UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket Nos. 52-034-COL
LUMINANT GENERATION COMPANY LLC	)	52-035-COL
	)	
(Comanche Peak Nuclear Power Plant Units 3 and 4)	)	February 4, 2010

LUMINANT'S ANSWER OPPOSING NEW AND MODIFIED CONTENTIONS REGARDING ALTERNATIVE ENERGY SOURCES

I. INTRODUCTION

In accordance with 10 C.F.R. § 2.309(h) and the Order of the Atomic Safety and Licensing Board ("Board") of January 19, 2010, Luminant Generation Company LLC and Comanche Peak Nuclear Power Company LLC, Applicants in the above-captioned matter (jointly, "Luminant"), submit this Answer opposing the new and modified contentions filed by the Intervenors on January 4 and 15, 2010.[1] The Intervenors seek the admission of six new contentions and several proposed modifications to Contention 18. These new and amended contentions purport to challenge Luminant's new Environmental Report ("ER") Section 9.2.2.11,

[1] Intervenors' Contentions Regarding Applicant's Revisions to Environmental Report Concerning Alternatives to Nuclear Power (Jan. 15, 2010) ("New Contentions"); Intervenors' Response Opposing Applicant's Motion to Dismiss Contention 18 as Moot (dated Jan. 4, 2010) (revision filed on Jan. 7, 2010) ("Response to Motion to Dismiss").

which evaluates alternative generation sources consisting of combinations of renewable energy sources, energy storage, and natural gas power generation.[2]

As demonstrated below, the new contentions and the proposed modifications to Contention 18 do not satisfy the contentions admissibility requirements specified in 10 C.F.R. § 2.309, and therefore should be rejected.

II. PROCEDURAL BACKGROUND

On September 19, 2008, Luminant submitted an Application to the NRC for combined licenses ("COLs") for Comanche Peak Units 3 and 4.[3] After the Intervenors filed a Petition for Intervention and Request for Hearing ("Petition") on April 6, 2009, the Board restated and admitted Contention 18 as follows:

> 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.[4]

Thus, Contention 18 alleges an omission from the energy alternative evaluation in the ER for Comanche Peak Units 3 and 4.

On December 8, 2009, Luminant submitted a notification to the Board, informing the Board that Luminant submitted a letter to the NRC identifying revisions to the ER augmenting the original ER's discussion of alternatives requiring new generation capacity.[5] Specifically, the

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2 *See* Letter from J. Rund, Counsel for Luminant, to the Board, Notification of Filing Related to Contention 18 (Dec. 8, 2009) ("Notification Letter"); Notification Letter, Attachment, Letter from Rafael Flores, Luminant, to NRC Document Control Desk (Dec. 8, 2009) ("ER Update").

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

4 *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 & 4), LBP-09-17, 70 NRC __, slip op. at 82, 85 (Aug. 6, 2009) ("LBP-09-17").

5 Notification Letter at 1.

amendment created a new ER Section 9.2.2.11 that evaluates alternative generation sources consisting of combinations of renewable energy sources, energy storage, and natural gas power generation. On December 14, 2009, Luminant filed a motion to dismiss Contention 18 as moot based on new ER Section 9.2.2.11.[6] The Intervenors opposed this motion and also requested that Contention 18 advance in a modified version.[7] Thereafter, on January 15, 2010, the Intervenors filed six new contentions related to ER Section 9.2.2.11.

III. LEGAL STANDARDS

A. Timeliness Requirements

Under 10 C.F.R. § 2.309(f)(2), an intervenor "may amend" environmental contentions or file new contentions "if there are data or conclusions in the NRC draft or final environmental impact statement, environmental assessment, or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant's documents." Otherwise, in the absence of such circumstances, an intervenor may file amended or new contentions "only with leave of the presiding officer" upon a showing that all three of the criteria in Section 2.309(f)(2) are met.[8] Thus, new contentions will be admitted only "provided that [the information] is truly new and materially different and provided that the Petitioner acts promptly."[9] In the

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6 Luminant's Motion to Dismiss Contention 18 as Moot at 1, 5 (Dec. 14, 2009).

7 Response to Motion to Dismiss at 8.

8 These criteria are: (i) the information upon which the amended or new contention is based was not previously available; (ii) the information upon which the amended or new contention is based is materially different than information previously available; and (iii) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information. 10 C.F.R. § 2.309(f)(2)(i)-(iii).

9 *Entergy Nuclear Vt. Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 573, 579-80 (2006) (rejecting petitioner's attempt to "stretch the timeliness clock" because its new contentions were based on information that was previously available and petitioners failed to identify precisely what information was "new" and "different").

Commission's words, a new or amended NEPA contention "is not an occasion to raise additional arguments that could have been raised previously."[10]

If an intervenor cannot satisfy the requirements of Section 2.309(f)(2), then a contention is considered "nontimely," and the intervenor must demonstrate that it satisfies the eight-factor balancing test in Section 2.309(c)(1)(i)-(viii).[11] The Commission has held that it is appropriate to summarily dismiss late-filed contentions that fail to address these factors.[12]

B. Substantive Admissibility Requirements

In addition to the late-filing criteria identified above, an intervenor must also show that a late-filed contention meets the contention admissibility requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi).[13] Failure to comply with any one of the six admissibility criteria is grounds for rejecting a proposed contention.[14] These requirements are discussed in detail in Luminant's May 1, 2009 Answer opposing the Petition. In brief, however, the purpose of these six criteria is

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[10] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 385-86). As the D.C. Circuit put it, it is "unreasonable to suggest that the NRC must disregard its procedural timetable every time a party realizes based on NRC environmental studies that maybe there was something after all to a challenge it either originally opted not to make or which simply did not occur to it at the outset." *Union of Concerned Scientists v. NRC*, 920 F.2d 50, 55 (D.C. Cir. 1990).

[11] *See* 10 C.F.R. § 2.309(c)(2) ("The requestor/petitioner *shall* address the factors in paragraphs (c)(1)(i) through (c)(1)(viii) of this section in its nontimely filing.") (emphasis added).

[12] *Dominion Nuclear Conn., Inc.* (Millstone Power Station, Unit 3), CLI-09-5, 69 NRC 115, 126 (2009); *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-25, 48 NRC 325, 347 (1998).

[13] *See Crow Butte Resources, Inc.* (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 NRC 331, 364 (2009) (stating that the timeliness of the late-filed contention need not be evaluated because the contention did not satisfy the contention admissibility requirements of Section 2.309(f)(1)). In accordance with Section 2.309(f)(1), each contention must: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact.

