LBP-11-07

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Michael M. Gibson, Chairman
Dr. Gary S. Arnold
Dr. Randall J. Charbeneau

In the Matter of NUCLEAR INNOVATION NORTH AMERICA LLC (South Texas Project Units 3 and 4)	Docket Nos. 52-12-COL and 52-13-COL ASLBP No. 09-885-08-COL-BD01 February 28, 2011

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MEMORANDUM AND ORDER
(Rulings on Question Regarding Intervenors' Challenge to NRC Staff Denial of Documentary Access, on Motions for the Summary Disposition of Contention CL-2, and on the Admissibility of New DEIS Contentions)

This proceeding arises from the application of Nuclear Innovation North America LLC[1] (Applicant) for combined licenses (COL) that would authorize Applicant to construct and operate two new nuclear reactor units on its existing site near Bay City, Texas. Before the Board are three matters for resolution. First, as discussed in Part II, we resolve as moot a question that the Commission remanded to the Board regarding access to a draft guidance document.[2] Second, both NRC Staff and Applicant have moved for summary disposition of Contention CL-

[1] By letter dated January 21, 2011, counsel for STP Nuclear Operating Company notified the Board that Nuclear Innovation North America has replaced STP Nuclear Operating Company as the lead applicant seeking combined operating licenses for South Texas Project (STP) Units 3 and 4. See Letter from Steven P. Frantz, Counsel for STP Nuclear Operating Company, to Licensing Board at 1 (Jan. 21, 2011).

[2] See CLI-10-24, 72 NRC __, __ (slip op. at 20) (Sept. 29, 2010).

2.[3] As discussed in Part III, we deny both motions for summary disposition. Third, Intervenors[4] have proffered six new contentions based on NRC Staff's March 2010 Draft Environmental Impact Statement (DEIS).[5] As discussed in Part IV, we conclude that five of the newly proffered contentions are inadmissible and admit one new contention as limited by the Board.

I. Background

As detailed in this Board's previous Orders, Intervenors challenge Applicant's COL application to construct and to operate two additional reactor units, STP Units 3 and 4, at its site where it currently operates existing reactors STP Units 1 and 2.[6] Proposed STP Units 3 and 4 would utilize the Advanced Boiling Water Reactor (ABWR) certified design, which Applicant incorporated by reference in its COL application.[7] On August 27, 2009 and September 29, 2009, this Board issued rulings on Intervenors' intervention petition, conferring standing on Intervenors and admitting five of their original twenty-eight contentions.[8] Included among the original admitted contentions was Contention 21, which challenged Applicant's Environmental

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[3] See NRC Staff Motion for Summary Disposition (July 22, 2010) [hereinafter NRC Staff Summary Disposition Motion]; STP Nuclear Operating Company's Motion for Summary Disposition of Contention CL-2 (Sept. 14, 2010) [Applicant Summary Disposition Motion].

[4] Intervenors are the Sustainable Energy and Economic Development Coalition, the South Texas Association for Responsible Energy, and Public Citizen.

[5] See Intervenors' Motion for Leave to File New Contentions Based on the Draft Environmental Impact Statement (May 19, 2010) [hereinafter Motion for New Contentions]; Environmental Impacts Statements; Notice of Availability, 75 Fed. Reg. 14,594, 14,595 (Mar. 26, 2010).

[6] A full accounting of the procedural history of this proceeding is set forth in our prior orders and need not be repeated here. See LBP-09-21, 70 NRC 581 (2009); LBP-09-25, 70 NRC __ (slip op.) (Sept. 29, 2009); LBP-10-02, 71 NRC __ (slip op.) (Jan. 29, 2010); LBP-10-14, 72 NRC __ (slip op.) (July 2, 2010).

[7] See LBP-09-21, 70 NRC at 588; see also South Texas Project, Units 3 and 4 Combined License Application, Part 1, General and Financial Information, Rev. 3 at 1.0-1 (Sept. 16, 2009) (ADAMS Accession No. ML 092931176) (incorporating 10 C.F.R. Part 52, Appendix A by reference).

[8] See LBP-09-21, 70 NRC at 638; LBP-09-25, 70 NRC __ (slip op. at 31).

