.

[92] Luminant Answer at 14.

[93] *Id.* at 15.

[94] *Id.* at 14.

[95] Applicant points out that the COLA references sections of Revision 1 of the US-APWR Design Control Document (DCD). *Id.* at 14-15 (citing Final Safety Analysis Report at 1.1-1 [hereinafter FSAR]).

[96] *Id.* at 15.

such contentions should be held in abeyance and referred to the staff for consideration in the design certification rulemaking – but only "if it is otherwise admissible."[97]

According to Applicant, Contention 1 is not "otherwise admissible," because it fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(v) and (vi). Among other things, Applicant challenges Petitioners' satisfaction of subsection (v) and argues, regarding subsection (vi), that "Petitioners do not explain why they believe [the] differences [between the US-APWR and current operating U.S. four-loop plants] are significant or what additional information should have been provided in the COLA or the design control document (DCD)."[98] Moreover, Applicant argues that Petitioners ignore those sections of the DCD and COLA that actually address the information they claim "should be carefully considered."[99] In an attachment to its Answer, Applicant provides a listing of all COLA sections and DCD sections that address Contention 1.[100]

The NRC Staff objects to the admission of Contention 1 on the grounds that the Commission already denied the Petition for Stay, and "Petitioners do not raise any claims in this contention that are not already raised in the Petition for Stay."[101] Thus, according to the NRC Staff, Contention 1 should be found inadmissible under 10 C.F.R. §§ 2.309(f)(1)(i)-(vi) and 2.335.[102]

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[97] *Id.* at 16; *see also* Final Policy Statement on the Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008) ("[I]n a COL proceeding in which the application references a docketed design certification application, the licensing board should refer such a contention to the staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible.").

[98] Luminant Answer at 19.

[99] *Id.* at 20.

[100] *Id.*, Attachment 1, Comanche Peak COLA Sections and US-APWR DCD Sections that Address Contention 1 [hereinafter Luminant Answer Attachment 1].

[101] NRC Staff Answer at 10.

[102] *Id.*

In their reply to the NRC Staff's answer, Petitioners suggest that because Contention 1 identifies inadequacies in the COLA, it should therefore be admitted.[103] Petitioners dismiss the argument that Contention 1 constitutes a challenge to Part 52, arguing that 10 C.F.R. 52.55(c) is "silent concerning whether a pending reactor design rulemaking *per se* excludes consideration of reactor design issues in the context of a parallel COLA adjudication."[104] In Petitioners' view, resolving reactor design issues prior to adjudication is the more "efficient" and "commonsensical" approach and should therefore be adopted by the Board, even if "it may be NRC practice to advance licensing proceedings in a truncated fashion."[105] Petitioners point out that, while the NRC may typically allow COLA adjudications to run parallel with the design certification process, "if the reactor design is not approved the COLA adjudication will have been wasted effort."[106]

At oral argument, however, Petitioners acknowledged that Commission precedent requires the Board to dismiss Contention 1. Specifically, counsel for Petitioners expressly agreed with the Board's suggestion that it "would not have the authority under the precedent to find this particular contention admissible,"[107] at the same time stating that Petitioners did "not conced[e] that the contention should be dismissed."[108]

Licensing Board Ruling on Contention 1

In Contention 1, Petitioners essentially reiterate the request set forth in its earlier Petition for Stay to the Commission, asking this Licensing Board to find merit in the same arguments that the Commission has already rejected. The Commission in its Order denying the Petition for

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[103] Reply to NRC Staff at 1-2.

[104] *Id.* at 2.

[105] *Id*.

[106] *Id*.

[107] Tr. at 22.

[108] *Id.*

Stay stated that "10 C.F.R. § 52.55(c) envisions COLA adjudications during the pendency of design certification reviews."[109] The Commission noted that it had denied similar requests for a stay in two other COLA proceedings,[110] and that "Petitioners have made no showing that this case warrants treatment any different from these previous cases."[111] The Commission therefore denied the petition, "for the reasons stated in the *Fermi* and *Shearon Harris* orders."[112] The Commission subsequently, in the *Shearon Harris* proceeding, remanded the licensing board's decision admitting a contention that (1) raised a design-related issue addressed in a design certification application and (2) challenged the completeness of a COLA.[113] The Commission directed the Board to determine whether the contention was "otherwise admissible" under 10 C.F.R. §2.309(f)(1), in which case it might be held in abeyance and referred to the staff.[114]

Contention 1 merely lists the major differences between the US-APWR and current operating U.S. four-loop plants.[115] Such differences, while they may require the staff to examine the DCD more closely, raise nothing appropriate for resolution in this proceeding. As noted above, Luminant has provided with its Answer a table listing all the sections of its Application that address the differences Petitioners identify in their contention.[116] Petitioners have not

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[109] Order Denying Petition for Stay at 1. 10 C.F.R. § 52.55(c) provides that "[a]n applicant for a construction permit or a combined license may, at its own risk, reference in its application a design for which a design certification application has been docketed but not granted."

[110] *See Detroit Edison Co.* (Fermi Unit 3), CLI-09-4, 69 NRC __, __ (slip op. at 6-7) (Feb. 17, 2009); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-08-15, 68 NRC 1, 3-4 (2008).

[111] Order Denying Petition for Stay at 2.

[112] *Id*.

[113] *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-09-8, 69 NRC __ (slip op.) (May 18, 2009), *remanding* LBP-08-21, 68 NRC 554, 561-64 (2008).

[114] *See id.* at __ (slip op. at 12).

[115] *See* Petition at 10-14.

[116] Luminant Answer Attachment 1.

disputed the contents of this table. We are left to conclude that Contention 1 does not identify any omission from Luminant's COLA, nor does it raise a genuine dispute with the application as required under § 2.309(f)(1)(vi).[117] We thus find Contention 1 to be inadmissible.

2. ER Erroneously Assumes Federal High-Level Waste Disposal Capacity

Petitioners in Contention 2 state:

> The Comanche Peak Environmental Report erroneously assumes that there will be high-level waste/spent nuclear fuel disposal capacity available at a federal site, presumably Yucca Mountain, Nevada. But 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. Therefore, 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.[118]

In this contention, Petitioners challenge the "assumption" in Applicant's ER, at Section 5.7.1.6, that there will be a federal repository available for disposal of spent fuel and high-level waste generated by Comanche Peak Units 3 and 4.[119] Petitioners acknowledge that Applicant's assumption relies on the NRC's "Waste Confidence Decision"[120] – the NRC's generic determination that spent fuel generated in "any reactor" can be stored safely and without significant environmental impact for at least thirty years, and that a geologic repository with

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[117] Petitioners do cite an article suggesting that the US-APWR design "brings about safety problems relevant to the flow induced vibration of reactor internals. . . ." *See supra* note 90. This article and associated discussion, however, do not establish this to be an issue appropriate for adjudication in this proceeding. Petitioners may raise any such issues with the NRC Staff in the US-APWR design rulemaking.

[118] Petition at 14.

[119] *Id*.

[120] As noted by the NRC Staff in its Answer, the term "Waste Confidence Decision" refers to the Commission's "generic findings regarding the availability of a geologic repository for high level waste disposal and the safety and environmental impacts of storing spent fuel onsite beyond the licensed operating life of a reactor." NRC Staff Answer at 12 n.7 (citing Waste Confidence Decision Review, 55 Fed. Reg. 38,474 (Sept. 18, 1990)). The Decision, which has periodically been updated, is codified at 10 C.F.R. § 51.23, a provision known as the "Waste Confidence Rule."

sufficient capacity will become available by 2025.[121] According to Petitioners, however, the Waste Confidence Decision is "inapplicable" to Units 3 and 4 for at least two reasons.

First, Petitioners claim, the Decision applies only to those reactors that were operating in December 1999, when the Decision was last reviewed, and not to new reactors such as Units 3 and 4.[122] Indeed, Petitioners assert, the Decision could not practicably apply to new reactors, since "[t]he volume of spent nuclear fuel and other high-level radioactive wastes generated by the current generation of nuclear reactors exceeds the anticipated capacity at Yucca Mountain."[123] Petitioners bolster this assertion with Department of Energy (DOE) statistics about the current volume of nuclear waste and its predicted growth over the next several years.[124] In Petitioners' view, "[t]his projection of the volume of the spent nuclear fuel and high-level radioactive waste stream betrays the assumption in the Comanche Peak Environmental Report that assumes Yucca Mountain would be available for disposition of waste generated at Units 3 and 4."[125]

Second, Petitioners call into question the Waste Confidence Decision's assumption that a geologic repository will become available by 2025. In fact, Petitioners argue, there is "very little likelihood" that it will.[126] Petitioners point to recent congressional testimony by Secretary of Energy Steven Chu, in which the Secretary declared that Yucca Mountain is "no longer an

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[121] Petition at 15 (citing Waste Confidence Decision Review, 64 Fed. Reg. 68,005, 68,006 (Dec. 6, 1999)).

[122] *Id.* at 15.

[123] *Id*. (citing 42 U.S.C. § 10134(d)).

[124] *Id*. at 15-16 (citing Office of Civilian Radioactive Waste Management, DOE Program Plan, Rev. 3, 1 (2000)) (stating that in 1998 "there was over 38,000 metric tons of high-level waste from commercial reactors in the United States," and that this amount "would more than double by 2035").

[125] *Id*. at 16.

[126] *Id*.

option" as a geologic repository.[127] Petitioners also provide the expert declaration of Gordon Thompson, which expresses "skepticism" about the NRC's "series of Waste Confidence decisions."[128] Dr. Thompson states that "[t]hose decisions have not been based on a systematic assessment of the program's feasibility, or an assessment of factors that could cause delays,"[129] and concludes that, based on a combination of technical and political considerations, "the most reasonable assumption about repository development during the next half-century is that no repository for [high-level waste] and [spent nuclear fuel] will open in the USA."[130] Based on the statements of Secretary Chu and Dr. Thompson, Petitioners argue that the Waste Confidence Decision lacks any reasoned basis, and that Applicant is not justified in relying on it. Petitioners propose that "the COLA should be withdrawn and resubmitted with an analysis of how the management of spent nuclear fuel and high-level radioactive wastes generated by Comanche [P]eak [U]nits 3 and 4 will be handled based on an assumption that a federal repository will not be available for disposition of those wastes."[131]

Applicant responds that Contention 2 should be dismissed "because it challenges the Commission's Waste Confidence Rule, 10 C.F.R. § 51.23, 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)."[132] According to Applicant, regulatory history demonstrates that the Waste Confidence Rule was intended to cover new reactors – not just those currently in operation,[133]

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[127] *Id*. at 17 (citing H. Josef Hebert, *Chu: Yucca No Longer Option for Nuclear Waste*, Associated Press, March 5, 2009).

[128] Petition, Declaration by Gordon Thompson in Support of Contentions Submitted by [SEED] at 4 (Apr. 6, 2009) [hereinafter Thompson Declaration].

[129] Thompson Declaration at 4.

[130] *Id*. at 5.

[131] Petition at 17.

[132] Luminant Answer at 21.

[133] *Id*. at 22.

and the Rule was amended in 2007 specifically "to clarify that the rule encompasses COL applications."[134] Thus, Applicant argues, the Waste Confidence Rule clearly applies to Comanche Peak Units 3 and 4. Finally, Applicant notes that contentions nearly identical to Contention 2 have been rejected by licensing boards in at least nine other proceedings.[135] For all these reasons, Applicant asserts, the Board should reject Contention 2.

The NRC Staff also argues that Contention 2 impermissibly challenges the Waste Confidence Rule,[136] and that the Rule applies not only to currently operating reactors but to new reactors as well. Moreover, Staff argues, Contention 2 seeks to address issues that are the subject of ongoing rulemaking, contrary to Commission precedent,[137] pointing out that the Commission recently published proposed revisions to the Waste Confidence Rule.[138] Finally, the Staff insists that Contention 2 fails to specify any deficiencies or omissions in the COLA and fails to meet the contention admissibility criteria at 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi).[139]

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[134] *Id*. at 23.

[135] *Id*. (citing *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); *Shearon Harris*, LBP-08-21, 68 NRC at 586-87; *Duke Energy Carolinas, Inc.* (Combined License Application for William States Lee III Nuclear Station, Units 1 & 2), LBP-08-17 68 NRC 431, 456-57 (2008); *Bellefonte*, LBP-08-16, 68 NRC at 415-16; *Va. Elec. & Power Co.* (Combined License Application for North Anna Unit 3), LBP-08-15, 68 NRC 294, 336-37 (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)).

[136] NRC Staff Answer at 12-13.

[137] *Id*. at 13 (citing *Oconee*, CLI-99-11, 49 NRC at 345).

[138] *See* Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 73 Fed. Reg. 59,547 (Oct. 9, 2008).

[139] NRC Staff Answer at 13-14.

In their Reply to the NRC Staff, Petitioners allege that Applicant's "assumption" about Yucca Mountain's availability constitutes a violation of 10 C.F.R. § 52.79(a)(3).[140] Specifically, Petitioners contend, Luminant's Final Safety Analysis Report (FSAR) fails to adequately specify "the kinds and quantities of radioactive materials expected to be generated [by Units 3 and 4] and how radiation limits under 10 CFR Pt. 20 will be met."[141] Petitioners go on to fault Applicant for relying on "the 1990 version of the Waste Confidence Rule," which "must assume a second repository will be available for disposition of Comanche Peak Units 3 and 4 spent fuel and high-level wastes."[142] In Petitioners' view, "[t]his is not a reasonable assumption."[143] Finally, Petitioners cite certain comments of Dr. Arjun Mkihijani as further support for Contention 2.[144]

Applicant moves to strike those portions of Contention 2 that contain "new arguments, references, and attachments."[145] Specifically, Luminant objects to (1) the sentences including citations to 10 C.F.R. § 52.79(a)(3), and (2) all references to Dr. Makhijani's attached analysis, including the attachment itself.[146] In their Response to Applicant's Motion to Strike, Petitioners argue that the citation to 10 C.F.R. § 52.79(a)(3) constitutes "legitimate amplification of the issue raised in the Petition."[147] Petitioners also characterize Dr. Makhijani's comments as "supportive

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[140] Reply to NRC Staff at 3.