[14] *See* Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2221 (Jan. 14, 2004). *See also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[15] The Commission has stated that it "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing."[16] Thus, the Commission's rules on contention admissibility are "strict by design."[17] These rules were "toughened . . . in 1989 because in prior years 'licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.'"[18] As the Commission has stated:

> Nor does our practice permit "notice pleading," with details to be filled in later. Instead, we require parties to come forward at the outset with sufficiently detailed grievances to allow the adjudicator to conclude that genuine disputes exist justifying a commitment of adjudicatory resources to resolve them.[19]

C. Summary of Controlling NEPA Principles

Luminant's ER provides an assessment of energy alternatives to assist the NRC in meeting its obligations under the National Environmental Policy Act of 1969 ("NEPA").[20] NEPA requires that federal agencies, such as the NRC, prepare an Environmental Impact Statement ("EIS") in conjunction with every "major Federal actions significantly affecting the

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

16 *Id.*

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

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

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

20 *See* 10 C.F.R. § 51.71 n.4. *See generally* 42 U.S.C. §§ 4321-4347.

quality of the human environment."[21] An EIS must discuss "alternatives to the proposed action."[22]

As a general matter, NEPA imposes procedural restraints on agencies, requiring them to take a "hard look" at alternatives to a proposed action.[23] This "hard look," however, is subject to a "rule of reason."[24] Under NEPA's rule of reason, the NRC need not look at every conceivable alternative to the proposed licensing action, but only reasonable alternatives—namely, those that are feasible.[25] Similarly, the NRC need only consider a range of alternatives reasonably related to the scope and goals of the proposed action.[26] Thus, the NRC need only evaluate energy generation alternatives that are technologically feasible and economically practicable—in this case commercially viable alternatives for producing baseload power.[27] Furthermore, "NEPA

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21 42 U.S.C. § 4332(2)(C).

22 *Id.* § 4332(2)(C)(iii).

23 *See Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676, 685 (7th Cir. 2006); *La. Energy Servs., L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998).

24 *La. Energy Servs., L.P.* (National Enrichment Facility), LBP-06-8, 63 NRC 241, 258 (2006) (citing *Long Island Lighting Co.* (Shoreham Nuclear Power Station), ALAB-156, 6 AEC 831, 836 (1973)).

25 *See Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 551 (1978) ("To make an impact statement something more than an exercise in frivolous boilerplate the concept of alternatives must be bounded by some notion of feasibility."). *See also NRDC v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972); *City of Carmel-by-the-Sea v. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1997).

26 *See City of Grapevine v. Dep't of Transp.*, 17 F.3d 1502, 1506 (D.C.Cir. 1994); *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195 (D.C. Cir. 1991); *La. Wildlife Fed'n, Inc. v. York*, 761 F.2d 1044, 1048 (5th Cir. 1985); *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 806-08 (2005), *aff'd sub. nom Envtl. Law & Policy Ctr.*, 470 F.3d at 685.

27 *See Kelley v. Selin*, 42 F.3d 1501, 1521 (6th Cir. 1995) (upholding NRC decision not to consider additional alternative spent fuel storage technologies that were "neither sufficiently demonstrated nor practicable for use" for the application in question); *Communities, Inc. v. Busey*, 956 F.2d 619, 627 (6th Cir. 1992) (upholding rejection of alternatives that "presented severe engineering requirements" or were "imprudent for reasons including their high cost, safety hazards, [and] operational difficulties"); *Nat'l Res. Def. Counsel v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) (approving exclusion from alternatives discussion of alternative energy sources that "will be dependent on [future] environmental safeguards and [technological] developments"). *See also* Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,027 (Mar. 23, 1981) (indicating that "[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense"); NUREG-1555, Office of Nuclear Reactor Regulation, Standard Review Plans for Environmental Reviews for Nuclear Power Plants at

does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences."[28]

Consistent with these requirements, the Commission has explained:

> NEPA's twin goals are to inform the agency and the public about the environmental effects of a project. At NRC licensing hearings, petitioners may raise contentions seeking correction of significant inaccuracies and omissions in the ER. Our boards do not sit to "flyspeck" environmental documents or to add details or nuances. If the ER (or the EIS) on its face "comes to grips with all important considerations" nothing more need be done.[29]

As discussed below, the proposed modifications to Contention 18 and the six new contentions should be rejected for requesting consideration of alternatives that are not reasonable and that are not significantly different than those alternatives already considered, and for seeking to "flyspeck" the ER.

IV. THE INTERVENORS' PROPOSED NEW AND MODIFIED CONTENTIONS DO NOT MEET NRC'S CONTENTION ADMISSIBILITY CRITERIA

A. Contention ALT-1 – Wind Power Generation and Compressed Air Energy Storage (CAES)

Contention ALT-1 states: "The Applicant overstates and mischaracterizes, without substantiation, the impacts of wind power generation and CAES."[30] As support for this contention, the Intervenors rely upon portions of reports by Dr. Raymond H. Dean, Dr. Arjun

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9.2.2-4 (Oct. 1999) (noting that to be considered a competitive (*i.e.*, reasonable) alternative, an "energy conversion technology should be developed, proven, and available in the relevant region").

[28] *Headwaters, Inc. v. Bureau of Land Mgmt.*, 914 F.2d 1174, 1181 (9th Cir. 1990) (citing *N. Plains Res. Council v. Lujan*, 874 F.2d 661, 666 (9th Cir. 1989)).

[29] *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005) (citations omitted). *See also Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 811 (2005); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2) CLI-03-17, 58 NRC 419, 431 (2003) ("NRC adjudicatory hearings are not EIS editing sessions. Our busy boards do not sit to parse and fine-tune EISs.").

[30] New Contentions at 3.

Makhijani, and Mr. Paul Robbins.[31] The Intervenors also reference portions of their Response to the Motion to Dismiss.[32] This contention is separated into two parts, each of which is addressed separately below.