Report (ER) for failing to consider impacts from severe radiological accident scenarios on the operation of other units at the STP site.[9]

On November 11, 2009, Applicant supplemented its ER and moved to dismiss Contention 21 as moot.[10] This ER supplement added Section 7.5S ("Evaluation of Impacts of Severe Accidents on Safe Shutdown of Other Units") which updated Applicant's severe accident mitigation design alternatives (SAMDA) analysis[11] to address whether a radiological incident at one reactor unit might impact the other reactor units at the STP site.[12]

On July 2, 2010, the Board dismissed Contention 21 as moot because the ER supplement cured the omission alleged in that contention (i.e., the impacts of a severe radiological incident on the other co-located STP units).[13] Meanwhile, in response to Applicant's ER supplement, Intervenors filed nine new contentions and two amended contentions contesting the adequacy of Applicant's ER supplement.[14] The Board admitted three of those contentions in part, and reformulated them into one contention—Contention CL-2—which challenges the replacement power cost input in the Applicant's SAMDA analysis.[15] As reformulated, Contention CL-2 alleges:

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[9] See LBP-09-21, 70 NRC at 617.

[10] See LBP-10-14, 72 NRC at __ (slip op. at 9).

[11] See Part III.C for background regarding Applicant's SAMDA analysis.

[12] See LBP-10-14, 72 NRC at __ (slip op. at 9-10); Letter from Stephen Burdick, STPNOC Counsel, to Licensing Board, notification of Filing Related to Contention 21 (Nov. 11, 2009), Attach., Letter from Scott Head, Manager, Regulatory Affairs, STP Units 3 & 4, to NRC, Proposed Revision to Environmental Report (Nov. 10, 2009), Attach., ER Section 7.5S at 7.5S-1 [hereinafter ER Section 7.5S].

[13] See LBP-10-14, 72 NRC at __ (slip op. at 57). In that same order, the Board also dismissed the other four admitted contentions proffered in the Intervenors' intervention petition. Id.

[14] Id. at __ (slip op. at 4).

[15] See id. at __ (slip op. at 30-32).

> The Applicant's calculation in ER Section 7.5S of replacement power costs in the event of a forced shutdown of multiple STP Units is erroneous because it underestimates replacement power costs and fails to consider disruptive impacts, including ERCOT [the Electric Reliability Council of Texas][16] market price spikes.[17]

Prior to this Order, Contention CL-2 was the only remaining admitted contention in this proceeding. On March 26, 2010, the NRC issued its DEIS for proposed STP Units 3 and 4.[18] In response, on May 19, 2010, Intervenors filed six new contentions challenging the DEIS.[19] NRC Staff and Applicant oppose the admission of all six new contentions.[20] On June 21, 2010, Intervenors filed a consolidated response to Applicant's and NRC Staff's answers opposing admission of Intervenors' proposed new contentions.[21]

On July 22, 2010, NRC Staff moved for summary disposition of Contention CL-2.[22] Applicant also moved for summary disposition of Contention CL-2 on September 14, 2010,

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[16] According to the DEIS, ERCOT is the independent system operator for the electrical grid for most of Texas. The DEIS also indicates that Texas State law confers responsibility on ERCOT for central planning and analysis of the resources needed for the electric system in the ERCOT region. See Draft Environmental Impact Statement for Combined Licenses (COLs) for South Texas Project Electric Generating Station Units 3 and 4, NUREG-1937, at 8-3 to 8-4 (Mar. 2010) (ADAMS Accession Nos. ML100700327, Vol. 1; ML100700333, Vol. 2) [hereinafter DEIS].

[17] LBP-10-14, 72 NRC at __ (slip op. at 30).

[18] See 75 Fed. Reg. at 14,595.

[19] See Motion for New Contentions.

[20] See NRC Staff's Answer to Intervenors' Motion for Leave to File New Contentions Based on the Draft Environmental Impact Statement (June 14, 2010) at 1 [hereinafter NRC Staff Answer]; STP Nuclear Operating Company's Answer Opposing New Contentions Based on the Draft Environmental Impact Statement (June 14, 2010) at 2 [hereinafter Applicant Answer].

[21] See Intervenors' Consolidated Response to the Applicant's and Staff's Answers in Opposition to the Intervenors' Proposed Contentions Based on the Draft Environmental Impact Statement (June 21, 2010) [hereinafter New Contentions Reply].

[22] See NRC Staff Summary Disposition Motion.

arguing alternative grounds for dismissing that contention.[23] Intervenors contend that both motions should be denied.[24]

Finally, on September 29, 2010, the Commission remanded to the Board the question of whether NRC Staff erred in denying Intervenors access to a draft interim staff guidance document.[25] On October 21, 2010, this Board held oral argument in Bay City, Texas on the admissibility of the new contentions, the two motions for summary disposition, and the remanded question regarding access to draft ISG-016.[26]

II. Intervenors' Challenge to Staff Denial of Documentary Access

NRC Staff denied Intervenors access to a draft interim staff guidance, "DC/COL-ISG-016 [Draft] Interim Staff Guidance, Compliance with 10 CFR 50.54(hh)(2) and 10 CFR 52.80(d), Loss of Large Areas of the Plant due to Explosions or Fires from a Beyond-Design Basis Event" (Oct. 7, 2009) (ML092100361) (non-public ADAMS) (Draft ISG-016).[27] As grounds for its denial, NRC Staff asserted the entire document was Sensitive Unclassified Non-Safeguards Information (SUNSI) and Intervenors failed to show a need for the document.[28] By order dated January 29, 2010, we directed NRC Staff to provide the Intervenors with a copy of all non-SUNSI portions of the draft document and reevaluate Intervenors' request for access to Draft

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[23] See Applicant Summary Disposition Motion.