[141] *Id*.

[142] *Id.* at 4.

[143] *Id*.

[144] *Id*. at 4-5 (citing Reply to NRC Staff, Arjun Makhijani, Comments of the Institute for Energy and Environmental Research on the U.S. Nuclear Regulatory Commission's Proposed Waste Confidence Rule Update and Proposed Rule Regarding Environmental Impacts of Temporary Spent Fuel (2009)).

[145] Motion to Strike at 1.

[146] *Id*. at 5.

[147] Response to Motion to Strike at 2.

amplifications of the premise" of Contention 2, and on this basis insist that the Board should not decline to consider these two elements of the reply.[148]

At oral argument, counsel for Petitioners, Applicant, and the NRC Staff further addressed whether the Licensing Board could hold Contention 2 in abeyance pending issuance of the new Waste Confidence Rule, which, according to counsel for NRC Staff, has already "gone up to the Commission."[149] Counsel for Petitioners proposed that the Board "could essentially take a step back and wait to see what the new Waste Confidence Rule is going to look like" before deciding whether to admit or deny Contention 2.[150] Such an approach, counsel suggested, would promote "efficiency" by preventing "a repetition of the petition process under a new Waste Confidence Rule that might be issued down the line."[151] In response to this suggestion, counsel for Applicant and the NRC Staff maintained that Commission precedent requires that any contentions that raise issues currently subject to rulemaking be rejected.[152]

Licensing Board Ruling on Contention 2

To begin, to the extent Contention 2 amounts to an attack on the Waste Confidence Rule at 10 C.F.R. § 51.23(a), which addresses the long-term storage of spent fuel and high-level waste generated by nuclear reactors,[153] we are compelled to find it inadmissible. Under 10

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[148] *Id*.

[149] Tr. at 31.

[150] *Id*. at 32.

[151] *Id*. at 33.

[152] *Id*. at 42-43 (citing *Oconee*, CLI-99-11, 49 NRC at 345), 52.

[153] The current version of the Waste Confidence Rule states, at subsection (a):

> The Commission has made a generic determination that, if necessary, 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 (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

C.F.R. § 2.335(a), a licensing board may not admit any contention that challenges a Commission rule or regulation, unless a waiver is requested under 10 C.F.R. § 2.335(b). In the present case, Petitioners have not requested a waiver, nor do they allege that any "special circumstances" warrant such a waiver.

Petitioners' central arguments are essentially (1) that the Waste Confidence Rule does not apply to reactors that were not in operation at the time the Waste Confidence Rule was reviewed in 1999; (2) that, even assuming that the Waste Confidence Rule does apply in this proceeding, political reality undermines the Rule's assertion that a federal repository will become available by 2025; (3) that the ER is therefore in error in its "assumption" that a repository will be available; and (4) that we should admit Contention 2 and hold it in abeyance until the Commission issues its updated Waste Confidence Rule, which is expected in the near future.

Regarding the question whether the phrase "any reactor" as used in 10 C.F.R. § 51.23(a) refers to any new reactors, we note that the Commission in its 1990 review of the Waste Confidence Rule stated the following:

> The availability of a second repository would permit spent fuel to be shipped offsite well within 30 years after expiration of [the current fleet of] reactors' [operating licenses]. The same would be true of spent fuel discharged from any new generation of reactor designs.[154]

This supports a reading that in 1990 "any reactors" included future reactors, but arguably that this was contingent upon the availability of a second repository. In 2007, however, subsections 51.23(b) and (c) were amended specifically to clarify that the Waste Confidence Rule

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> 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.

10 C.F.R. § 51.23(a).

[154] 55 Fed Reg. at 38,504. These findings were reaffirmed in the Commission's most recent review of the Waste Confidence Decision. 64 Fed. Reg. at 68,007.

encompasses COL applications like the one at issue here.[155] And the Rule is again under review at this time. In its proposed rule, issued on October 9, 2008, the Commission stated:

> [T]he Commission is now preparing to conduct a significant number of proceedings on combined construction permits and operating licenses (COL) applications for new reactors. The Commission anticipates that the issue of waste confidence may be raised in those proceedings and desires to take a fresh look at its Waste Confidence findings to take into account developments since 1990.[156]

Based on this statement, it is clear that the Commission is currently assessing the applicability of the Waste Confidence Rule to "all reactors" – both current and anticipated. And as the Commission stated in *Oconee*, "[i]t has long been agency policy that Licensing Boards should not accept in individual license proceedings contentions which are (or are about to become) the subject of general rulemaking by the Commission."[157] As to political considerations, we will assume that the Commission will take all appropriate realities into account in the pending rulemaking. Petitioners are of course free to petition the Commission to go in a different direction in its rulemaking approach to high-level waste management by plants.

Meanwhile, given the preceding circumstances and the Commission's ruling in *Oconee*, Petitioners' Contention 2, regarding the ER and its assumptions, may not be admitted, and we must therefore also decline to follow Petitioners' suggestion to admit Contention 2 and hold it in abeyance pending issuance of the updated Waste Confidence Rule.

Finally, we note Petitioners' argument in their Reply to the NRC Staff's Answer, to the effect that, under 10 C.F.R. § 52.79(a)(3), COL applicants are required to include in their FSARs ("at a level of information sufficient to enable the Commission to reach a final conclusion on all safety matters that must be resolved by the Commission") "[t]he kinds and quantities of radioactive materials expected to be produced in the operation and the means for controlling

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[155] Final Rule, Licenses, Certifications, and Approvals for Nuclear Power Plants, 72 Fed. Reg. 49,352, 49,429 (Aug. 28, 2007).

[156] Waste Confidence Decision Update, 73 Fed. Reg. 59,551, 59,553 (Oct. 9, 2008).

[157] *Oconee*, CLI-99-11, 49 NRC at 345.

and limiting radioactive effluents and radiation exposures within the limits set forth in part 20 of this chapter."[158] This claim is, however, essentially in the nature of a new contention, challenging the adequacy of what is contained in Luminant's FSAR (in contrast to the current Contention 2, which concerns the ER), and there is nothing to indicate that Petitioners could not have raised this issue at the time it submitted its original Petition. Therefore, we have not considered this argument for purposes of determining the admissibility of Contention 2.[159]

3. COLA Does Not Consider Consequences of Long-Term On-Site Waste Storage

Petitioners in Contention 3 state:

> Because no spent nuclear fuel and high-level radioactive waste repository site is now available and future availability of such site is problematic, the COLA adjudication should consider the environmental consequences and public health impacts from long-term storage of high-level waste and spent fuel on site at Comanche Peak.[160]

Petitioners state that the ER "concedes" the current absence of a federal repository, thus requiring Applicant to store the spent fuel from Units 3 and 4 either on-site in dry cask storage or spent fuel pools, or off-site at another plant.[161] Petitioners contend that long-term dry cask storage poses unique and serious risks, including risks associated with terrorism and long-term radiation exposure, which should be addressed in the COLA.[162] As support for this point, Petitioners provide the declaration of Dr. Gordon Thompson, discussing the potential for a large, unplanned radioactive release from spent nuclear fuel stored on-site.[163] Petitioners conclude that the ER "should either be disregarded or withdrawn by the Applicant and amended to

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[158] 10 C.F.R. § 52.79(a), (a)(3); *see also* Reply to NRC Staff at 3-4.

[159] *See supra* note 50.

[160] Petition at 17.

[161] *Id*. at 18 (citing ER at 5.7-3).

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

[163] *Id*. at 19 (citing Thompson Declaration at 9-13).

account for the public health and environmental consequences of long-term [on-site high-level waste management]."[164]

Applicant and the NRC Staff challenge this contention on the grounds that it attacks the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and fails to satisfy the requirements for waiver set forth in 10 C.F.R. § 2.335(b).[165] Specifically, they argue that under the Waste Confidence Rule, a COLA need not discuss the long-term environmental impacts of on-site spent fuel storage,[166] and may assume that a federal repository will become available in time to store such spent fuel safely and without significant environmental impacts. Applicant and Staff urge that Contention 3 should therefore be dismissed pursuant to 10 C.F.R. § 2.335(a). The NRC Staff also argues that the Thompson Declaration "does not provide adequate support for the contention," since Petitioners fail to explain how it supports their claim.[167]

Replying to the NRC Staff, Petitioners argue that "it is not reasonable" to suggest that a COLA need not analyze the dangers of a terrorist attack on dry cask storage, especially given the new requirements laid out at 10 C.F.R. § 50.54(hh).[168] Petitioners contend that "Applicant should be required to disclose now its plans for on-site storage of spent fuel and high-level wastes."[169] Luminant moves to strike a paragraph of Petitioners' reply suggesting that "terrorists attacks on dry cask storage should be considered pursuant to 10 C.F.R. § 50.54(hh)."[170]

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[164] *Id.* at 19.

[165] Luminant Answer at 24; NRC Staff Answer at 15.

[166] Luminant Answer at 24-25; NRC Staff Answer at 15.

[167] NRC Staff Answer at 16 n.10.

[168] Reply to NRC Staff at 5.

[169] *Id*. at 6.

[170] Motion to Strike at 5.

According to Applicant, this paragraph "provides new information and arguments that were not identified in the Petition."[171]

Licensing Board Ruling on Contention 3

The Board finds that Contention 3, like Contention 2, must be denied as an impermissible attack on the Waste Confidence Rule. The Waste Confidence Rule states that "spent fuel . . . can be stored safely" on-site for at least thirty years beyond a plant's licensed life for operation.[172] Beyond thirty years, the Rule provides that a geologic repository will be available with sufficient capacity to dispose of all high-level waste generated,[173] and states that "no discussion of any environmental impact of spent fuel storage . . . for the period following the term . . . of the reactor combined license . . . is required in any environmental report."[174] Thus, in the end, Contention 3 amounts to a challenge to the NRC Waste Confidence Rule, and because Petitioners do not allege any "special circumstances" warranting a waiver, the contention is inadmissible under 10 C.F.R. § 2.335(a).[175]

Finally, regarding the possibility of terrorist attacks, as discussed in greater detail in our discussion of Contention 19 *infra*, the Commission in the *Oyster Creek* proceeding ruled terrorism-related issues to be outside the scope of NRC adjudications.[176]

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[171] *Id*.

[172] 10 C.F.R. § 51.23(a).

[173] *Id*.

[174] *Id*. § 51.23(b).

[175] *See supra* text accompanying notes 153-159.

[176] *Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124, 126 (2007); *see infra* text accompanying notes 417-427. To the extent that Petitioners argue that the provisions of 10 C.F.R. § 50.54(hh) should be applied to dry cask storage, they may, as Staff suggested at oral argument, file a rulemaking petition with the Commission. *See* Tr. at 67-68.

4. ER Erroneously Assumes No Releases from Waste Storage

Petitioners in Contention 4 state:

> The Comanche Peak Environmental Report assumes that there will be no release to the environment from management of spent nuclear fuel and high-level wastes. This is a false assumption that is contradicted by the Environmental Protection Agency's Final Yucca Mountain radiation release regulations and the Department of Energy findings that significant radioactivity releases from Yucca Mountain would occur over time.[177]

Petitioners challenge Section 5.7.1.6 of the ER for incorrectly assuming "that there would be no significant releases of radioactivity to the environment related to management of radioactive waste."[178] According to Petitioners, this assumption is contradicted by two separate sources. First, Petitioners point to the transcript of a DOE meeting, which they say indicates that DOE "recognizes that significant releases from a Yucca Mountain repository would occur over time."[179] Second, Petitioners point to EPA's final Yucca Mountain radiation release regulations, which they contend "are premised on the assumption that there will be significant releases of radiation from a federal repository."[180] In Petitioners' view, Applicant's ER should be "disregarded or withdrawn and resubmitted" to reflect the true projected radiation releases from Yucca Mountain.[181]

In their Answers, both Luminant and the NRC Staff urge the Board to dismiss Contention 4 as an impermissible attack on the Commission's regulations. They argue that the provisions of 10 C.F.R. § 51.51 require COL applicants to rely on NRC's Table S-3 in calculating the environmental effects of the uranium fuel cycle, which includes high-level waste

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[177] Petition at 19.

[178] *Id*.

[179] *Id*. at 19-20 (citing Office of Civilian Radioactive Waste Management, DOE, NWTRB Repository Panel Meeting: Postclosure Defense and Design Selection Process (1999)).

[180] *Id.* at 20; *see also* 40 C.F.R. Part 197.

[181] Petition at 20.

management.[182] Table S-3, they state, when read together with certain "background documents,"[183] indicates that there will be no post-closure radioactive releases from Yucca Mountain, and on this basis Applicant's ER concludes that the effects of any such releases associated with Comanche Peak Units 3 and 4 are "SMALL."[184] Applicant and Staff argue that Contention 4 presents a challenge to Table S-3 and thus should be dismissed pursuant to 10 C.F.R. § 2.335(a).[185]

Moreover, according to both Applicant and the NRC Staff, Petitioners fail to provide any support for their allegations in Contention 4, and neither of the sources cited by Petitioners – neither the DOE meeting transcript nor the EPA's radiation release regulations – contradicts Table S-3 in any way.[186] Instead, Staff and Applicant argue, nothing in these documents actually undermines the ER's conclusion that impacts from high-level waste management will be "SMALL," and thus Contention 4 should also be dismissed on the grounds that it lacks adequate support as required at 10 C.F.R. § 2.309(f)(1)(v).[187]

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[182] Luminant Answer at 26; NRC Staff Answer at 18.