1. Contention ALT-1, Part A, Wind Power Generation and CAES Land Use Impacts

Part A of Contention ALT-1 alleges that the "Applicant substantially overstates wind power and CAES land use impacts."[33] According to the Intervenors, wind power generation and CAES do not have large adverse impacts on land use because: (1) wind turbines use only a portion of the land needed to site wind power generation facilities, which allows for other land uses such as agriculture and ranching; and (2) CAES facilities do not really "cover" large areas of land because they are largely underground.[34]

The Intervenors' first argument in Part A—that wind turbines use only a portion of the land needed to site wind power generation facilities—is untimely and should be rejected for failure to satisfy 10 C.F.R. § 2.309(c) or (f)(2). This new argument would only be timely if it was based on information that was not "previously available" and that is "materially different"

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[31] *Id.* at 3-5. *See* Raymond H. Dean, Comments Regarding Luminant's Revision to the Comanche Peak Nuclear Power Plant, Units 3 & 4 COL Application Part 3 – Environmental Report at 3-7 (Jan. 4, 2010) ("Dean Report"); Declaration of Arjun Makhijani Regarding the Revision of Luminant's Environmental Report Concerning Commanche [stet] Peak Units 3 and 4 at 2 (Jan. 4, 2010) ("Makhijani Report"); Paul Robbins, Analysis of Alternative Energy Section Rebuttal by Luminant Generation Company in Defense of Comanche Peak Licensing Application at 3-4 (Jan. 15, 2010) ("Robbins Report").

[32] New Contentions at 3 n.3 (referencing Response to Motion to Dismiss at 5-7), 4 (referencing Response to Motion to Dismiss at 3-4). The Dean and Makhijani Reports were also included with the Response to the Motion to Dismiss.

[33] New Contentions at 3.

[34] *Id.* at 4; Response to Motion to Dismiss at 5-6; Dean Report at 6-7; Makhijani Report at 2; Robbins Report at 3.

from previously-available information.[35] However, Section 9.2.2.1 of the ER has always indicated that a 3,200 MW wind power generation would require approximately 452,800 – 816,000 acres of land, "effectively doubling the acreage of land that is developed in Texas for wind power."[36] Similarly, the original ER concluded that "[t]he use of wind power would be expected to have a LARGE impact on land use."[37] If the Intervenors sought to challenge the characterization of the land impacts of wind power, they should have done so in their original Petition. The Intervenors have failed to demonstrate that their argument on land impacts is based on information that was not *previously available* or that is *materially different* from previously-available information. Simply put, the original ER fully described the land impacts of wind power and Luminant's restatement of those impacts in the ER Update does not open the door for the Intervenors to challenge this conclusion.[38] Accordingly, the wind power generation portion of Contention ALT-1 should be rejected because the Intervenors fail to comply with Section 2.309(f)(2).[39]

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[35] 10 C.F.R. § 2.309(f)(2)(i)-(ii). The Board stated that, if a party seeks to file any new or amended contentions, then it shall file a motion or request for leave to file any such contention and include a motion for leave to file any timely new or amended contentions under 10 C.F.R. § 2.309(f)(2), or a motion for leave to file any non-timely new or amended contentions under 10 C.F.R. § 2.309(c) (or both). Board Initial Scheduling Order at 5 (Oct. 28, 2009). Despite this clear instruction, the Intervenors failed to submit a motion or request leave to file their new and amended contentions, and similarly failed to address the requirements of Section 2.309(c) or (f)(2).

[36] ER at 9.2-8.

[37] *Id.* at 9.2-9.

[38] *See McGuire-Catawba*, CLI-02-28, 56 NRC at 385-86 (holding that a new or amended NEPA contention "is not an occasion to raise additional arguments that could have been raised previously").

[39] Because the Intervenors have not satisfied the criteria in Section 2.309(f)(2), they must satisfy the test set forth in Section 2.309(c)(1). Importantly, the most important factor, "good cause" (Section 2.309(c)(1)(i)) weighs against admission of this argument for the same reasons the Intervenors fail to satisfy 10 C.F.R. § 2.309(f)(2). *See Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 163 (2005) (finding that the requirements for a good cause showing under Section 2.309(c)(1)(i) "are analogous to the requirements of Sections 2.309(f)(2)(i) (information not previously available) and (f)(2)(iii) (submitted in a timely fashion)").

In any event, the land use arguments in Contention ALT-1 are not material to the NRC's NEPA review. The ER Update summarizes the following four reasons for finding that wind power generation in combination with CAES is not a reasonable alternative:

> First, wind power combined with CAES storage is not developed, proven, or available in the relevant region. Second, wind power combined with energy storage, such as in a CAES facility, has not been shown to be feasible as a technology capable of producing baseload energy capacity equivalent to that proposed for CPNPP Units 3 and 4. Third, the combination of a wind power and CAES project comparable to CPNPP Units 3 and 4 are not expected to be available during the same time frame as CPNPP Units 3 and 4. Finally, a wind power project combined with CAES would be expected to have significant environmental impacts and this technology combination is not environmentally preferable to CPNPP Units 3 and 4.[40]

Importantly, the ER Update indicates that there are no baseload wind power generation and CAES facilities in Texas—or anywhere in the world—and therefore, "the economics and feasibilities of such a system in Texas are speculative."[41] The Intervenors fail to provide any support suggesting the development of a combination of a wind power and CAES facility is an economically or technologically proven alternative for generating baseload power. Therefore, the Intervenors' argument regarding the land use impacts for wind power generation and CAES is not material to the main reason Luminant found that this is not a reasonable alternative. Accordingly, their argument should be rejected for failure to satisfy Section 2.309(f)(1)(iv).

Furthermore, Part A of Contention ALT-1 mischaracterizes the ER and fails to raise a genuine dispute with the ER. Section 9.2.2.1 of the ER discusses the impacts of wind power on

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[40] ER Update at 9.2-40.

[41] *Id.* at 9.2-34.

land use.[42] Contrary to the Intervenors' claim, the ER acknowledges that some of the land for a wind farm may be used for other purposes. In particular, the ER states that "[s]ome of this land could be used for other purposes, such as agriculture."[43] Given that the Intervenors' issue is already acknowledged in the ER, their argument does not raise a genuine issue of material fact and should be rejected as contrary to Section 2.309(f)(1)(vi).

Additionally, the Intervenors' argument related to CAES also fails raise a genuine dispute with the ER. Luminant's ER Update indicates that a CAES facility could "cover between 63,280 and 114,420 ac of land."[44] The Intervenors do not dispute that the CAES facility would need such an area, or that Luminant would need to purchase such land rights. Instead, the Intervenors attempt to flyspeck Luminant's use of the word "cover," arguing that this word is "misleading" because most of the CAES facility is underground.[45] However, the ER Update explains that a CAES facility requires "[l]arge land areas that possess the suitable geologic formations for large scale underground storage capacity."[46] Given that the ER clearly indicates that the CAES facility would be underground, the Intervenors' fail to raise a genuine dispute of material fact, contrary to Section 2.309(f)(1)(vi).