[24] See Intervenors' Response to Staff's Motion for Summary Disposition (Aug. 11, 2010) [hereinafter Intervenor Response to Staff Motion]; Intervenors' Response to Applicant's Motion for Summary Disposition of Contention CL-2 (Oct. 8, 2010) [hereinafter Intervenor Response to Applicant Motion].

[25] See CLI-10-24, 72 NRC at __ (slip op. at 20).

[26] Licensing Board Notice (Regarding Oral Argument) (July 30, 2010) at 1 (unpublished); see Tr. at 1029 (Oct. 21, 2010).

[27] See CLI-10-24, 72 NRC at __ (slip op. at 9-11).

[28] Id. at __ (slip op. at 11).

ISG-016, pursuant to the standard for access to SUNSI articulated in that Order.[29] NRC Staff appealed this order and on September 29, 2010, the Commission directed the Board to consider on remand Intervenors' challenge to the denial of access.[30] Subsequently, Intervenors advised that it would waive access to Draft ISG-016 because the final version of ISG-016 had since been issued.[31] Accordingly, we conclude that the remanded question is moot.

III. Motions for Summary Disposition of Contention CL-2

A. Legal Standards Governing Summary Disposition

The standards for summary disposition in Subpart L proceedings are set forth at 10 C.F.R. § 2.1205. That rule directs licensing boards to apply the same standards for granting or denying summary disposition as would be applied in proceedings conducted under Subpart G of the Rules, which are set forth in section 2.710.[32] In turn, section 2.710(d)(2) provides that a moving party may obtain summary disposition "if the filings in the proceeding, . . . together with the statements of the parties and the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law." In NRC adjudicatory proceedings, the Commission's standards for ruling on summary disposition motions are analogous to the standards for granting summary judgment motions under Rule 56 of the Federal Rules of Civil Procedure in Federal courts.[33] The moving party bears the initial burden of "showing the absence of a genuine issue as to any material fact" and that it is entitled

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[29] See LBP-10-02, 71 NRC at __ (slip op. at 33).

[30] CLI-10-24, 72 NRC at __ (slip op. at 20).

[31] See Tr. at 1220 (explaining that Intervenors request the unredacted version of the final ISG-016, not the draft version); see also CLI-10-24, 72 NRC at __ (slip op. at 20 n.81).

[32] See 10 C.F.R. § 2.1205(c) ("In ruling on motions for summary disposition, the presiding officer shall apply the standards for summary disposition set forth in subpart G of this part.").

[33] See Advanced Medical Systems, Inc. (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993).

to a decision as a matter of law.[34] If the moving party meets its burden, the party opposing the motion must "set forth specific facts showing that there is a genuine issue," and may not rely on "mere allegations or denials,"[35] but "no defense to an insufficient showing is required."[36] If no genuine dispute remains, then the Board may dispose of all arguments based on the pleadings.[37]

Summary disposition, like summary judgment, is an extreme remedy,[38] that should be granted with caution,[39] especially before the parties have been afforded an opportunity to marshal their evidence.[40] Additionally, when presented with conflicting expert opinions, licensing boards should be mindful that summary disposition is rarely proper.[41] During summary disposition, it is not appropriate for boards "to untangle the expert affidavits and decide 'which experts are more correct.'"[42] As the Commission has explained:

> a licensing board (or presiding officer) should not . . . conduct a trial on affidavits. At this stage, the judge's function is not himself to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine

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[34] Id.

[35] Id.

[36] Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 754 (1977) (internal citations omitted).

[37] Advanced Medical Systems, 38 NRC at 102.

[38] See Moore v. Jackson, 123 F.3d 1082, 1086 (8th Cir. 1997); SRI Int'l. v. Matsushita Elec. Corp. of America, 775 F.2d 1107, 1116 (9th Cir. 1985) (explaining that summary judgment is a "lethal weapon"); Transource Int'l., Inc. v. Trinity Industries, Inc., 725 F.2d 274, 279 (5th Cir. 1984) (describing summary judgment as "drastic relief"); U.S. v. Bosurgi, 530 F.2d 1105, 1110 (2d. Cir. 1976) ("summary judgment is a drastic remedy").