[183] Note 1 to Table S-3 states that "[i]n some cases where no entry appears [in the Table] 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." 10 C.F.R. § 51.51(b), Table S-3 n.1; *see also* Luminant Answer at 26 n.123. The "background documents" in question are identified in the same note as follows:

> Data supporting this table are given in the "Environmental Survey of the Uranium Fuel Cycle," WASH-1248, April 1974; the "Environmental Survey of Reprocessing and Waste Management Portion of the LWR Fuel Cycle," NUREG-0116 (Supp. 1 to WASH-1248); the "Public Comments and Task Force Responses Regarding the Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle," NUREG-0216 (Supp.2 to WASH-1248): and in the record of final rulemaking pertaining to Uranium Fuel Cycle Impacts from Spent Fuel Reprocessing and Radioactive Waste Management, Docket RM-50-3.

[184] Luminant Answer at 26; NRC Staff Answer at 18.

[185] *Id.*

[186] Luminant Answer at 27-28; NRC Staff Answer at 19-20.

[187] *Id.*

Licensing Board Ruling on Contention 4

The Board agrees that Contention 4 constitutes an impermissible challenge to Table S-3. In Contention 4, Petitioners challenge the ER's conclusion, at Section 5.7.1.6, that "the environmental impacts of radioactive waste disposal from the [uranium fuel cycle] are SMALL." Petitioners fail to acknowledge, however, that this conclusion is based entirely on 10 C.F.R. § 51.51(b), Table S-3[188] – a table containing the NRC's generic calculation of the environmental impacts of the uranium fuel cycle. Under § 51.51(a), "every [ER] . . . shall . . . 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."[189] With regard to the management of high-level waste, Table S-3, when read together with the "background documents" referenced in Note 1 to the Table, indicates "zero" radiological release into the environment.[190] Thus, the ER's finding of "SMALL" impact is appropriate and, indeed, required by 10 C.F.R. § 51.51. Because Contention 4 amounts to an attack on that regulation, it must be dismissed in accordance with 10 C.F.R. § 2.335(a).

We note Petitioners' references to a DOE meeting transcript and EPA regulations at 40 C.F.R. Part 197, which allegedly undermine the assumption in Table S-3 that high-level waste management results in zero effluent. Even assuming these documents do undermine that assumption, however, this is not the appropriate forum to raise a challenge to Table S-3. Again,

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[188] More specifically, this conclusion is based on ER Table 5.7-2, which replicates Table S-3, as required by 10 C.F.R. § 51.51(a).

[189] 10 C.F.R. § 51.51(a).

[190] Although Table S-3 does not indicate the total releases from management of high-level waste, Note 1 to the Table indicates that a "zero" entry should be inferred in cases where "it is clear from the background documents that the matter was addressed." *See supra* note 183. In the case of high-level waste management, the relevant background document assumes "that after the repository is sealed there would be no further release of radioactive materials to the environment." 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).

10 C.F.R. § 2.335(a) bars petitioners from challenging NRC rules and regulations in an adjudicatory proceeding such as this; the appropriate procedure to raise such a challenge is to file a petition for rulemaking pursuant to 10 C.F.R. § 2.802.

5. COLA Should Consider Consequences of Off-Site Waste Disposal

Petitioners in Contention 5 state:

> The COLA should consider environmental impacts and public health consequences of accidents and releases related to off-site radioactive waste disposal.[191]

In this contention, Petitioners fault Luminant for assuming in its ER that "there will be no significant radioactive releases to the environment related to off-site disposal."[192] Petitioners argue that Applicant should consider environmental and public health effects, including those originating from "on-site processing, transportation accidents, off-site processing, and long-term releases from the disposal site because of either improper or inadequate waste site characterization, natural events such as earthquakes, and intentional or unintentional releases."[193]

Applicant and the NRC Staff oppose Contention 5 for the same reason they oppose Contention 4: they argue it constitutes an impermissible attack on the Commission's generic findings contained in Table S-3.[194] Applicant states that ER § 5.7.1.6, the section challenged by Petitioners, "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"; and that, as such, Petitioners' challenge is actually to Table S-3.[195] According to the Staff, Petitioners do not in challenging ER § 5.7.1.6 identify the environmental impacts or specific

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[191] Petition at 20.

[192] *Id*. (citing ER at § 5.7-9).

[193] *Id*. at 21.

[194] Luminant Answer at 29; NRC Staff Answer at 20-21; *see also* 10 C.F.R. § 51.51(b).

[195] Luminant Answer at 29.

public health consequences they dispute, nor do they explain how "on-site processing, transportation accidents, off-site processing, and long-term releases" could create such impacts, and thus they demonstrate no genuine dispute.[196] Applicant concedes that, "[t]o the extent that this contention raises issues related to transportation accidents, these issues are not covered by Table S-3," but indicates that Table S-4, which addresses transportation impacts, is in effect incorporated into the ER at § 5.7.[197] In this regard, Applicant argues, the ER "contains a full description and detailed analysis of the environmental effects of waste transportation, including an analysis of transportation accidents" at ER §§ 3.8, 5.7.2, and 7.4, and Petitioners "fail to controvert any aspect of these analyses."[198] Moreover, Applicant argues, "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."[199]

Regarding the provision of section 51.51(a) allowing an applicant to "supplement" Table S-3 with a "discussion of the environmental significance of the data set forth in the table," Applicant's counsel stated at oral argument that Luminant undertook such an analysis in ER Section 5.7.1.7, but that Petitioners' Contention 5 does not specifically challenge or even acknowledge that analysis. Rather, according to counsel, "the Petitioners' challenge is to the quantity of the effluents and therefore impermissible."[200] Counsel for the NRC Staff agreed, adding that "the petitioner does not address any supplemental discussion in his contention but it's really attacking . . . the content of Table S-3 itself."[201] Counsel for Petitioners at oral

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[196] NRC Staff Answer at 21.

[197] Tr. at 82-3.

[198] Luminant Answer at 30 n.131.

[199] *Id.* at 27.

[200] Tr. at 72.

[201] *Id*. at 73.

argument acknowledged that Contention 5 is implicitly a challenge to the rule and Table S-3,[202] but also stated that Petitioners "are here to preserve that issue and to make some record on it."[203]

Licensing Board Ruling on Contention 5

Petitioners in Contention 5 fail to dispute those sections of the ER that supplement Table S-3 and address the requirements of Table S-4.[204] Thus no genuine dispute as required by 10 C.F.R. § 2.309(f)(1)(vi) is shown regarding these matters. And Contention 5 otherwise, by Petitioners' own admission, constitutes a challenge to the provisions of Table S-3. As noted in our rulings on a number of contentions herein at issue, under 10 C.F.R. § 2.335(a) such a challenge to a rule is not permitted in an NRC adjudicatory proceeding. The Board therefore concludes that Contention 5 is inadmissible.

6. COLA Should Consider Consequences of Government Becoming Waste Custodian

Petitioners in Contention 6 state:

> The COLA adjudication 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 and post-closure activities have been completed.[205]

In this contention, Petitioners argue that the COLA "should consider the environmental and public health consequences of either . . . Texas or the [federal] government becoming . . . *de facto* custodians of spent fuel and high level wastes at the Comanche Peak site after the operating license has lapsed and post-closure activities of the licensee have been

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[202] *Id*. at 87.

[203] *Id*. at 84.

[204] As counsel for NRC Staff noted at oral argument, "any additional analysis that is provided by the Applicant could be the subject of an admissible contention, provided that the contention admissibility rules are met." Tr. at 73. No such contention, however, has been filed herein.

[205] Petition at 21.

completed."[206] Petitioners suggest that, if any spent fuel remains on-site once the operating license for Units 3 and 4 has lapsed, the government might become legally responsible for managing it. Therefore, Petitioners contend, the ER should identify the government entity that would have such ownership, estimate the costs that can be reasonably anticipated as a result of such ownership, and discuss the environmental and public health consequences thereof.[207]

Applicant opposes Contention 6 on the grounds that it presents an impermissible challenge to the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a).[208] Applicant points out that the Waste Confidence Rule explicitly states that an applicant need not discuss in its ER any environmental impacts of spent fuel storage "for the period following the term of the . . . reactor combined license."[209] Contention 6 presents a challenge to this Rule, Applicant argues, by suggesting that Luminant must discuss such environmental impacts in its ER.[210]

The NRC Staff also opposes Contention 6 as an impermissible attack on Commission regulations. Staff argues that, under 10 C.F.R. § 52.110, decommissioning is not complete, and an operating license cannot be terminated, in effect, until all spent fuel and high-level waste has been removed from the site.[211] In other words, as stated at oral argument:

> [A]s long as spent fuel is on site, the site will be subject to an NRC license and NRC regulatory authority, therefore, the specific issue that was raised in this contention, which is that the COLA should consider public health and environmental consequences of requiring government units to become custodian of spent fuel after the license lapses is really not a possible scenario under the regulations.[212]

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[206] *Id*.

[207] *Id*. at 21-22.

[208] Luminant Answer at 31.

[209] *Id*. at 32 (quoting 10 C.F.R. § 51.23(b)).

[210] *Id.*

[211] NRC Staff Answer at 22-23 (citing 10 C.F.R. § 52.110(k)).

[212] Tr. at 90.

Moreover, according to the NRC Staff, a governmental entity would never become "required" to assume ownership over spent fuel at a nuclear facility that has ceased operating. As the Staff points out, the licensee remains authorized to own and possess the facility even after the operating license expires.[213] Thus, the NRC Staff concludes, Contention 6 presents an impermissible challenge to the Commission regulations governing decommissioning and license termination. In addition, the Staff argues that Contention 6 fails to meet the admissibility criteria at 10 C.F.R. § 2.309(f)(1)(iii), (iv), (v), and (vi).[214]

Petitioners filed no reply to the Staff's and Applicant's arguments. At oral argument, counsel for Petitioners seemed to acknowledged the legal landscape as the NRC Staff described it,[215] but emphasized that Contention 6 really "deals with what happens to a facility where there has been a default of a license,"[216] depicting a scenario in which a licensee defaults before "meaningful enough" decommissioning funding has accumulated, and suggesting that "the only institutions in our society that are set up to [embrace this problem] in any kind of meaningful way would be units of government."[217] According to the NRC Staff, however, "even if a government entity did take over, they would have to have an NRC license to possess spent fuel on the site, so again, there's no situation where spent fuel onsite would not be covered by an NRC license."[218]

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[213] NRC Staff Answer at 23-24 (citing 10 C.F.R. §§ 52.110(b), 52.109).

[214] *Id*. at 24-25.

[215] Tr. at 91.

[216] *Id*.

[217] *Id*. at 93-94.

[218] *Id*. at 94.

Licensing Board Ruling on Contention 6

We agree with Applicant and the NRC Staff that Contention 6 raises issues that challenge both the Waste Confidence Rule and NRC regulations relating to decommissioning.[219] In addition, the contention is insufficiently supported to show a genuine dispute on a material issue of law or fact.[220] We therefore deny admission of Contention 6.

7. COLA Does Not Address Requirements of 10 C.F.R. §§ 52.80(d) and 50.54(hh)(2)

In Contention 7 Petitioners allege:

> The Applicant's COLA is incomplete because it fails to include the requirements of 10 CFR 52.80(d) that require the applicant to submit a description and plans for implementation of the guidance strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities with the loss of large areas of the plant due to explosions and/or fires as required by 10 CFR 50.54(hh)(2).[221]

Prior to oral argument on this contention (which the NRC Staff agreed was admissible based on information available when it was filed),[222] Applicant filed certain sensitive unclassified non-safeguards information (SUNSI) purported to render the contention moot.[223] At oral argument, counsel for both Applicant and the Staff asserted that Contention 7 was indeed rendered moot by the SUNSI,[224] but counsel for Petitioners declined to acknowledge the mootness of Contention 7 without first having access to the SUNSI.[225] As indicated *supra* in the Background Section of this Memorandum, on July 1, 2009, the Licensing Board issued an order approving a joint proposed protective order relating to the SUNSI in question,[226] and another order directing Petitioners "within five (5) days after receipt of the SUNSI, [to] notify the Board

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[219] *See infra* discussion on Contention 15.

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

[221] Petition at 22.

[222] NRC Staff Answer at 28.

[223] *See supra* note 14.

[224] Tr. at 99, 100.

[225] *Id*. at 105-06.

[226] *See supra* note 20.

and all parties whether they challenge the assertions of Applicant and NRC Staff that the material in question renders Contention 7 moot."[227] Applicant subsequently provided the material in question to Petitioners' counsel, as well as two individuals associated with Petitioners, who had signed appropriate, agreed-upon non-disclosure affidavits as provided in the protective order.[228] Thereafter Petitioners provided notification that they do dispute the asserted mootness of Contention 7, and the parties have filed briefs, at least some of which contain SUNSI. The Board will address the issue of whether Contention 7 was rendered moot by the material filed by Applicant in a subsequent order.

8. COLA Does Not Fully Analyze Radiological Hazards of Discharges Into Squaw Creek Reservoir

Petitioners in Contention 8 state:

> The 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.[229]

Petitioners are concerned in this contention with uncontrolled release of radioactive material, quoting from the Comanche Peak ER, in which Applicant candidly admits that the Squaw Creek Reservoir (SCR) is a radiological issue:

> Radioactive particulate matter that is permitted and released to SCR in liquid effluents is deposited onto the settlement layer of the reservoir bottom, particularly in the area of the circulating water discharge release point. Unlike the tritium being diluted and removed by rainfall and lake water makeup, the particulates have no removal mechanism other than radioactive decay.[230]

Petitioners claim that, "[i]n effect, SCR is and will continue to be an unlicensed radioactive waste disposal facility for Comanche Peak Nuclear Plant operations."[231] Petitioners are also

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[227] *See supra* note 22.

[228] *See supra* note 23.

[229] Petition at 26.

[230] *Id*. (quoting ER at 5.11-3).