2. Contention ALT-1, Part B, Advantages of CAES in Texas

Part B of Contention ALT-1 claims that the "Applicant does not consider the benefits of using CAES in Texas."[47] The Intervenors argue that a CAES facility in Texas would have

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42 ER at 9.2-9. This section of the ER is clearly referenced in the ER Update. *See* ER Update at 9.2-40.

43 ER at 9.2-8.

44 ER Update at 9.2-40.

45 New Contentions at 4 (citing ER Update at 9.2-40).

46 ER Update at 9.2-34.

47 New Contentions at 4.

advantages over a proposed CAES facility in Iowa and an existing CAES facility in Alabama—namely, that Texas has existing gas wells and geological data that might enable this technology to develop more quickly in the relevant region.[48]

This argument does not raise a genuine dispute of material fact. Contrary to the implication of Intervenors' proposed contention, Luminant did not reject the combination of wind power generation and CAES as a reasonable alternative to the proposed action based upon geological factors. Instead, as discussed above, the ER Update indicates that there are no baseload CAES facilities in Texas and therefore, "the economics and feasibilities of such a system in Texas are speculative."[49] The Intervenors fail to provide support demonstrating the development of a CAES facility is an economically or technologically proven method for generating baseload power. Instead, the Intervenors claim only that there are "inherent advantages of developing CAES capacity in Texas compared to the relatively less advantageous circumstances related to the proposed Iowa facility and the extant McIntosh [Alabama] facility."[50] Notwithstanding any relative advantages to developing CAES facilities in Texas, the Intervenors provide no indication that the combination of wind power generation and CAES facilities is developed, proven, and available to supply baseload power *anywhere in the world*. Therefore, the Intervenors' argument regarding the relative ease of developing CAES in Texas is simply not material to why Luminant found that this is not a reasonable alternative and fails to demonstrate a genuine issue of material fact, contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v), and

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[48] *Id.* at 4-5; Response to Motion to Dismiss at 3-4; Dean Report at 3-4; Robbins Report at 3-4.

[49] ER Update at 9.2-34.

[50] New Contentions at 5.

(vi). In essence, the Intervenors are attempting to "flyspeck" the ER by raising an issue (relative ease of development) that is not material to the discussion of CAES in the ER.

B. Contention ALT-2 – Solar Power Generation and Storage

Contention ALT-2 states: "The Applicant inadequately characterizes, without substantiation, the impacts of solar with storage."[51] The Intervenors rely on portions of the Robbins Report and the Dean Report as support for this contention.[52] This contention is separated into two parts, each of which is addressed separately below.

1. Contention ALT-2, Part A, Solar Power Generation and Storage Socioeconomic Impacts

Part A of Contention ALT-2 states that the "Applicant inappropriately characterizes and overstates adverse socioeconomic impacts and ignores the potential positive socioeconomic impacts of solar with storage."[53] The Intervenors claim that solar power generation in combination with storage would not have a LARGE adverse socioeconomic impact because of: (1) low operations and maintenance ("O&M") costs; (2) positive job impacts in the region; (3) solar power can be sold during peak periods; and (4) solar power in conjunction with conventional natural gas is a viable method for producing baseload power.[54] Each of these issues is discussed separately below.

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51 New Contentions at 5.

52 *Id.* at 5-8. *See* Robbins Report at 4-6; Dean Report at 1-2.

53 New Contentions at 5.

54 *Id.* at 5-8; Robbins Report at 5-6.

a. Contention ALT-2, Part A.1. – Solar Power and Storage O&M Costs

The Intervenors' first argument in Part A asserts that solar power generation in combination with storage would have economic benefits that Luminant did not consider.[55] As support for this argument, the Intervenors and the Robbins Report quote portions of a report prepared by Sargent & Lundy for the National Renewable Energy Laboratory ("NREL").[56]

The O&M costs referenced by the Intervenors are not material to the reasons why Luminant found that solar power generation in combination with storage is not a reasonable alternative to Comanche Peak Units 3 and 4. The ER Update summarizes the following four reasons for finding that solar power generation in combination with storage is not a reasonable alternative:

> First, solar power combined with storage is not developed, proven, and available in the relevant region . . . or even in other areas of the United States. Second, solar power generation combined with storage has not been proven to provide power generation capacity equivalent to CPNPP Units 3 and 4. Third, solar power generation with storage with the capacity to generate baseload power equivalent to CPNPP Units 3 and 4 is not considered to be available during the same time frame as the proposed project. Finally, if such a facility where feasible, a solar power generation and storage project would be expected to have significant adverse environmental impacts and those impacts are expected to be in excess of those associated with CPNPP Units 3 and 4.[57]

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[55] New Contentions at 5-6; Robbins Report at 5-6.

[56] New Contentions at 5-6; Robbins Report at 5. *See also* NREL/SR-550-34440, Assessment of Parabolic Trough and Power Tower Solar Technology Cost and Performance Forecasts at 4-24 (Oct. 2003), *available at* http://www.nrel.gov/docs/fy04osti/34440.pdf.

[57] ER Update at 9.2-43 to -44.

As the ER Update explains, there are no baseload solar generation and storage facilities operating anywhere in the world.[58] Although there are several recently-proposed facilities that may use solar power and molten salt storage, those facilities would not be used to provide baseload power.[59] As the Commission recently explained in the *Summer* COL proceeding, issues related to costs only become relevant if an intervenor identifies an environmentally preferable, reasonable alternative.[60] Here, solar power generation and storage is not a reasonable alternative to meeting baseload power needs comparable to Comanche Peak Units 3 and 4. Therefore, the Intervenors' argument regarding O&M costs is not material to the NRC's required findings, contrary to 10 C.F.R. § 2.309(f)(1)(iv).

Furthermore, the Intervenors fail to provide any supporting information that contradicts any conclusion in the ER or that otherwise indicates that solar power generation in combination with storage is an economically or technologically proven way to provide baseload power.[61] Therefore, this argument should be dismissed because it fails to meet the admissibility requirements of Section 2.309(f)(1)(v).

b. **Contention ALT-2, Part A.2. – Solar Power Job Impacts**

The Intervenors' second argument in Part A claims that solar power generation "could have positive local economic impacts in terms of jobs, a socioeconomic impact ignored by the

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58 *See id.* at 9.2-42 to -43.