[231] *Id.* at 26.

concerned with radiological consequences should the dam that forms the SCR fail, asserting that this would immediately cause the tritium in the SCR to spread, and that exposure of the sediment to the air would allow it to dry out so that winds would be able to spread the particulate radioactive materials within it.[232] Petitioners fear that a prolonged drought or the effects of global warming may result in insufficient inflow to the SCR to prevent its drying out, and that this might also permit dried radioactive materials to be transported to populated regions.[233]

Petitioners based their concerns focusing on tritium within the SCR on a statement in Applicant's FSAR that Petitioners characterize as indicating that "it is anticipated that when all four units at Comanche Peak are operating tritium levels may be exceeded."[234] Petitioners allege that "the Applicant fails to provide any plan for regular monitoring [of the] SCR to determine when tritium levels are exceeded while all four units are operating."[235]

Petitioners fault Applicant for relying on adequate rainfall to provide a dilution source and overlooking the possibility that protracted drought or the effects of global warming may reduce water availability for dilution. According to Petitioners, a reduction in water availability could cause the SCR to exceed permitted tritium concentration levels, and in addition, "the COLA fails to analyze the potential for radioactive groundwater contamination from plant operations."[236] As support for Contention 8, Petitioners provide a short statement by a groundwater hydrologist on the "Potential for groundwater contamination at the Comanche Peak Nuclear Power Plant," which begins with the following statement: "There is insufficient time to perform a thorough

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[232] *Id.* at 27.

[233] *Id.*

[234] *Id.* at 28 (citing FSAR at 11.2-2).

[235] *Id.* at 28.

[236] *Id*.

review of the groundwater system and assess the potential for groundwater contamination at the Comanche Peak . . . Plant."[237]

Applicant responds that Petitioners' claim that the SCR is a "radiological problem with no solution" is incorrect and unsupported, stating:

> [T]he 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.[238]

Applicant points to various controls on the discharging of liquid potentially containing radioactive material, as well as the monitoring performed to assure they are effective.[239] Applicant notes that radiological monitoring has been performed at Comanche Peak over the last twenty-five years, and acknowledges that tritium has been detected in the SCR, but maintains that tritium levels have remained "well below applicable regulatory limits."[240] Moreover, Applicant asserts, "radionuclide particulate matter that is released into the SCR via liquid effluents, as permitted by NRC regulations, has not been detected in SCR sediments."[241]

Applicant states that Petitioners misread FSAR Section 11.2.3.1, which actually discusses how Applicant intends to control tritium to maintain a margin of at least twenty percent below the permitted limit at all times. According to Applicant, the FSAR discusses precautionary measures and does not suggest that any limits will be exceeded.[242] In addition, Applicant points out that the current groundwater monitoring program monitors potential radionuclide releases

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[237] Petition, Declaration of George Rice, Groundwater Hydrologist, at 1 (undated) [hereinafter Rice Declaration].

[238] Luminant Answer at 37.

[239] *Id*. (citing ER at 3.5-1 to 3.5-3).

[240] *Id.* at 38 (citing FSAR § 11.2.3.1; ER at 6.2-4).

[241] *Id.*

[242] *Id.* at 39 (citing FSAR at 11.2-2; ER at 6.2-2); *see supra* text accompanying note 234; *see also* Tr. at 165.

near Units 1 and 2, including gamma-emitting radionuclides and tritium, and that results to date indicate that all parameters are below detection limits or below minimum detected activity levels.[243] Because the regulated and permitted discharge process does not meet the definition of disposal, Applicant argues, the SCR need not be considered a disposal site, as Petitioners contend.[244]

Finally, Applicant states that, with no significant buildup of radioactive materials in the SCR sediment, neither dam failure nor drying out of the reservoir would pose a radiological hazard.[245] In Applicant's view, Petitioners provide no basis for the claim that the COLA disregards the potential for radioactive groundwater contamination.[246] Indeed, Applicant claims, "[g]iven that the effluents will comply with regulatory requirements, there is no material dispute that the impacts of those effluents will be SMALL."[247]

The NRC Staff opposes Contention 8 on the grounds that "the Petitioners have not provided any support, scientific or otherwise, for their claim," and that Petitioners have failed to "dispute[ ] information in the Application related to drought and water use."[248] The Staff discredits the hydrologist's statement, pointing to the admission that there was not a thorough review of the groundwater system at Comanche Peak, and arguing that the assertion, that some radionuclides if released "may contaminate the local groundwater system and any lakes or streams to which the groundwater discharges," is conclusory and has no reasoned basis.[249]

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[243] Luminant Answer at 42 (citing ER at 2.3-56).

[244] *Id.* at 40.

[245] *Id.* at 41.

[246] *Id.*

[247] *Id.* at 43.

[248] NRC Staff Answer at 30.

[249] *Id.* at 33 (quoting Rice Declaration at 1).

Petitioners in their Reply (1) challenge the support for the ER's conclusions that are cited by Applicant and Staff; (2) assert that the ER does not contain "any discussion of the kind or quantity of radioactive particulates that have been and those anticipated to be discharged into [SCR]"; (3) argue that this violates 10 C.F.R. § 52.79(a)(3); (4) cite certain authority on, and several examples of, dam failures; (5) provide additional argument and cite certain authority on water issues including drought; and (6) make various arguments that Applicant's monitoring program will not reduce or prevent tritium in the SCR, and that "Applicant should be required to analyze the contingency that sufficient inflow will be unavailable for dilution purposes and plan for such a contingency."[250] Applicant moves that we strike from our consideration in ruling on Contention 8, numbers (3), (4) and (5) of the preceding.[251] In addition, regarding number (2), we note that Applicant also stated through counsel at oral argument that Applicant submits certain environmental monitoring reports to the NRC, which are believed to identify detectable levels found in the SCR, so that "it's not a mystery what the levels are right now."[252]

Licensing Board Ruling on Contention 8

The Board finds Contention 8 to be inadmissible. Our ruling rests primarily on Petitioners' failure to provide any support for the allegation that radionuclides in the SCR could reach concentrations where they would constitute a radiological hazard, or to dispute specific provisions in the Application addressing this issue. The contention is based upon hypothesized chains of events leading to potentially adverse radiological effects on nearby populations, premised on the agreed fact that the proposed plants will unavoidably release small amounts of radioactive particulate matter and tritium to the SCR.

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[250] Reply to NRC Staff at 9-13.

[251] Motion to Strike at 6.

[252] Tr. at 150.

Petitioners allege that particulate material will settle out in the sediment lining the SCR, and that, since there is no removal mechanism for particles in the sediment other than radioactive decay, the concentrations of these materials will increase over the life of the plant. Then, should the reservoir bed ever become exposed and dry out, particulate matter may as a result also dry out, become airborne, and be a potential radiological hazard for nearby populations. Petitioners propose two mechanisms by which the reservoir bed might become exposed – dam failure and extended drought, possibly caused by global warming.

With regard to the possibility of dam failure, such events do of course occur. Even assuming the dam were to fail, however, the final step in this scenario requires that the sediment dries up, and that dry particulate radioactive material is blown to populated areas, resulting in a health risk. Petitioners do not, however, specify the level of radioactive material that must be present for this to be a significant health concern. Moreover, Petitioners provide no support other than their reference to the ER itself for their allegation that radioactive particulate material would concentrate in the sediment bed to the point of attaining a hazardous concentration, nor do they suggest that particulate material discharged from Units 3 and 4 will have a significantly greater effect on sediment loading than material that has been discharged from Units 1 and 2.

In contrast, while not disputing Petitioners' assertion that particulate radioactive material is released from Units 1 and 2 to the SCR, Applicant points out that monitoring is done of releases into the SCR, that no particulate radionuclides have been detected in the SCR sediment,[253] and that discharge from future Units 3 and 4 will be similarly controlled.[254] Even taking into account arguments in their Replies regarding support for ER conclusions and the

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[253] *See* Luminant Answer at 37-38.

[254] *Id.* at 37 (citing ER at 3.5-1 to 3.5-3); *see also* Tr. at 138 (citing ER §§ 3.5.1, 6.2), 158 (explaining that Applicant does "two types of monitoring . . . periodic environmental monitoring of the Squaw Creek Reservoir [and] continuous monitoring of effluents[, or] process monitoring").

need for analysis of water inflow for dilution purposes, Petitioners have not disputed specific provisions that are in the Application on the SCR sediments, water, and monitoring of effluents into the SCR. Nor have they otherwise provided sufficient specific support to demonstrate a genuine dispute with the application on a material issue of fact or law relating to their allegations in these regards. The same conclusions apply to Petitioners' second proposed chain of events, with particulate radioactive materials concentrating in the SCR sediment and either extended drought or global warming causing the SCR to dry out, exposing the radioactive sediment to dispersion by the wind.

The third proposed chain of events concerns generation, concentration and release of tritium. The parties agree that Units 1 and 2 produce tritium and release it to the SCR, as will Units 3 and 4. Petitioners allege that tritium levels within the SCR may increase to above safe levels, proposing two mechanisms by which this could occur. First, Petitioners suggest that during extended periods when all four plants are operating at high power with maximum tritium production, a failure to take appropriate dilution actions could result in high tritium concentration. Alternatively, Petitioners suggest that inadequate dilution due to extended drought could result in high tritium concentration. But Applicant has shown that the COLA contains a discussion of control procedures intended to maintain the tritium level at less than eighty percent of the permitted level. [255]

Again, even taking into account their Replies on Contention 8, Petitioners provide no challenges to Applicant's monitoring program that specifically address its ability to detect any increase in tritium and allow for timely correction – thus preventing increases of tritium to a point that would violate relevant limits. In the end, whatever mechanism is postulated for increases in tritium levels, Petitioners have failed to show a genuine dispute on a material issue of law or fact with regard to tritium levels.

[255] Luminant Answer at 39 (citing FSAR § 11.2.3.1; ER at 6.2-2).

Having found that none of the scenarios proposed by Petitioners raises any genuine dispute on a material issue of fact or law, we find Contention 8 to be inadmissible. With regard to Petitioners' arguments based on 10 C.F.R. § 52.79(a)(3), as we discuss in our ruling on Contention 2, these essentially raise what would be a new contention, with no showing that it could not have been raised at the time the original Petition was filed.[256]

9. COLA Underestimates Radiation Doses to Public Using Obsolete LADTAP II Model

In Contention 9 Petitioners assert:

> The Applicant's calculations of radiation doses to the general public as a result of consuming radioactively contaminated fish and invertebrates are incorrect. The calculations are done using the LADTAP II model which is obsolete and systematically underestimates doses to the public.[257]

Petitioners contend that "LADTAP II,"[258] the code used to calculate radiation doses to members of the public, is outdated and systematically under-calculates those doses. They point to a newer version of the code, "LADTAP XL," which they assert has improved calculations and yields more precise dose estimates. Petitioners claim that the ER dose calculations are incorrect and should be replaced by calculations performed using LADTAP XL.[259]

In support of this contention, Petitioners refer to a one-page Declaration of Dr. Arjun Makhijani.[260] In this Declaration, Dr. Makhijani relies on the results of a study calculating doses near the Savannah River Site (SRS) using LADTAP II and LADTAP XL to illustrate the claimed deficiency.[261] According to Petitioners:

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[256] *See supra* text accompanying note 158.

[257] Petition at 29.

[258] LADTAP is the industry standard code system for calculating radiation exposure to humans from routine releases of nuclear reactor liquid effluents.

[259] Petition at 29 (citing ER, Table 5.4-8).

[260] *Id.* (citing "Makhijani Declaration," *i.e.* "LADTAP II Model Declaration of Dr. Arjun Makhijani" (undated) [hereinafter LADTAP II Declaration].

[261] LADTAP II Declaration.

> One comparison of the results of the LADTAP II model with an updated version, LADTAP XL, shows that LADTAP II underestimates doses from commercial fish by almost eight times; it underestimates doses from saltwater invertebrates by over 700 times.[262]

Further, Petitioners claim, both versions of the LADTAP code use inappropriate dose conversion factors – those for adults only, and not any for children.[263]

Applicant opposes admission of this contention, stating that "[t]he contention lacks adequate factual or technical support and fails to establish a genuine material dispute."[264] Applicant argues that "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."[265] Applicant hypothesizes that the unidentified reference is to a 1991 report concerning the SRS which compared results from the LADTAP II and XL codes, and attributed the differences in doses through fish and invertebrate ingestion to different consumption assumptions used in the two evaluations.[266] Applicant also notes that 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."[267] So, argues Applicant, even if LADTAP II were deficient in calculating doses from these exposure paths, such deficiency would not result in a deficiency in using LADTAP II for the Comanche Peak site.[268]

NRC Staff opposes this contention because "it lacks adequate support and fails to demonstrate a genuine dispute with the applicant on a material issue of law or fact,"[269] noting

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[262] Petition at 29.

[263] *Id*.

[264] Luminant Answer at 45.

[265] *Id.* at 46 (emphasis in original).

[266] *Id*. at 46-47.

[267] *Id.* at 49.

[268] *Id*.; Tr. at 250-51

[269] NRC Staff Answer at 34.

also that the two dose pathways from ingestion of fish and invertebrates "were not evaluated for Comanche Peak Units 3 and 4 because neither commercial fishing nor commercial harvest of invertebrates occurs in Squaw Creek, the Brazos River below the Paluxy River, or the Whitney Reservoir."[270] Concerning use of allegedly incorrect dose conversion factors, the Staff disagrees, observing that "Table 11.2-15R in the FSAR contains estimated doses from liquid effluents for all four age groups."[271] Thus, the Staff asserts that the COLA includes, among others, doses calculated specifically for children.

In their Reply on Contention 9, Petitioners submit an additional statement of Dr. Makhijani, in which he, among other things, disagrees that his analysis is limited to doses related to commercial fish and saltwater invertebrates;[272] refers to various ICRP documents asserted to support his views;[273] and states that the LADTAP II "systematically underestimate[s] doses,"[274] is "obsolete,"[275] and is currently being revised by the NRC.[276] He also refers to a provision in the Application noting that company employees sometimes fish in Squaw Creek Reservoir,[277] and questions whether the ALARA principle "is actually being met by updated methods of calculation."[278] Applicant moves that we strike from our consideration of Contention

[270] *Id.* at 35 (citing ER at 5.4-4).

[271] *Id.* at 36.

[272] Reply to NRC Staff, "Response of Dr. Arjun Makhijani to the NRC Staff's position on Contention 9 regarding the use of the LADTAP II model" (undated) at 1 [hereinafter Makhijani LADTAP II Response].

[273] *Id.* at 4. (ICRP stands for the International Commission on Radiation Protection.)

[274] *Id.* at 5.

[275] *Id.* at 4.

[276] *Id.* at 3.

[277] *Id.* at 2.

[278] *Id.* at 5. (ALARA stands for "as low as reasonably achievable," and is incorporated into NRC regulations at 10 C.F.R. Part 50, Appendix I. *See also* Tr. at 172.)

9 this second Declaration.[279] NRC Staff at oral argument contended that, in any event, nothing in Dr. Makhijani's Reply Declaration supports the view that LADTAP II is obsolete or based only on adult dose conversion factors.[280]

Licensing Board Ruling on Contention 9

The Board finds this contention inadmissible. First, regardless of the LADTAP II calculations, as Staff points out, the COLA contains estimated doses for all age groups. Second, the study relied upon by Dr. Makhijani,[281] which has been obtained and considered by the Board,[282] does not support Petitioners' claims. One table in this report – Table D-1, Population Dose via Aquatic Foods Ingestion – shows the calculations using LADTAP II and XL for doses due to consumption of commercial fish and saltwater invertebrates.[283] While the table indeed shows a large difference between the calculations of the two codes, the report contains an explanation of the difference.[284] The earlier LADTAP II calculations had assumed that fish and invertebrates were caught by commercial ventures and were consumed by the entire US population. This essentially removed these dose paths from the population within a fifty-mile radius of the SRS. The later LADTAP XL calculations assumed that fish and invertebrates caught locally were consumed locally. The study specifically attributes the differences in Table D-1 to the different assumptions underlying the two calculations. Apparently, this explanation was overlooked by Dr. Makhijani. Furthermore, a summary within the study states:

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[279] Motion to Strike at 6.

[280] *See* Tr. at 264-65.

[281] During oral argument, Petitioners identified the study used by Dr. Makhijani to support the contention as a 1991 report by the Westinghouse Savannah River Company with the number WSRC-RP-91-9975. Tr. at 249; *see* D.M. Hamby, LADTAP XL: An Improved Electronic Spreadsheet Version of LADTAP II (1991) [hereinafter SRS Study].

[282] As noted above, *see* text accompanying note 68, any study referenced in the pleadings is subject to Board scrutiny in deliberating and ruling on contention admissibility.

[283] SRS Study at 23.

[284] *Id.* at 8.

> Comparisons of LADTAP II and LADTAP XL output show that these enhancements 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.[285]

We find that the statement of Dr. Makhijani is not supported by the SRS study that he cites, nor does his statement contain sufficient support on its own to demonstrate a genuine dispute on a material issue of fact or law.[286] Nor do we find that Dr. Makhijani's second Declaration provides sufficient information to change this conclusion, even had it been timely filed. Although he raises some interesting questions, the contention as submitted has to do with Applicant's dose calculations using LADTAP II, and much of what he raises in the new document is outside the scope of this subject. Moreover, notwithstanding any possible revision of LADTAP or any other documents and regulations based on it, Petitioners have not shown that the use of LADTAP II causes any significant impacts regarding doses in this proceeding; indeed, at oral argument Petitioners' counsel indicated that, while Petitioners would not withdraw Contention 9, it might be appropriate to address the issues raised in it in a petition for rulemaking.[287] To the extent Dr. Makhijani discusses persons fishing in the reservoir, this is, in all fairness, really in the nature of a new contention, and Petitioners have not shown that this could not have been raised at the outset.

Based on the preceding analysis, we find Contention 9 to be inadmissible.

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[285] *Id.* at 4. We note that Petitioners were unable to answer at oral argument what the impact would be if the doses at issue were increased by 10 percent; Applicant stated that, even assuming a 10 percent increase to the maximally-exposed individual, this would still be "well below regulatory limits." Tr. at 260.

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

[287] *See* Tr. at 255.

10. COLA Fails to Account for Impacts of MOX Fuel

In this contention Petitioners state:

> Comanche Peak Units 3 and 4 will utilize MOX fuel but the COLA fails to account for the radiological and public health impacts associated with MOX fuel.[288]

Relying on a general discussion in the Application of the uranium fuel cycle in which reference is made to mixed oxide (MOX) fuel sometimes being used in nuclear reactors, Petitioners in Contention 10 claim that the Application does not address the impacts of using MOX fuel at Comanche Peak.[289] After learning, however, that there are no plans to use such fuel at the proposed units herein at issue, Petitioners during oral argument withdrew this contention.[290]

11. COLA Fails to Analyze Impacts of Global Warming on Availability of Water for Plant Operations

In Contention 11 Petitioners assert:

> The COLA is inadequate because it assumes there will be an adequate supply of fresh water for purposes of plant operations. This assumption is faulty because of the failure of the Comanche Peak Environmental Report to analyze impacts of global warming on rainfall and the hydrological cycle.[291]

Petitioners in this contention argue that the ER should consider the effects of global warming on water availability, stating that "nuclear plants require enormous amounts of water for operations," with the Comanche Peak reactors requiring 30,000 gallons per minute each, approximately one third of which will evaporate.[292] Petitioners contend that "impacts from global warming will include protracted drought that may seriously compromise water resources required for plant operations," and that such "compromised water resources should be

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[288] Petition at 30.

[289] *Id*.

[290] Tr. at 197.

[291] Petition at 31.

[292] *Id*. (citing ER, Figure 2.3-30).

considered from a quantitative and a temperature sensitive analysis since plant operations are dependent on a narrow band of water temperatures."[293] Petitioners go on to express a number of additional concerns, including (1) the discharge of radioactive particulate matter and tritium into the Squaw Creek Reservoir, which has "relatively high levels of tritium";[294] (2) the potential for protracted drought, which could expose the Reservoir's sediment layer and cause radioactive dust to be transported by wind;[295] (3) the possibility of dam failure, as a result of drought, seismic activity, or other natural event;[296] (4) questions of post-license security requirements, ownership, and responsibility for SCR;[297] (5) water contamination from chemical treatment;[298] (6) biological impacts on regional waterways used for fishing, recreation, and drinking;[299] and (7) the possibility that heat energy emitted by Units 3 and 4 might contribute to global warming.[300]

Petitioners argue in Contention 11 that the COLA should account for these concerns, supporting the contention with a report authored by Joseph F. Trungale, P.E., entitled "Effects of diversions for the Comanche Peak Nuclear Project on the ecological health of the Brazos River," and stating as its main theme that the Comanche Peak COLA "fails to adequately address the instream flow water needs necessary for the protection [sic] the ecological health of the Brazos River."[301]

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[293] *Id*.

[294] *Id.* at 32.

[295] *Id*.

[296] *Id*.

[297] Petition at 32-33.

[298] *Id.* at 33.

[299] *Id*.

[300] *Id.* at 34.

[301] Petition, Joseph F. Trungale, P.E., Effects of diversions for the Comanche Peak Nuclear Project on the ecological health of the Brazos River (2009).

Applicant opposes Contention 11 on several grounds. First, Applicant argues that Petitioners provide no support for the basic notion underlying the contention – that "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."[302] Second, Applicant argues that Petitioners ignore "the very portions of the ER that directly address water availability and precipitation trends," which include ER Sections 2.3.1.2.2, 2.7.1.2.8, and 2.7.2.1.5.[303] Third, Luminant urges the Board not to consider the "additional claims" set forth in the body of Contention 11, as these claims do not fall within the stated bounds of the contention itself.[304] According to Applicant, Contention 11, at its core, is concerned with global warming impacts on fresh water availability. Therefore, all other claims, like those regarding chemical contamination and possible dam failure, should not be considered by the Board, but even should they be considered, Applicant argues that Contention 11 is still inadmissible for failure to meet the criteria at 10 C.F.R. § 2.309(f)(1)(i)-(vi).[305]

The NRC Staff also faults Petitioners for failing to provide facts or expert opinion "to support their argument that due to global warming there will not be enough water for operating the proposed plant."[306] The Staff finds irrelevant the Trungale Report offered in support of Contention 11, because it "focuses on 'man made' drought conditions from a decrease in instream flows rather than from global warming."[307] Finally, the Staff states that most of the claims Petitioners set forth "do not provide a basis supporting Contention 11," and in any case

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[302] Luminant Answer at 55.

[303] *Id*. at 55-56.

[304] *Id*. at 54.

[305] *Id*. at 57.

[306] NRC Staff Answer at 42.

[307] *Id*. at 43.

"none of the claims meet all of the admissibility requirements of Section 2.309(f)(1)."[308] Thus, NRC Staff argues, the Board should reject Contention 11.

In their reply to the NRC Staff's answer to Contention 11, Petitioners do not offer any new arguments or clarifications. Rather, they simply incorporate by reference their reply with regard to Contention 8.[309] At oral argument, counsel for Petitioners stated that Petitioners "referenced the reply related to number 8 for 11, because it's our contention that with inadequate water resources, the dilution factor [for tritium] would be inherently more difficult to achieve."[310]

Licensing Board Ruling on Contention 11

Petitioners provide little support for this contention, instead for the most part merely stating the issues they are concerned about and stating that these matters "should" be considered or examined in the COLA. Several of the assertions they make are essentially the same as those asserted in Contention 8 and the support provided for it. Petitioners refer to a report authored by Joseph F. Trungale, P.E., but it does not actually speak to the effects of climate change or global warming, the subject of the contention.

Moreover, as Applicant points out in its Answer, Petitioners fail to acknowledge those portions of the ER and the FSAR that do address climate, water availability and precipitation trends, making reference to only two parts of the Application, ER Figure 2.3-30 and ER at 5.11-3, which concern the SCR sediment (already addressed in Contention 8), and disputing nothing in either.

In light of the preceding, we find Contention 11 inadmissible for failure to raise a genuine dispute on a material issue of fact or law, as required by 10 C.F.R. § 2.309(f)(1)(vi). We note,

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[308] *Id*. at 48.

[309] Reply to NRC Staff at 14.

[310] *Id*.

however, that global warming and climate change will be addressed in the environmental impact statement (EIS) process to some extent at least, according to Staff,[311] a process in which Petitioners may wish to participate. In addition, as stated by NRC Staff counsel, the FSAR contains sections describing the minimum water requirements for plant operation, below which the plant would not be permitted to operate, so that Petitioners' concerns are effectively addressed in this context.[312]

12. COLA Fails to Consider Greenhouse Gas Impacts

In this contention Petitioners assert:

> The uranium fuel cycle has substantial greenhouse gas impacts [sic] must be considered in each phase of the uranium fuel cycle.[313]

Petitioners in this contention argue that the COLA "should carefully consider the greenhouse gas impacts that are unavoidable as a result of mining, processing, fuel fabrication, transportation, fuel burn up, waste streams management, decommissioning and long-term site maintenance that are an integral part of the uranium fuel cycle."[314] Acknowledging that nuclear power expansion proponents "posit that there will be fewer greenhouse gases produced as a result of the operations of Comanche Peak Units 3 and 4 compared to fossil fueled plants," Petitioners nonetheless claim that there are "inevitable greenhouse gas emissions associated with each phase of the fuel cycle" that "need to be carefully considered to determine the full impact" of the proposed new units.[315] Petitioners assert that carbon dioxide emissions arise in the production of nuclear fuel, in "construction and routine operations of a nuclear plant," and in decommissioning of such plants, citing the ER at page 10.2-4, in which the "Consumption of

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[311] *See* Tr. at 208, 211, 221-22, 224, 231-33.

[312] *See id.* at 213, 218-19 (citing FSAR at 2.4-36 *et seq.*).

[313] Petition at 34.

[314] *Id*.

[315] *Id*.

Energy Used in Constructing the Reactors" is addressed, along with the "small" amount of energy anticipated to be consumed during construction of proposed Units 3 and 4, and the "moderate to large cumulative beneficial impact in terms of energy consumption."[316] Petitioners further contend that the COLA should contain an analysis of "any benefits derived by operation of a nuclear plant in terms of avoidance of greenhouse gases . . . in light of greenhouse gas production as it occurs in various stages in the fuel cycle."[317] As support for this contention, Petitioners rely on *Massachusetts v. EPA*,[318] in which the Supreme Court held that carbon dioxide falls within the Clear Air Act's definition of "air pollutants" subject to EPA's regulatory authority.

Applicant argues that this contention, like others, impermissibly challenges 10 C.F.R. § 51.51(b), Table S-3, and must therefore be denied under 10 C.F.R. § 2.335.[319] Applicant points out that, although Table S-3 contains no value for carbon dioxide emissions, Note 1 to the table states that, "[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."[320] Applicant states that certain of the background documents "specifically discuss, and in some cases even quantify [carbon dioxide] emissions," but "[n]onetheless, the Commission did not include [carbon dioxide] emissions in Table S-3, and thus, intended a 'zero entry' for [carbon dioxide] emissions."[321]

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[316] *Id*.

[317] *Id*.

[318] 549 U.S. 497 (2007).

[319] Luminant Answer at 65.

[320] *Id*. at 66 (quoting Table S-3 n.1); *see also supra* note 183.

[321] Luminant Answer at 66.

Further, urges Applicant, the contention is inadequately supported and fails to demonstrate a genuine dispute on a material issue of law or fact.[322] Indeed, Applicant argues, the ER does in fact address greenhouse gases and carbon dioxide emission in Sections 5.7, 10.3, and 10.4.[323] Applicant notes that Section 10.4.1.2.4 of the ER states the following:

> [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.[324]

The NRC Staff also notes various sections of the ER in which gaseous effluents and other impacts of the uranium fuel cycle are discussed, and faults Petitioners for not having presented "a sufficiently specific or supported argument concerning the importance of greenhouse gases for environmental impacts analyses," arguing that the contention fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi).[325]

Licensing Board Ruling on Contention 12

We find Contention 12 to be insufficiently specific or supported under the contention admissibility standards of 10 C.F.R. § 2.309(f)(1)(i) and (vi). Petitioners raise a generic issue that concerns the use, costs, benefits, and impacts of nuclear power generally, but fail to dispute specific sections of the Application that address climate, emissions, and related matters. In the end, they fail to demonstrate any genuine dispute with the Application at issue. The contention is therefore denied.