59 *See id.* at 9.2-42.

60 *See S.C. Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 & 3), CLI-10-1, 71 NRC __, slip op. at 30-31 (Jan. 7, 2010). *See also Consumers Power Co.* (Midland Plant, Units 1 & 2), ALAB-458, 7 NRC 155, 162-63 (1978).

61 Any supporting material provided by the Intervenors, including portions not relied upon, is subject to Board scrutiny, "both for what it does and does not show." *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996). The Intervenors' reference to various websites contains nothing suggesting that solar power generation and storage is an economically or technologically proven way to provide baseload power. *See* New Contentions at 7 nn.20-23.

Applicant."[62] However, the socioeconomics of solar power generation and storage are not material. As explained above, Luminant found that solar power generation and storage is not a reasonable alternative for several reasons, primarily because solar power in conjunction with molten salt storage has not been proven capable of generating baseload power.[63] Even if this alternative did have significant positive socioeconomic impacts, this conclusion in the ER Update would remain unchanged. Accordingly, the socioeconomics of this alternative is not material to the findings that the NRC must make in this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iv).

Furthermore, this argument also fails to raise a genuine dispute because the ER Update readily acknowledges that solar power generation could have beneficial job creation impacts. Despite the Intervenors' claim to the contrary, the ER Update states that a "MODERATE positive impact on socioeconomics would also be expected from solar power generation."[64] Thus, the Intervenors' issue is already addressed in the ER. Accordingly, Intervenors' argument does not raise a genuine issue of material fact and should be rejected as contrary to Section 2.309(f)(1)(vi).

c. Contention ALT-2, Part A.3. – Sale of Power During Peak Hours

The Intervenors contend that the adverse socioeconomic impacts of a combination of solar power and storage could be mitigated by selling solar power during peak demand hours.[65] However, such an argument is inconsistent with the purpose of Comanche Peak, which is to

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62 New Contentions at 6; Robbins Report at 6.

63 *See* ER Update at 9.2-43 to -44.

64 *Id.* at 9.2-43.

65 New Contentions at 6, 7-8.

operate as a baseload power plant. Therefore, the Intervenors' argument is not material to the ER Update and accordingly should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(iv).

d. Contention ALT-2, Part A.4. – Solar and Natural Gas

The Intervenors argue that the Applicant has neglected to consider the option of using solar power in conjunction with natural gas plants or other conventional steam electric plants.[66] However, their argument mischaracterizes the ER Update. The ER Update explicitly evaluates combinations involving solar power and natural gas plants.[67] The Intervenors have not referenced or contested that discussion. Therefore, their argument should be rejected for failure to comply with 10 C.F.R. § 2.309(f)(1)(vi).

2. Contention ALT-2, Part B, Solar Power Generation Land Use Impacts

Part B of Contention ALT-2 states that the "Applicant overstates solar with storage land use impacts and fails to consider solar technologies with no land use impacts."[68] As support for this argument, the Intervenors rely on the Robbins Report, which questions Luminant's estimate that a solar power generation and storage facility would require 55,510 to 76,000 acres (86.73 to 118.75 square miles) of land, because the planned 553-MW Mojave Solar Park would only take up 9 square miles, which "would be no where close to the 86.73 to 118.75 square miles" that Luminant stated would be needed.[69] Additionally, the Intervenors claim that Luminant ignored the potential for "rooftop solar applications, which would involve no additional land use."[70]

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66 *Id.* at 6-7.

67 ER Update at 9.2-40 to -50.

68 New Contentions at 8.

69 *Id.*; Robbins Report at 4-5.

70 New Contentions at 8.

The Intervenors' attempt to challenge the land use impacts of solar power generation should be rejected for failure to satisfy 10 C.F.R. § 2.309(c) or (f)(2). Section 9.2.2.2 of the ER has always estimated the amount of land required for a solar power project by scaling up the amount of land needed for the 553-MW Mojave Solar Park.[71] Based on this methodology, the ER indicates that a 3,200 MW solar power generation facility would require approximately 38,000 acres of land and thus, would be expected to have a LARGE impact on land use.[72] Contrary to the Commission's late-filing requirements, the Intervenors try to introduce new land use arguments that could have been raised earlier based on this previously-available information. Given that Luminant relied on this existing conclusion when it addressed the land use impacts from a solar power generation and storage facility in the ER Update, the Intervenors' belated attempt to challenge this conclusion should be rejected for not complying with 10 C.F.R. § 2.309(c) and (f)(2).[73]

In any event, the assertions in the Robbins Report relating to the Mojave Solar Park are inadequate to support admission of this contention. The Robbins Report indicates that the 553-MW Mojave Solar Park requires approximately 9 square miles. When the Intervenors' value is scaled up to 3,200 MW (which is the size of Comanche Peak Units 3 and 4), the equivalent value would be 52 square miles. Furthermore, as the Intervenors acknowledge, this value does not account for the land needed for storage facilities.[74] Additionally, as the Intervenors point out, the Mojave Solar Park is located in an area that "contains some of the best available solar radiation

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71 ER at 9.2-11.

72 *Id.*

73 *See McGuire-Catawba*, CLI-02-28, 56 NRC at 385-86 (holding that a new or amended NEPA contention "is not an occasion to raise additional arguments that could have been raised previously").

74 *See* Robbins Report at 5.

in the U.S."[75] Accounting for the difference between the solar incidences in the Mojave Desert and Texas would also increase the amount of land needed for a solar facility in Texas. Therefore, there does not appear to be a significant difference between the value cited by the Intervenors and the value provided in the ER Update. Further, Intervenors do not allege that adoption of their value would affect the conclusions in the ER Update regarding land use, and therefore do not raise a genuine dispute of material fact as required by Section 2.309(f)(1)(vi). In short, the relatively small discrepancy in the land areas cited by the Intervenors and the ER Update is not material and amounts to an attempt by the Intervenors to "flyspeck" the ER Update.

Similarly, neither the contention nor the Robbins Report provides any indication that rooftop solar applications, in conjunction with storage, are capable of providing baseload power. Furthermore, neither the contention nor the Robbins Report provides any indication that rooftop solar power (a form of "distributed generation") is practicable for a merchant generator, such as Luminant. In this regard, another Licensing Board has previously rejected a contention related to distributed generation, ruling that the ER did not need to consider "alternative generation methods that are not typically employed by independent power generators."[76]

Accordingly, these arguments fail to meet the admissibility requirements in Section 2.309(f)(1)(v) and (vi), and, therefore, should be rejected.