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[322] *Id.* at 65-66.

[323] *Id*. at 67-68.

[324] *Id.* at 68 (citing ER at 10.4-5).

[325] NRC Staff Answer at 49.

13. ER Fails to Consider Scenarios and Impacts of Severe Radiological Accident at One Unit on Other Units

Petitioners in Contention 13 assert:

> Impacts from severe radiological accident scenarios on operation of other units at the Comanche Peak site have not been considered in the Environmental Report.[326]

Petitioners argue that co-location of Comanche Peak Units 3 and 4 with Units 1 and 2 would have potentially significant implications in the event that a major accident were to occur at any one of the four operating units, stating that "[t]he Comanche Peak Environmental Report at Chapter 7 deals with severe accidents but has no discussion or analysis of the impact of a severe radiological accident at any one of the four units as it would impact the other remaining three units," including how operations could continue if the site becomes seriously contaminated, or how other units would be protected if there were a major fire or explosion at one unit.[327] Furthermore, Petitioners state:

> [T]he location of the Comanche Peak Units 3 and 4 with Units 1 and 2 should be considered in light of various accident and radiological release scenarios. The Comanche Peak Environmental Report implies by the absence of any discussion or analysis [in] this regard that a serious accident or radiological release at one plant would have no adverse affects on the operations of the remaining units. . . . [T]his is a serious analytical flaw in the Environmental Report.[328]

Petitioners contend that Applicant should have considered in ER Chapter 7 "disruptions in operations due to an accident or radiological release from one unit and the collateral impacts on undamaged units."[329]

Applicant argues that this contention should be rejected because its premise is "unsupported" and it does not raise a material issue.[330] Applicant insists that Petitioners

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[326] Petition at 34.

[327] *Id.* at 35.

[328] *Id*.

[329] *Id.*

[330] Luminant Answer at 69.

provide no references, facts, or expert opinions to support the idea that the probability of an accident at one unit affecting another unit is significant.[331]

Applicant states that FSAR § 3.1 incorporates a provision in the US-APWR DCD that requires that a plant's "structures, systems, and components important to safety be appropriately protected 'from events and conditions outside the nuclear power unit.'"[332] Applicant also disputes Petitioners' statement asserting the absence of any discussion of how other units would be protected if there were a major fire or explosion at one unit, citing FSAR §§ 2.2.3.1.1.2 and 2.2.3.1.4, which evaluate the effects of explosive hazards and fire at Comanche Peak Units 1 and 2 and conclude that those hazards do not pose a threat to Units 3 and 4.[333] According to Applicant, the FSAR at § 15.6 incorporates by reference additional provisions from the US-APWR that address doses resulting from a loss of coolant accident (LOCA) – specifically, whole body doses to operators within the main control room from an accident at the other of the two proposed units – indicating they would be less than the five rem limit in GDC 19.[334]

Finally, Applicant states it has committed to include additional information in the COLA, stating that the dose at any downwind unit "would be bounded by what has already been evaluated for a single US-APWR unit in the DCD," and that "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."[335] Thus, Applicant argues, "Petitioners have not shown that any of the results or

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[331] *Id.*

[332] *Id.* at 70 (citing US-APWR DCD Tier 2, § 3.1.1.4.1, which requires that a plant satisfy "General Design Criterion [GDC] 4").

[333] *Id.* at 70.

[334] *Id*. (citing US-APWR DCD, Tier 2, §§ 15.6.5.5.1.2 and 15.6.5.5.3).

[335] *Id.* at 71 (quoting Letter from M.L. Lucas, Luminant, to NRC Document Control Desk, Attachment, Resolution of Docketing Issues (Nov. 4, 2008) at 2 (ADAMS Accession No. ML083250068) [hereinafter Resolution of Docketing Issues]).

conclusions in Chapter 7 of the ER would be affected if it were to include the information identified in Contention 13."[336]

NRC Staff also opposes admission of Contention 13, arguing that Petitioners cite no "legal requirement why impacts from severe radiological accident scenarios on the operation of other units are required to be discussed in the ER," and thus, the Staff asserts, "Petitioners have not met the requirements of Section 2.309(f)(1)(vi)."[337] The Staff notes that in a separate letter to the NRC Applicant has provided a specific analysis of radiological impact of one proposed unit on the other unit and of an accident at Unit 1 or Unit 2 on the proposed Units 3 and 4, and has incorporated by reference an analysis of control room habitability found at US-APWR DCD § 6.4.4.1.[338] Regarding Petitioners' assertions on the impact of a severe radiological accident at one unit on other units, the Staff contends that the "safe operation of Units 1 and 2 is governed by their current operating licenses and NRC regulations and is not within the scope of this proceeding," and that any "amendments to the existing Units 1 and 2 licenses and updates to their FSAR are governed by 10 C.F.R. Part 50."[339]

Licensing Board Ruling on Contention 13

This contention concerns the effects of severe radiological accidents at one plant unit on other units, and whether these should be considered in Chapter 7 of the ER, which addresses the "Environmental Impacts of Postulated Accidents [including Severe Accidents] Involving Radioactive Materials." Although Applicant and Staff cite a letter and several sections of the FSAR that address various impacts of fires, explosions, and accidents on co-located units, neither the Staff nor Applicant has pointed to any part of the ER that addresses any such

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[336] *Id.*

[337] NRC Staff Answer at 50.

[338] *Id.* at 50-51 (citing Resolution of Docketing Issues at 3; FSAR at 6.4-1).

[339] *Id.* at 51.

impacts. Both argue to the effect that no such discussion or analysis is required, and Applicant urges that, "[g]iven 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 [ER Chapter 7]."[340]

Applicant, however, agreed at oral argument that "conceptually [Contention 13] goes to what the impact would be in a beyond-design-basis accident of the sort [analyzed] at the design-basis level" in the FSAR.[341] When asked why the ER "should not have included [an] analysis of the nature that's provided in the FSAR with regard to beyond-design-basis accidents," Applicant's counsel responded that "[i]t's simply not credible, . . . under NEPA's rule of reason there's no reason to evaluate that," and "Petitioners have not provided any factual support which would substantiate their claims that this is at all a credible event."[342]

In considering the question of the level of credibility of impacts asserted to require consideration in the ER, the Licensing Board has consulted NUREG-1555, the NRC's Standard Review Plans for Environmental Reviews for Nuclear Power Plants.[343] Although it is a guidance document, with no binding effect,[344] it is entitled to special weight, such that it is appropriate to consider in evaluating contentions,[345] and it provides insight into the information the NRC considers necessary for a complete ER. In NUREG-1555, the technical rationale for evaluation

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[340] Applicant Answer at 70.

[341] Tr. at 318.

[342] *Id.*

[343] Division of Regulatory Improvement Programs, Office of Nuclear Reactor Regulation, Standard Review Plans for Environmental Reviews for Nuclear Power Plants, NUREG-1555, at 7.2-3 (Mar. 2000) (ADAMS Accession No. ML003701937) [hereinafter NUREG-1555].

[344] *Curators of the Univ. of Missouri*, CLI-95-1, 41 NRC 71, 150 (1995).

[345] *See Hydro Res., Inc*. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-04-33, 60 NRC 581, 596 (2004); *PFS* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001).

of severe accident data in the ER includes the statement that "[t]he events arising from causes external to the plant that are considered possible contributors to the risk associated with the plant should be discussed."[346] Petitioners argue that a severe accident at Unit 1 or 2 could have significant impacts on Unit 3 or 4. NUREG-1555 also describes a 50-mile radius as the area for which Applicants are to "obtain . . . estimated population data and distribution" with regard to severe accidents,[347] and Units 3 and 4 will be about one quarter of a mile away from Units 1 and 2.[348] These factors suggest that Petitioners' argument that the ER should address the impact of a severe accident at Unit 1 or 2 on Units 3 and/or 4 is reasonable, relevant, and material in this proceeding.

We find Petitioners' argument that the converse – impacts of a severe accident at Unit 3 or 4 on any of the other three units – should be addressed in the ER, to be reasonable, relevant and material as well. 10 C.F.R. § 51.45(b) requires an ER to contain "a description of the environment affected" and to discuss the impact of the proposed action on the environment; and NUREG-1555 at § 7.2 directs consideration of severe accidents, and, as indicated above, this includes information on the area within 50 miles of a plant in this regard. If severe accidents must be addressed in the ER, and it is reasonable to address impacts of design-basis accidents on co-located plants in the FSAR, it logically follows that it is appropriate to consider impacts of severe accidents at either of the proposed units on co-located units in the ER, under the circumstances discussed in Contention 13 and its basis.[349]

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[346] NUREG-1555 at 7.2-3.

[347] *Id.* at 7.2-1; *see also* ER at 7.2-2.

[348] *See* Tr. at 272.

[349] Although not necessary to our ruling, we note, regarding the probability, risk, and credibility of such impacts, that at oral argument Applicant stated that the core damage frequency for each of the two proposed reactors was on the order of ten to the minus five. Tr. at 286. We do not find this to be so low as to remove consideration of the effects of a severe accident at Unit 3 or 4 upon Unit 1 or 2 without further evaluation – or to deny the contention based on such an assertion.

Petitioners provide a straightforward presentation on why consideration of such impacts should be included in the ER. Their fact-based argument that the ER chapter on severe accidents should consider impacts of a severe radiological accident at one unit on other units because of their co-location and resulting close proximity, while simple, is reasonably specific, coherent, logical, and persuasive, sufficient to show a genuine dispute on this material issue and to indicate the appropriateness of further inquiry.

Based on the preceding analysis, we find that in Contention 13, and the fact-based argument offered in support of it, Petitioners have satisfied all the criteria of 10 C.F.R. § 2.309(f)(1)(i)-(vi), including demonstrating a genuine dispute on the material issue of whether the ER should contain analysis of the impacts of severe accidents at any one unit on co-located units at Comanche Peak, and identifying the supporting reasons for Petitioners' belief that the ER should contain information on this relevant issue. We therefore admit Contention 13, restated as follows:

> Impacts from a severe radiological accident at any one unit on operation of other units at the Comanche Peak site have not been, and should be, considered in the Environmental Report.

14. COLA Should Consider Consequences of Dependence on Foreign Sources of Uranium

Petitioners in this contention allege:

> Dependence on foreign sources for uranium should be considered for environmental and public health consequences.[350]

Of course, the probability threshold for considering the impacts of an event in the ER is not fixed by rule, but we may look to NRC case law for comparison purposes. In the *PFS* proceeding, involving an independent spent fuel storage installation (ISFSI), the Commission concluded that "the threshold probability for design basis events should be set at one in a million (1×10^{-6})." *PFS*, CLI-01-22, 54 NRC at 257. In other words, events having less than one in a million probability of occurring are not "credible" enough to warrant consideration in designing an ISFSI. Analogizing to the present case, an event with probability of 1×10^{-5} might easily be found to exceed the "credibility" threshold and thus warrant consideration in an ER, especially at the contention admissibility stage of a proceeding.

[350] Petition at 35.

Petitioners in Contention 14 state that closure of some domestic uranium mines and "[t]he economic conditions pertaining to the uranium market favor utilization of foreign uranium rather than uranium mined in the United States," and challenge a suggestion in the ER "that these changes have made uranium mining and milling and enrichment more 'environmentally friendly.'"[351] Petitioners contend that Applicant should therefore include in the ER analysis of the "environmental or public health impacts of mining and milling uranium in foreign countries," and of possible economic impacts of dependence on foreign sources and related potential interruptions in supply and generating capacity.[352] Finally, Petitioners suggest, 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," which is asserted to be "particularly important in the context of reliance on foreign sources for uranium," in which "[l]ong supply lines make access to foreign sources of uranium especially vulnerable to attack by terrorists or others."[353]

Applicant challenges this contention as:

> (1) present[ing] an impermissible challenge to Table S-3 in 10 C.F.R. § 51.51, contrary to 10 C.F.R. § 2.335(a); (2) call[ing] for consideration of impacts not required under NEPA, contrary to 10 C.F.R. § 2.309(f)(1)(iv); (3) lack[ing] adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (4) fail[ing] to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).[354]

Applicant argues that, because Petitioners have not sought or received a waiver to challenge Table S-3, pursuant to 10 C.F.R. § 2.335(b), the contention is outside the scope of this proceeding.[355] Further, Applicant argues, its ER does address environmental impacts of the

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[351] *Id.* at 35-36 (quoting ER at 5.7-4).

[352] *Id.* at 36.

[353] *Id.*

[354] Luminant Answer at 72.

[355] *Id*.

uranium fuel cycle, in accordance with 10 C.F.R. § 51.51, at sections 5.7.1, 10.2.1.6, and 10.2.2.4;[356] and, even if uranium fuel cycle impacts were not determined in Table S-3 or discussed in the ER, the contention is "contrary to NEPA precedent," because "controls other countries may chose [sic] to impose on mining and milling, and the impacts of such activities, fall far afield from . . . issuance of a COL in Texas"; the "NRC has no authority to [address such] activities in foreign countries"; and "issuance of the Comanche Peak COL cannot be considered the proximate cause of such impacts."[357] Thus, according to Applicant, the issue raised in the contention is not a material issue in this proceeding as required at 10 C.F.R. § 2.309(f)(1)(iv). In addition, Applicant argues that the Commission has barred consideration of environmental impacts of terrorism in its *Oyster Creek* decision,[358] and that Petitioners have not provided adequate support for Contention 14 as required under § 2.309(f)(1)(v).[359]

The NRC Staff contests Contention 14 on largely the same bases: failure to demonstrate a genuine material issue of law or fact, failure to show the contention is within the scope of the proceeding, and lack of adequate support, among other things.[360] Staff argues that the contention meets none of the requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi).[361]

Licensing Board Ruling on Contention 14

We find that in Contention 14 Petitioners have failed to show the issue they raise is within the scope of the proceeding, failed to dispute specific sections of the Application relating

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[356] *Id.* at 74.

[357] *Id.* at 72-73 (citing *Dep't. of Transp. v. Pub. Citizen*, 541 U.S. 752, 769 (2004)).

[358] *Id.* at 74 (citing *Oyster Creek*, CLI-07-8, 65 NRC at 124, *aff'd sub nom.*, *N.J. Dep't of Envtl. Protection v. NRC*, 561 F.3d 132 (3d Cir. 2009)).

[359] *Id.* at 74-75.

[360] NRC Staff Answer at 52-55.

[361] *Id.* at 56.

to the uranium fuel cycle, and failed to show a genuine dispute on a material issue of fact or law.[362] We therefore deny admission of the contention.

15. COLA Should Consider Radiological, Environmental, and Public Health Impacts of Decommissioning

In this contention Petitioners claim the following:

> The COLA should consider all radiological, environmental and public health impacts related to decommissioning of Comanche Peak Units 3 and 4.[363]

Petitioners fault the ER for providing only an initial projection of expected impacts of decommissioning, and no statement on the methods of decommissioning, instead putting this off to a later date.[364] Petitioners criticize the assumption in the ER that the impacts of decommissioning will be negligible, as well as Applicant's alleged failure to analyze various environmental and health impacts.[365] In Petitioners' view, the COLA should "carefully consider decommissioning impacts," including: "the likelihood that a decommissioned plant will be disassembled and transported to a site that will be the recipient of highly irradiated materials"; the possibility "that off-site removal of a decommissioned nuclear plant will not be a practicable alternative" and the "environmental consequences and public health impacts of the *in situ*, long-term radioactive decay of Comanche Peak units 3 and 4"; and several impacts of "various decommissioning waste streams."[366] In addition, Petitioners argue, the following matters should be considered: the feasibility of "off-site disposition of decommissioning materials"; the "probability that there will be significant resistance to transportation and disposition of highly irradiated decommissioned plant materials to a remote site"; the possibility that "adequate technologies for decommissioning are not developed in the future or proved to be inadequate

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[362] 10 C.F.R. § 2.309(f)(1)(iii), (vi).

[363] Petition at 36.

[364] *Id.* (citing ER at 5.11-3).

[365] *Id.* at 37 (citing ER at 5.9-1).

[366] *Id.* at 37.

for the task"; as well as "contingencies that would require long-term storage of [sic] Comanche Peak Units 3 and 4 because either decommissioning technology is inadequate or there is no remote site available to disposition wastes from decommissioning activities," and the "public health and environmental consequences related thereto."[367]

Applicant objects to Contention 15, asserting that it lacks adequate support, fails to establish a genuine dispute on a material issue of fact or law, and is "inconsistent with the commission's regulatory structure governing decommissioning."[368] Calling Petitioners' various claims "bald assertions," Applicant argues that "Petitioners simply ignore relevant information presented in the ER."[369] Regarding the regulatory framework on decommissioning, Applicant refers to the Commission's Generic Environmental Impact Statement (GEIS) for decommissioning of nuclear power plants, and points out that 10 C.F.R. §§ 50.82(a)(4), 52.110(d), 51.53(d), and 51.95 all contemplate decommissioning plans being provided in the post-shutdown phase of a plant.[370] Thus, Applicant states, there is no need at the COLA stage to provide any decommissioning plans or "describe in detail the site-specific impacts of decommissioning," and Contention 15 is effectively an attack on the NRC decommissioning rules.[371]

Moreover, according to Applicant, Petitioners fail to controvert relevant information in the ER that does in fact provide information on the impacts of decommissioning, and thus fail to provide "sufficient information" under 10 C.F.R. § 2.309(f)(1)(vi) to show a genuine dispute on a

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[367] *Id.* at 37-38.

[368] Luminant Answer at 75.

[369] *Id*.

[370] *Id.* at 76 (citing Office of Nuclear Reactor Regulation, Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities, NUREG-0586, at xiv (Supp. 1 Nov. 2002) (ADAMS Accession No. ML013090364) [hereinafter Decommissioning GEIS].

[371] *Id.* at 77.

material issue of fact or law.[372] Applicant notes that the ER cites the Decommissioning GEIS – which "discusse[s] 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," and concludes that various radiological and other impacts of Decommissioning activities are "SMALL" – and that the ER states that detailed plans are to be developed in accordance with NRC rules prior to decommissioning.[373] Applicant also points out that the decommissioning GEIS specifically "takes into account different reactor designs (including [pressurized water reactors]) and advances in decommissioning technology."[374]

The NRC Staff argues that Petitioners have failed to show that the issues raised in Contention 15 are within the scope of this proceeding or material, and have failed to support the contention sufficiently to show a genuine dispute on a material issue of fact or law.[375] Pointing out that NRC regulations require, among other things, "a licensee to notify the NRC in writing within thirty days of permanently ceasing operations, and to submit a post-shutdown decommissioning activities report (PSDAR) . . . within two years following permanent cessation of operations," the Staff also notes that, "[i]f after public notice and review the NRC approves the decommissioning plan at that time, the licensee has sixty years to complete decommissioning."[376] Staff argues that Petitioners provide "no alleged facts, documents, sources, or expert opinions to support" their allegations of "long-term radioactive decay of Units

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[372] *Id.* (citing ER at 5.9-1, 5.9-3, Table 5.9-1); *id.* at 79 (citing ER at 5.9-1).

[373] *Id.* at 78 (citing ER at 5.9-1, and discussing the Decommissioning GEIS at §§ 4.3.8, 4.3.8.4, 4.3.17, 4.3.18).

[374] *Id.* at 79-80 (citing Decommissioning GEIS at xi-xii; NRC Fact Sheet, Decommissioning Nuclear Power Plants, at 10, *available at* http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.pdf; 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1).

[375] NRC Staff Answer at 57.

[376] *Id.* at 58 (citing 10 C.F.R. § 52.110(a)(1), (c), (d)(1)).

3 and 4" and associated health impacts.[377] Finally, the Staff also cites the Decommissioning GEIS noted above, in which environmental impacts of decommissioning activities are evaluated.[378]

Licensing Board Ruling on Contention 15

As demonstrated by Applicant and the NRC Staff in their Answers, the rules regarding decommissioning, along with the Decommissioning GEIS, address the concerns Petitioners raise, and provide that licensees address these matters at the time of, and after, shutdown of operations at a nuclear power plant. Thus, Petitioners' concerns as they have stated them are neither material nor within the scope of this proceeding, nor have Petitioners supported them sufficiently to show a genuine dispute on a material issue of fact or law. We therefore deny admission of Contention 15.

16. Decommissioning Funding Assurance in COLA is Inadequate

In this contention Petitioners contend:

> The 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. Applicant must use the prepayment method of assuring decommissioning funding.[379]

At oral argument, Petitioners through counsel "concede[d] . . . that [Applicant and NRC Staff] have answered the questions that we raised in the original petition," and withdrew Contention 16.[380]

17. ER Makes Unrealistic Assumptions About Emergency Evacuation Model and Plan

In this contention Petitioners assert:

> The Comanche Peak Environmental Report makes unrealistic assumptions about the efficacy of the emergency evacuation model and plan.[381]

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[377] *Id.* at 58; Petition at 37.

[378] NRC Staff Answer at 59.

[379] Petition at 38.

[380] Tr. at 357.

Petitioners in this contention challenge the assumption that 100 percent of the affected population in the event of a radiological emergency would be evacuated, and allege that dose and dollar risk assessments for the Application's severe accident analysis are understated because the model used "does not adequately account for evacuees that are transported over 25 miles from the Comanche Peak site because they 'disappear' from the emergency evacuation analysis."[382]

After the filing of this contention, Applicant filed information indicating that a new sensitivity study had been performed, relating to Contention 17 and the effects of changes in evacuation parameters on doses to evacuees, and indicating certain planned changes to ER Section 7.2 to reflect the sensitivity study.[383] At oral argument, counsel for Petitioners did not dispute that the new study addresses the specific concerns stated in Contention 17, with counsel stating that a question remained whether the sensitivity analysis itself was "adequately supported to arrive at the conclusions that it did."[384] Petitioners did not, however, challenge the sensitivity analysis, and have indicated that they do not intend to do so.[385]

Licensing Board Ruling on Contention 17

It appears to the Board that Contention 17 has been rendered moot by the new information filed by Applicant, and we therefore deny its admission in this proceeding.

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[381] Petition at 41.

[382] *Id*. (citing ER at 7.2-3).

[383] *See* Letter from Steven P. Frantz, Counsel for Luminant, to Office of the Secretary (Apr. 29, 2009), with attached Letter from Rafael Flores to NRC Document Control Desk (Apr. 28, 2009).

[384] Tr. at 361; *see also id*. at 360.

[385] *Id.* at 361-62.

18. ER Fails to Make Reasonable Assumptions About Alternatives to Constructing and Operating Units 3 and 4.

In this contention Petitioners assert:

> The Comanche Peak Environmental Report 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.[386]

Petitioners in Contention 18 claim that the ER "generally understates the efficacy of alternative sources of electric power generation," arguing that the "COLA should evaluate alternative sources of generating capacity based on the current data available regarding capacity factors, technological advances that overcome intermittency objections regarding wind and solar power, and historical operational experience."[387] Petitioners point out that the ER "assumes that renewable fuels such as wind and solar cannot provide adequate baseload generating capacity," but contend that "recent advances in technology such as compressed air energy storage and improved battery storage capacity cast doubt on . . . assumptions concerning problems with intermittency."[388] Asking that the COLA "evaluate the competing technologies in light of current energy policy that places a greater emphasis on renewable fuels than on previous energy policy that favored nuclear power and fossil fuels," Petitioners challenge the analysis technique used in the ER to compare the advantages of nuclear and renewable fuels.[389]

Petitioners challenge the ER's rationale that, because the units will be merchant power plants, conservation and demand side management programs "are not within the capability or responsibility of the wholesale baseload merchant generator."[390] Asserting that Applicant

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[386] Petition at 42.

[387] *Id.* (citing ER at 9.2-1 *et seq.*).

[388] *Id.* at 42.

[389] *Id.* (citing ER at 9.2-3).

[390] *Id.* at 42-43 (quoting ER at 9.2-3).

ignores the effectiveness of alternative programs, Petitioners also contend that the ER "fails to make a realistic comparison between the environmental impacts and public health consequences of nuclear power compared to renewable fuels," and advocates a "side-by-side comparison of mortality and morbidity consequences of nuclear power compared to renewable fuels," as well as a comparison of the effects of catastrophic accidents and greenhouse gases with each.[391] Petitioners assert that such an analysis is "crucial because of the relationship between greenhouse gases and global warming and because it is expected that the use of fossil fuels to support the uranium fuel cycle will become more expensive over time."[392] It is claimed that this "circumstance will be aggravated by the anticipated use of foreign produced uranium that will have a greater greenhouse gas impact because of, among other reasons, a longer transportation supply line."[393] In contrast, Petitioners assert, "renewable fuel technologies are expanding manufacturing capacities domestically."[394]

Petitioners support Contention 18 with a 43-page report on "Nuclear Costs and Alternatives" prepared by Dr. Arjun Makhijani and the SEED Coalition.[395] In this report, in addition to arguing that additional generation is not needed,[396] and comparing cost and emission amounts,[397] the authors discuss wind and solar power, [398] arguing that these can be used for reliable power generation, when combined with natural gas and various storage methods.[399]

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[391] *Id.* at 43.

[392] *Id*.

[393] Petition at 43-44.

[394] *Id.* at 44.

[395] *Id.*, Arjun Makhijani and SEED Coalition, Nuclear Costs and Alternatives (2009) [hereinafter Costs and Alternatives].

[396] Costs and Alternatives at 1-5.

[397] *Id.* at 5-25.

[398] *Id.* at 25-43.

[399] *Id.* at 35-43.

Specific reference is made to storage requirements under consideration in the Texas legislature and to molten salt storage, for example.[400] It is suggested that a combination of natural gas, wind, solar and storage sites in Texas could also produce baseload power,[401] and stated that the National Renewable Energy Laboratory has "developed a scheme for using wind power, compressed air energy storage, and natural gas for heating the compressed air as a baseload system."[402]

Applicant opposes Contention 18, arguing that wind and solar power and energy conservation are not reasonable alternatives for producing baseload power, and that it 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."[403] Applicant cites the Commission's decision in the *Clinton* early site permit proceeding, in which it stated that the applicant 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]."[404] Applicant points out that the Commission in addition "rejected wind and solar power on the same grounds," namely, "[b]ecause a solely wind- or solar-powered facility could not satisfy the project's purpose [of providing baseload power]."[405]

Applicant challenges Petitioners' claims regarding the use of compressed air and batteries to supplement wind and solar power, as lacking adequate support and failing to

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[400] *Id*. at 35.

[401] *Id.* at 42.

[402] *Id.* at 40.

[403] Luminant Answer at 94.

[404] *Id.* (quoting *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)).

[405] *Id.* at 94-95 (quoting *Clinton*, CLI-05-29, 62 NRC at 810).

establish a genuine dispute on a material issue of law or fact.[406] Characterizing Petitioners' statement that recent technology advances "cast doubt on some of the [ER's] assumptions" as "vague and conclusory," Applicant asserts that Dr. Makhijani's report provides insufficient information or analysis to establish a genuine dispute, because he "does not assert, much less demonstrate, that 'dispatchable electricity' from those sources is anywhere near equivalent to 3200 MWe of baseload power."[407] Applicant avers that references to "experiments," "plans," "scheme[s]," and "concept[s]," do not provide sufficient support for the contention.[408]

Applicant also points out that the COLA does contain an explicit discussion of the "relative environmental impacts of an array of alternative energy sources for comparably-sized (*i.e.*, 3200 MWe) facilities," citing various sections of the ER, including sections 9.2.2.1 through 9.2.2.5 and section 9.2.3.3.[409] Further, Applicant notes, there is no requirement that comparisons as to mortality, morbidity, accidents, and greenhouse gases be done regarding renewable energy sources.[410] Finally, at oral argument Applicant emphasized that in its view Petitioners have not shown that the alternatives they propose are commercially viable, and therefore they are not "reasonable alternatives."[411]

The NRC Staff argues that Contention 18 is inadmissible for many of the same reasons put forward by Applicant (also citing the Commission's *Clinton* decision), noting that under 10

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[406] *Id.* at 96.