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[75] *Id.* at 4.

[76] *Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), LBP-04-17, 60 NRC 229, 245-46, *request for interlocutory review denied* CLI-04-31, 60 NRC 461 (2004).

C. Contention ALT-3 – Renewable Energy Sources, Storage, and Natural Gas Power Generation

Contention ALT-3 states:

> The Applicant's determination that nuclear is environmentally preferable to renewable energy with storage, supplemented by natural gas is based on fundamentally flawed assumptions about the nature and extent of environmental impacts related thereto.[77]

As support for this contention, the Intervenors rely upon portions of the Dean Report.[78] The Intervenors also reference portions of their Response to the Motion to Dismiss.[79] This contention is separated into three parts, each of which is addressed separately below.[80]

1. Contention ALT-3, Part A – Environmental Impacts of Renewable Energy Sources Combined with Storage and Natural Gas

Part A of Contention ALT-3 claims that, "[b]y asserting that each technology needs to be capable of generating 3200 MW 'individually,' the Applicant overstates the environmental impacts of the combinations of wind and CAES, supplemented by natural gas or solar and storage supplemented by natural gas."[81] According to the Intervenors, Luminant's assertion that each technology needs to be capable of generating 3,200 MW is "questionable" based on a statement in the NRC's Standard Review Plans for Environmental Reviews for Nuclear Power Plants ("NUREG-1555"), indicating that "a competitive alternative could be composed of combinations of individual alternatives."[82]

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77 New Contentions at 8.

78 *Id.* at 10. *See* Dean Report at 1-2.

79 New Contentions at 9 n.27 (referencing Response to Motion to Dismiss at 5-6), 10 (referencing Response to Motion to Dismiss at 3, 8).

80 Part A corresponds with Response to Motion to Dismiss at 5-6 (from nn.24-30) and Part C corresponds with Response to Motion to Dismiss at 3 (from nn.5-7).

81 New Contentions at 8.

82 *Id.* at 9 (quoting NUREG-1555 at 9.2.3-1 (Draft Rev. 1) (July 2007)).

The Intervenors' argument is a non sequitur. The statement referenced in NUREG-1555 does not address the specifics of any set of alternatives, such as wind, CAES, and natural gas. In particular, it does not address how individual alternatives should be combined in order to be capable of generating baseload power. Thus, NUREG-1555 offers no insight or position on what type of combinations of wind, CAES, and natural gas facilities would be sufficient to generate baseload power.

Intervenors also question Luminant's statement that each technology needs to be capable of generating 3,200 MW. However, nothing in proposed Contention ALT-3 indicates anything significantly less than 3,200 MW of each renewable power generation, storage capacity, and natural gas power would be sufficient to provide 3,200 MW of baseload power. The Intervenors' argument is totally lacking in factual support. As a result, the contention does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v).

Additionally, this contention repeats the Intervenors' arguments regarding land use.[83] The Intervenors' land use-related arguments in Part A of Contention ALT-3 are essentially identical to the allegations that they made in Contentions ALT-1 and ALT-2. As discussed above in Section V.A.1 and B.2, those claims are untimely, unsupported, immaterial, and fail to raise a genuine issue. For these same reasons, Part A of Contention ALT-3 should be dismissed.

2. Contention ALT-3, Part B – Socioeconomic and Land Use Impacts of Renewable Energy Sources Combined with Storage and Natural Gas

Part B of Contention ALT-3 alleges that the "Applicant uses inadequate characterizations of the impacts of renewable energy with storage to conclude that renewable energy with storage,

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[83] New Contentions at 9.

supplemented by natural gas is not environmentally preferable to nuclear power."[84] This allegation incorporates previous arguments in Contentions ALT-1 and ALT-2 regarding socioeconomic and land use impacts. As discussed above in Section V.A.1, B.1, and B.2, those claims are untimely, unsupported, immaterial, and fail to raise a genuine issue. For these same reasons, Part B of Contention ALT-3 should be dismissed.

3. Contention ALT-3, Part C – Combinations of Wind and Solar Energy

Part C of Contention ALT-3 states that the "Applicant did not consider wind *and* solar energy combined."[85] According to the Intervenors, Luminant "only considered wind *or* solar," even though wind combined with solar and storage can "provide a smooth generation curve that closely follows the load need."[86] As support, the Intervenors rely on the Dean Report, which states combining wind and solar power generation might "produce a more uniform overall generation profile" that "would have been hard to deprecate as 'inappropriate for baseload.'"[87] Based on this supposed error, the Intervenors claim that Luminant incorrectly found that renewables, storage, and natural gas must all be capable of generating 3,200 MW and inadequately characterized the impacts of renewable energy with storage.[88]

As an initial matter, the Intervenors' argument that wind and solar should have been considered in combination with each other is untimely and beyond the scope of original Contention 18 as restated and admitted by the Board. In proposing Contention 18, the Intervenors never argued that wind and solar power should be considered as a combination. The

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84 New Contentions at 10.

85 *Id.*

86 *Id.*

87 Dean Report at 1-2.

88 New Contentions at 10.

Intervenors provide no explanation why they could not have raised this argument when they filed their original Petition. Accordingly, the Board should reject this argument because the Intervenors fail to comply with 10 C.F.R. § 2.309(c) and (f)(2).

Additionally, notwithstanding references to the Dean Report, the Intervenors fail to provide adequate factual or expert opinion necessary to support this contention. Without providing any analysis or data, the Dean Report speculates that the combination of wind and solar "would have been hard to deprecate as 'inappropriate for baseload.'"[89] Notably, the Dean Report does not identify any baseload power stations that are based on a combination of wind and solar power generation, and it does not state or allege that a combination of wind and solar power is a proven method for producing baseload power. Given that the Dean Report provides only speculation that wind and solar power generation *might* be able to provide baseload power, this contention should be rejected for not complying with Section 2.309(f)(1)(v) and (vi).[90]

Furthermore, the Intervenors fail to demonstrate the existence of a genuine dispute of material fact that warrants further inquiry by this Board. ER Section 9.2.2.1 evaluates the impacts of wind power generation and concludes that wind power would have a LARGE impact on land use and aesthetics, and a MODERATE impact on ecological resources, protected species, and cultural resources.[91] Similarly, ER Section 9.2.2.2 evaluates the impacts from solar power generation and concludes that solar power would also have a LARGE impact on land use and aesthetics, and a MODERATE impact on ecological resources, protected species, and

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89 Dean Report at 1-2.

90 *Dominion Nuclear Conn., Inc.* (Millstone Power Station, Unit 3), CLI-08-17, 68 NRC 231, 240 (2008) (affirming Board decision rejecting a contention that relied on speculation by a petitioner's expert).

91 ER at 9.2-9.

cultural resources.[92] The Intervenors present no reason to believe that a combined wind and solar generation facility would not have LARGE impacts on land usage and MODERATE impacts on ecological resources, protected species, and cultural resources. Given that "NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences," Intervenors' argument is not material, contrary to Section 2.309(f)(1)(iv).[93]

D. Contention ALT-4 – Wind Power Generation and CAES

Contention ALT-4 states:

> The Applicant's assertion that renewable energy sources and energy storage options are not viable baseload generating options ignores the United States Department of Energy National Renewable Energy Laboratory (NREL) findings that "Wind energy systems that combine wind turbine generation with energy storage and long-distance transmission may overcome these obstacles and provide a source of power that is functionally equivalent to a conventional baseload electric power plant. A 'baseload wind' system can produce a stable, reliable output that can replace a conventional fossil or nuclear baseload plant, instead of merely supplementing its output. This type of system could provide a large fraction of a region's electricity demand, far beyond the 10-20% often suggested as an economic upper limit for conventional wind generation deployed without storage."[94]

Essentially, the Intervenors claim that a one-page NREL Fact Sheet discussing wind power generation and CAES indicates that this technology combination is ready for deployment to meet baseload power needs.[95] According to the Intervenors, the Dean Report and the Makhijani

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92 *Id.* at 9.2-11.

93 *Headwaters*, 914 F.2d at 1181 (citing *N. Plains Res. Council,* 874 F.2d at 666).

94 New Contentions at 11 (quoting NREL, Creating Baseload Wind Power Systems Using Compressed Air Energy Storage Concepts (Oct. 2006), *available at* nukefreetexas.org/downloads/nrel_baseload_wind_100306.pdf ("NREL Fact Sheet")).

95 New Contention at 11.

Report also state that renewable power generation and storage technologies are capable of meeting baseload generation requirements.[96]

The Intervenors do not point to any specific statements in the Dean Report or the Makhijani Report that allegedly support their argument. The only specific information the Intervenors reference to support their claim is the one-page NREL Fact Sheet. Such supporting material is subject to Board scrutiny, "both for what it does and does not show."[97] Here, the Intervenors have lifted statements from this document out-of-context, and the document does not state what the Intervenors purport that it states. The portion of the document quoted by the Intervenors comes from the "Background/Overview" section of the article. The rest of the document makes clear that using wind power generation and CAES to provide baseload power is still only a "concept." The NREL Fact Sheet further points out that the "[d]evelopment of the 'baseload' wind concept will require a greater understanding of the local geologic compatibility of air storage, and *additional work will be required to examine the feasibility* of advanced wind/CAES concepts described here."[98] Thus, the NREL Fact Sheet does not support Intervenors' claim that wind and CAES are a proven technology for generating baseload power. To the contrary, the NREL Fact Sheet is consistent with the statements in the ER that wind and CAES are not currently a proven technology for generating baseload power. Therefore, given that the Intervenors have not provided support demonstrating that a combination of wind power and CAES facility is an economically or technologically proven method for generating baseload

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96 *Id.* at 12.

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

98 NREL Fact Sheet at 1 (emphasis added).

power, Contention ALT-4 lacks adequate support and should be dismissed in accordance with 10 C.F.R. § 2.309(f)(1)(v) and (vi).

E. Contention ALT-5 – Need for Power and Smaller, Modular Alternatives

Contention ALT-5 states:

> In evaluating alternatives, the Applicant has not taken into account new ERCOT demand data and the positive impacts of modular additions of renewable/storage combinations in meeting a declining and uncertain demand.[99]

The Intervenors assert that Luminant should have considered the benefits of choosing a modular approach consisting of smaller increments of renewable generating alternatives rather than undertaking the economic risks of pursing a large nuclear project.[100] According to the Intervenors, consideration of a modular approach is necessary given the "uncertain demand environment" and that "growth in demand is declining."[101] As support for this contention, the Intervenors rely upon portions of the Dean Report and the Makhijani Report.[102]

Contention ALT-5 should be rejected because it is untimely and beyond the scope of original Contention 18 as restated and admitted by the Board. The central premise of Contention ALT-5 is that demand may not be sufficient to justify the need for Comanche Peak Units 3 and 4, and thus, smaller increments of power (or modular additions) should be considered. Essentially, Contention ALT-5 amounts to an untimely attack on the need for power analysis in Chapter 8 of the ER. The Intervenors provide no explanation why they could not have raised this need for power argument when they filed their original Petition. Accordingly, the Board should

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99 New Contentions at 13.

100 *Id.* at 13-14.

101 *Id.*

102 *Id. See* Dean Report at 5; Makhijani Report at 2-3.

reject Contention ALT-5 because the Intervenors fail to comply with 10 C.F.R. § 2.309(c) and (f)(2).

Aside from the unjustified delay in attempting to challenge the need for power evaluation, Contention ALT-5 is also inadmissible for numerous other reasons. First, Intervenors do not dispute or controvert the need-for-power discussion contained in ER Chapter 8, which discusses the bases for the Electric Reliability Council of Texas ("ERCOT") conclusion that a significant amount of new generation is needed to meet the demand in the region. Therefore, the Intervenors fail to establish a genuine dispute with the need for power analysis, contrary to Section 2.309(f)(1)(vi).

Second, to the extent that the Intervenors are concerned about the alleged "economic risks" of large nuclear power plants and disagree with the commercial decision to build such plants at Comanche Peak, such a contention falls squarely outside the scope of this NRC licensing proceeding. The Commission has admonished that "the NRC is 'not in the business of regulating the market strategies of licensees or 'determin[ing] whether market conditions warrant commencing' operations, and that [it] leave[s] to licensees the 'ongoing business decisions that relate to costs and profit.'"[103] The NRC's charge here, at least under NEPA, is to take a "hard look" at reasonable alternatives to the proposed action.[104] The NRC is not tasked with auditing Luminant's business plans. Like other federal agencies, the NRC is not equipped "to canvas . . . business choices" because it has "neither the expertise nor the proper incentive structure to do so."[105] Accordingly, insofar as Contention ALT-5 seeks to challenge Luminant's commercial

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[103] *La. Energy Servs., L.P.* (Nat'l Enrichment Facility), CLI-05-28, 62 NRC 721, 726 (2005) (citation omitted).