[407] *Id.* at 96-97.

[408] *Id.* at 97.

[409] *Id.* at 98.

[410] *Id.* at 98-99.

[411] Tr. at 375; *see id*. at 371-72. We note that Applicant also cited NUREG-1555 to us in a letter submitted after oral argument. *See* Letter from Jonathan M. Rund, Counsel for Applicant, to Licensing Board (June 17, 2009) (quoting, *inter alia*, NUREG-1555 at 9.2.2-4 (Oct. 1999) (To be considered a competitive (*i.e.*, reasonable) alternative, an "energy conversion technology should be developed, proven, and available in the relevant region.")).

C.F.R. § 51.45(b)(3), only "appropriate alternatives" must be explored,[412] and that under Supreme Court case law, "the concept of alternatives must be bounded by some notion of feasibility."[413] The Staff also challenges the reasonableness of the alternatives proposed by Petitioners, emphasizing, again, the Applicant's goal of baseload power generation, and asserting that Petitioners have "failed to challenge the analysis by the applicant that renewable energy resources are not currently available for baseload power." [414]

Licensing Board Ruling on Contention 18

Before making our ruling on Contention 18, we find it appropriate to review the NEPA and NRC standards for an alternatives review, and for this purpose find that the following discussion of another licensing board in a recent decision in the *Levy County* proceeding provides a good overview of these standards:

> The duty to consider alternatives originates with two provisions of NEPA – (1) 42 U.S.C. § 4322(2)(C)(iii), which requires that an agency's environmental impact statement (EIS) include "a detailed statement [of the] alternatives to the proposed action," and (2) 42 U.S.C. § 4322(2)(E), which requires that an agency "study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." The NRC and the [Council on Environmental Quality (CEQ)] agree that the NEPA alternatives analysis is the "heart of the environmental impact statement." [10 C.F.R. Part 51, Subpart A, Appendix A § 5; 40 C.F.R. § 1502.14; *City of Shoreacres v. Waterworth*, 420 F.3d 440, 450 (5th Cir. 2005).] Likewise, they agree that the law requires that the EIS identify and discuss "all reasonable alternatives." 10 C.F.R. Part 51, Subpart A, Appendix A § 5; 40 C.F.R. § 1502.14.
>
> This does not mean, however, that every conceivable alternative must be included in the EIS [quoting language from *Vermont Yankee*, 435 U.S. at 551]. . . . [T]he "rule of reason" governs the agency's duty to identify and consider all reasonable alternatives under NEPA. [*Westlands Water Dist. v. U.S. Dep't of Interior*, 376 F.3d 853, 868 (9th Cir. 2004); *City of Bridgeton v. Fed. Aviation Admin*., 212 F.3d 448, 458 (8th Cir. 2000).]
>
> The goals of the project's sponsor are given substantial weight in determining whether an alternative is reasonable. *City of New York v. U.S. Dep't of Transp*., 715

[412] NRC Staff Answer at 66-67.

[413] *Id*. at 67 (quoting *Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 551 (1978)).

[414] *Id.* at 68. Staff counsel added at oral argument that in its view Petitioners had not shown the viability of the alternatives they propose. Tr. at 379-80.

F.2d 732, 742 (2d Cir. 1983). In this regard, "[a]n agency cannot redefine the [applicant's] goals," [*Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 199 (D.C. Cir.), *cert. denied*, 502 U.S. 994 (1991)], and the EIS alternatives analysis should be based around the applicant's goals, including its economic goals. *Hydro Resources, Inc*. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-04, 53 NRC 31, 55 (2001) (internal citations omitted).

Commission decisions follow the foregoing principles. "When reviewing a discrete license application filed by a private applicant, a federal agency may appropriately 'accord substantial weight to the preferences of the applicant,' and may take into account the 'economic goals of the project's sponsor.'" *Id*. Likewise, the Commission has stated that "[i]n considering alternatives under NEPA, an agency must 'take into account the needs and goals of the parties involved in the application.'" [PFS] (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 146 (2006) (quoting *Citizens Against Burlington, Inc*., 938 F.2d at 199). In addition, the NRC regulations state that "[a]n otherwise reasonable alternative will not be excluded from discussion solely on the ground that it is not within the jurisdiction of the NRC." 10 C.F.R. Part 51, Subpart A, Appendix A § 5.

Although the applicant's goals are given substantial weight, NEPA does not allow the applicant to define its goals so narrowly as to unreasonably circumscribe the range of alternatives that must be considered under 42 U.S.C. § 4322(2)(C)(iii) and (E). "[B]lindly adopting the applicant's goals is a 'losing proposition' because it does not allow for the full range of alternatives required by NEPA." [*Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676, 683 (7th Cir. 2006); *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 669 (7th Cir. 1997).] Furthermore, "NEPA requires an agency to 'exercise a degree of skepticism in dealing with the self-serving statements from the prime beneficiary of the project' and to look at the general goal of the project, rather than only those alternatives by which a particular applicant can reach its own specific goals." *Envtl. Law & Policy Ctr*., 470 F.3d at 683 (quoting *Simmons*, 120 F.3d at 669). An applicant "may not define the objectives of its action in terms so unreasonably narrow that only one alternative . . . would accomplish the [applicant's] goals," because this would make the agency's EIS alternatives analysis a "foreordained formality." *Citizens Against Burlington*, 938 F.2d at 199. As the CEQ has said, "reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." [Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,027 (Mar. 23, 1981).] While NRC does not consider CEQ pronouncements to be binding, [Environmental Protection Regulations for Domestic Licensing and Related Conforming Amendments, 49 Fed. Reg. 9352 (Mar. 12, 1984)], they are entitled to substantial deference. *See* [*Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 725, 743 (3d Cir. 1989)].[415]

Taking these principles as well as the Commission's *Clinton* decision[416] into account, we find that some parts of Contention 18 are not admissible. These include Petitioners' references

[415] *Progress Energy Fla., Inc.* (Combined License Application for Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC __, __ (slip op. at 79-81) (July 8, 2009).

[416] CLI-05-29, 62 NRC at 801.

to alternatives that do not address baseload power generation, such as demand side management and conservation. Nor do we find that a "side-by-side comparison of mortality and morbidity consequences of nuclear power compared to renewable fuels" generally, or a comparison of the effects of catastrophic accidents and greenhouse gases with regard to each generally, fall under the types of alternatives that must be discussed under NEPA and Commission authority.

Petitioners do, however, provide a "fact-based argument," through the report attached to their Petition, to the effect that combinations of wind, solar, storage options, and supplemental natural gas would be able to produce viable baseload power generation, in Texas. This alternative would not be excluded under relevant authority as quoted above, and indeed, not to permit Petitioners to challenge the lack of any discussion of such alternatives would be tantamount to "allow[ing] the applicant to define its goals so narrowly as to unreasonably circumscribe the range of alternatives that must be considered."

We therefore admit the portion of Contention 18 that asserts the following, and admit the contention as so reformulated:

> The Comanche Peak Environmental Report is inadequate because it fails to include consideration of alternatives to the proposed Comanche Peak Units 3 and 4, consisting of combinations of renewable energy sources such as wind and solar power, with technological advances in storage methods and supplemental use of natural gas, to create baseload power.

19. ER Fails to Consider Methods to Prevent Aircraft Attack on Units 3 and 4

In Contention 19 Petitioners state:

> The 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.[417]

Petitioners acknowledge the NRC's decision that NEPA does not require consideration of the impacts of terrorist attacks on nuclear power plants.[418] Petitioners point out, however, that

[417] Petition at 44.

this decision was rejected by the Ninth Circuit in *San Luis Obispo Mothers for Peace*.[419] Thus, Petitioners conclude, "the COLA for Comanche Peak Units 3 and 4 should include a detailed analysis of the potential threats represented by terrorist attacks."[420] Petitioners further "urge the Commission to reconsider" its decision on remand from the Ninth Circuit in the same case,[421] on the grounds that Comanche Peak "is in close proximity (about 58 miles) to Dallas-Forth Worth International Airport."[422] Given this close proximity, Petitioners argue, "[t]he frequency of flights in the area increases the probability that an aircraft attack or accident might occur on the Comanche Peak site."[423]

In opposition to the admissibility of Contention 19, both Applicant and the NRC Staff cite the Commission's 2007 decision in *Oyster Creek*,[424] in which "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."[425] Applicant and NRC Staff note that *Oyster Creek* was recently upheld by the Third Circuit in *New Jersey Department of Environmental Protection*.[426]

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[418] *Id*.

[419] *Id*. (citing *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), *cert. denied*, 549 U.S. 1166 (2007)).

[420] *Id.* at 44.

[421] *Id.* (citing *Pac. Gas & Elec Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509 (2008)).

[422] *Id.* at 44.

[423] *Id*.

[424] Luminant Answer at 102; NRC Staff Answer at 70 (citing *Oyster Creek*, CLI-07-8, 65 NRC at 124).

[425] Luminant Answer at 102.

[426] Luminant Answer at 103; NRC Staff Answer at 70-71 (citing *N.J. Dep't of Envtl. Prot.*, 561 F.3d at 132).

Licensing Board Ruling on Contention 19

In *Oyster Creek*, the Commission stated explicitly that, notwithstanding the Ninth Circuit's decision in *San Luis Obispo Mothers for Peace*, "we reiterate our longstanding view that NEPA demands no terrorism inquiry."[427] This Commission precedent compels us to reject Contention 19. Under *Oyster Creek*, we are obliged to find that the contention raises issues beyond the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), and thus fails to raise a genuine dispute with the COLA on a material issue of fact or law, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Regarding Petitioners' request that the Commission reconsider its decision in *Diablo Canyon*, it is obvious that a licensing board lacks the authority to overturn a Commission decision.

Based on the foregoing, we deny admission of Contention 19.

VI. Conclusion

Having found standing on the part of all Petitioners, and admitted two of their contentions, we conclude that the requested hearing in this proceeding should be granted.

VII. Order

Based on the preceding findings, rulings, and conclusion, we hereby ORDER the following:

A. Petitioners SEED Coalition, Public Citizen, True Cost of Nukes, and State Representative Lon Burnam are admitted as parties in this proceeding, and their Petition for Intervention and Request for Hearing is granted in part and denied in part. A hearing is GRANTED with respect to their Contentions 13 and 18, reframed and limited as follows:

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[427] *Oyster Creek*, CLI-07-8, 65 NRC at 126; *see also id*. at 128-29 (stating that the NRC "is not obliged to adhere, in all of its proceedings, to the first court of appeals decision to address a controversial question").

> Contention 13. Impacts from a severe radiological accident at any one unit on operation of other units at the Comanche Peak site have not been, and should be, considered in the Environmental Report.
>
> Contention 18. The Comanche Peak Environmental Report is inadequate because it fails to include consideration of alternatives to the proposed Comanche Peak Units 3 and 4, consisting of combinations of renewable energy sources such as wind and solar power, with technological advances in storage methods and supplemental use of natural gas, to create baseload power.

B. The Board will issue its ruling on Contention 7, and whether information provided by Applicant renders it moot, at a later date. All other contentions are DENIED.

C. Applicant's Motion to Strike is GRANTED, to the extent stated in Section IV *supra.*

D. Regarding the conduct of the hearing in this proceeding, as Petitioner have not requested that the hearing be conducted under 10 C.F.R. Part 2, Subpart G, and as it appears, to the effect argued by Applicant,[428] that neither admitted contention would require eyewitness testimony or other fact-specific testimony pertaining to a past activity, motive, or intent, we ORDER that the proceeding be conducted under the procedures set forth at 10 C.F.R. Part 2, Subparts C and L.

E. In September the Licensing Board will set a prehearing telephone conference to discuss with the parties relevant scheduling matters in the proceeding, and thereafter issue an Order setting forth a schedule of further proceedings in this matter. Prior to such time, the parties shall confer in the interest of reaching consensus on scheduling matters and submitting a joint proposal to the Board for its consideration.

F. We note that the Parties have indicated that they expect certain "SUNSI" contentions may be filed in this proceeding, and through issuance of a Protective Order proposed by the parties, we have approved the parties proposed deadlines for the filing of the same.[429] With regard to any other future contentions, the parties are advised that any contentions based on

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[428] Applicant Answer at 105-06.

[429] *See supra* note 20.

new information should be filed within thirty (30) days of the information becoming available to Petitioners in order to be considered timely under 10 C.F.R. § 2.309(f)(2).

G. This Order is subject to appeal to the Commission in accordance with the provisions of 10 C.F.R. § 2.311. Any petitions for review meeting applicable requirements set forth in that section must be filed within ten (10) days of service of this Memorandum and Order. In addition, interlocutory review may also be requested as provided at 10 C.F.R. § 2.341(f)(2).

It is so ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

_____
Ann Marshall Young, Chair
ADMINISTRATIVE JUDGE

/RA/

_____
Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

/RA by Edward R. Hawkens for/

_____
Dr. Alice C. Mignerey
ADMINISTRATIVE JUDGE

Rockville, Maryland
August 6, 2009[430]

[430] Copies of this Order were filed this date with the agency's E-filing system for service to all parties.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing MEMORANDUM AND ORDER (RULING ON STANDING AND CONTENTIONS OF PETITIONERS, AND OTHER PENDING MATTERS) (LBP-09-17) have been served upon the following persons by Electronic Information Exchange.

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[Original signed by Nancy Greathead]
_____
Office of the Secretary of the Commission

Dated at Rockville, Maryland
this 6th day of August 2009