[104] *See Envtl. Law & Policy Ctr.*, 470 F.3d at 685; *Claiborne*, CLI-98-3, 47 NRC at 87-88.

[105] *Citizens Against Burlington*, 938 F.2d at 197 n. 6.

decisions to proceed with a large power plant rather than a series of modular plants, it raises issues that are outside the scope of this proceeding, contrary to Section 2.309(f)(1)(iii).[106]

F. Contention ALT-6 – Selection of the US-APWR Design

Contention ALT-6 claims that the "Applicant does not meet Criterion 1: Developed, proven, and available in the relevant region ERCOT."[107] As support for this contention, the Intervenors rely upon portions of the Dean, Makhijani, and Robbins Reports, which assert that the US-APWR is not a developed, proven, or available technology because this design has never been built before and is not yet certified by the NRC.[108]

Contention ALT-6 should be rejected because it is untimely and beyond the scope of original Contention 18 as restated and admitted by the Board. Contention ALT-6 is unrelated to the ER Update Luminant submitted in December 2009, addressing alternative energy options. Rather, Contention ALT-6 is related to Luminant's selection of the US-APWR for the proposed action—a decision that was made when the COL application was filed in September 2008. The Intervenors provide no explanation why they could not have raised this argument when they initially filed their Petition. Therefore, the Board should reject Contention ALT-6 because the Intervenors have failed to comply with 10 C.F.R. § 2.309(c) and (f)(2).

Furthermore, the Intervenors' argument that US-APWR technology has never been built before and therefore is unavailable is unsupported. As explained in Section 1.3 of the US-APWR Design Control Document ("DCD"), the US-APWR is similar to current operating U.S.

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106 To the extent that Contention ALT-5 suggests that Luminant must consider energy alternatives that do no meet the goal of producing 3,200 MW of baseload power, this contention is not material to the findings the NRC must make in this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iv). *See Envtl. Law & Policy Ctr.*, 470 F.3d at 684.

107 New Contentions at 14.

108 *Id.* at 15. *See* Dean Report at 8-10; Makhijani Report at 2; Robbins Report at 1.

four-loop plants. The Intervenors provide no technical analysis that suggests that any of the parameters or systems described in the US-APWR DCD present any safety or environmental problems that might somehow limit the deployment of this technology. Section 2.309(f)(1)(v) requires an intervenor to "provide documents or other factual information or expert opinion that set forth *the necessary technical analysis* to show why the proffered bases support its contention."[109] Contention ALT-6 should be denied for not providing any such information or analysis.

Additionally, the Intervenors argument that the US-APWR design is not yet certified should be dismissed. The COLs for Comanche Peak Units 3 and 4 will not be issued until the US-APWR is certified or the design is approved as part of this COL proceeding.[110] Therefore, by the time this proceeding is finished, the NRC will have approved the US-APWR design. Consequently, the Intervenors' argument does not raise a genuine dispute of material fact and should be dismissed for failure to satisfy Section 2.309(f)(1)(vi).

G. Proposed Modifications to Contention 18

As noted above, in addition to submitting six new contentions, the Intervenors requested that the Board allow for Contention 18 to

> advance in a modified version that requires the Applicant to:
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> 1) at a minimum, actually consider combinations of wind *and* solar with CAES supplemented with natural gas;
>
> 2) consider molten-salt storage by itself and in combination with CAES; and

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

[110] *See* Final Policy Statement on Conduct of New Reactor Licensing Proceedings**,** 73 Fed. Reg. 20,963, 20,972-73 (Apr. 17, 2008).

3) address the geological advantages presented in the ERCOT area that favor deployment of CAES in tandem with wind and solar power sources.[111]

The arguments in the proposed modification to Contention 18 are largely encompassed within portions of Intervenors' new contentions. Luminant's responses to these arguments are provided above and are not repeated here.[112]

The proposed modifications raise a few arguments not contained in the new contentions. For example, the Intervenors reference the Dean Report and contend that the ER does not evaluate combinations of molten-salt storage and CAES.[113] However, the cited paragraph in the Dean Report is entirely speculative and theoretical. It does not identify any actual examples of facilities that use combinations of molten-salt storage and CAES. Therefore, the Intervenors have not provided any supporting information indicating that such a combination is technically feasible and proven. Accordingly, this argument should be dismissed for not complying with 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

The Intervenors also criticize the ER Update for categorizing wind power as "intermittent" rather than "variable."[114] This argument is based on semantics and is obviously nothing more than an attempt to "flyspeck" the ER Update. Accordingly, it does not raise a genuine dispute of material fact and should be rejected pursuant to Section 2.309(f)(1)(iv) and (vi).

Finally, the Intervenors allege that the ER Update considers whether individual components of the combination are reasonable, rather than evaluating whether the integrated

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111 Response to Motion to Dismiss at 8-9 (footnotes and citations omitted).

112 *See* Section IV.A.1, B.2, C.1, & C.3, *supra*.

113 Response to Motion to Dismiss at 8.

114 *Id.* at 7.

combination is reasonable.[115] That argument mischaracterizes ER Section 9.2.2.11, which does look at combinations and not just alternatives individually.[116] Therefore, Intervenors' argument should be dismissed for failure to raise a genuine dispute of material fact, contrary to Section 2.309(f)(1)(vi).

Accordingly, the proposed modifications to Contention 18 should be rejected.

V. CONCLUSION

For the foregoing reasons, the new and modified contentions submitted by the Intervenors related to ER Section 9.2.2.11 should be rejected.

Respectfully submitted,

Executed in Accord with
10 C.F.R. § 2.304(d) by Steven P. Frantz

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Dated in Washington, D.C.
this 4th day of February 2010

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[115] *Id.* at 2, 8.

[116] *See* ER Update at 9.2-37 to -50.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket Nos. 52-034-COL
LUMINANT GENERATION COMPANY LLC	)	52-035-COL
	)	
(Comanche Peak Nuclear Power Plant Units 3 and 4)	)	February 4, 2010

CERTIFICATE OF SERVICE

I hereby certify that on February 4, 2010, a copy of "Luminant's Answer Opposing New and Modified Contentions Regarding Alternative Energy Sources" was served by the Electronic Information Exchange on the following recipients:

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