[39] Flaherty v. Coughlin, 713 F.2d 10, 13 (2d. Cir. 1983); McSpadden v. Mullins, 456 F.2d 428, 430 (8th Cir. 1972); James v. Honaker Drilling, Inc., 254 F.2d 702, 706 (10th Cir. 1958).

[40] Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986).

[41] See Phillips v. Cohen, 400 F.3d 388, 399 (6th Cir. 2005).

[42] Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Facility), LBP-01-39, 54 NRC 497, 509 (2001) (quoting Norfolk Southern Corp. v. Oberly, 632 F. Supp. 1225, 1243 (D. Del. 1986)).

> issue for [hearing]. The evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor. If reasonable minds could differ as to the import of the evidence, summary disposition is not appropriate. Caution should be exercised in granting summary disposition, which may be denied if there is reason to believe that the better course would be to proceed to a full [hearing].[43]

B. National Environmental Policy Act Standards Governing the Severe Accident Mitigation Design Alternatives Analysis

The National Environmental Policy Act (NEPA) establishes a "broad national commitment to protecting and promoting environmental quality."[44] NEPA's requirement that federal agencies prepare an Environmental Impact Statement (EIS) when considering a major action serves the statute's "action-forcing" purpose in two ways.[45] "First, it 'places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action.' Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process."[46] NEPA's mandate is "essentially procedural,"[47] and "it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process."[48]

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[43] Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC __, __ (slip op. at 13) (Mar. 26, 2010) (internal citations omitted).

[44] Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 348 (1989); see 42 U.S.C. § 4331.

[45] See Robertson, 490 U.S. at 350.

[46] Baltimore Gas & Elec. Co. v. Natural Resource Defense Council, Inc., 462 U.S. 87, 97 (1983) (quoting Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc., 435 U.S. 519, 553 (1978) (citing Weinberger v. Catholic Action of Hawaii, 454 U.S. 139, 143 (1981)).

[47] Vermont Yankee, 435 U.S. at 558.

[48] Robertson, 490 U.S. at 350 (citing Strycker's Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227-28 (1980) and Vermont Yankee, 435 U.S. at 558).

One important component of an EIS is the discussion of possible actions that might mitigate adverse environmental consequences.[49] The NRC's regulations expressly require the Commission to consider "alternatives available for reducing or avoiding adverse environmental effects."[50] One such study of mitigation alternatives in NRC practice is the SAMDA analysis.[51] The SAMDA analysis is the portion of the Severe Accident Mitigation Alternatives (SAMA) analysis that focuses on design and hardware issues.[52]

NEPA, however, only requires that mitigation be discussed in "sufficient detail to ensure that environmental consequences have been fairly evaluated."[53] NEPA does not "demand the presence of a fully developed plan" or a "detailed explanation of specific measures which will be employed to mitigate the adverse impacts of a proposed action."[54] Moreover, as a mitigation analysis, "SAMA analysis is neither a worst-case nor a best-case impacts analysis."[55]

NEPA permits agencies "to select their own methodology as long as that methodology is reasonable."[56] While there "will always be more data that could be gathered, agencies must

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[49] Robertson, 490 U.S. at 351. The NRC's regulations expressly require the Commission to consider "alternatives available for reducing or avoiding adverse environmental effects." See 10 C.F.R. § 51.71(d) (incorporated by reference in 10 C.F.R. § 51.90).

[50] See 10 C.F.R. § 51.71(d) (incorporated by reference in 10 C.F.R. § 51.90).

[51] See Pilgrim, CLI-10-11, 71 NRC at __ (slip op. at 38); see also Nuclear Energy Institute; Denial of Petition for Rulemaking, 66 Fed. Reg. 10,834, 10,834 (Feb. 20, 2001) (explaining that the NRC is required to consider SAMAs in issuing a new operating license).

[52] See Licenses, Certifications and Approvals for Nuclear Power Plants, 72 Fed. Reg. 49,352, 49,426 (Aug. 28, 2007).

[53] Robertson, 490 U.S. at 352.

[54] Id. at 352-53 (emphasis in original) (internal citations omitted).

[55] Pilgrim, CLI-10-11, 71 NRC at __ (slip op. at 38); see also Robertson, 490 U.S. at 354.

[56] Pilgrim, CLI-10-11, 71 NRC at __ (slip op. at 37) (citing Town of Winthrop v. FAA, 535 F.3d 1, 11-13 (1st Cir. 2008)).

have some discretion to draw the line and move forward with decisionmaking."[57]

As applied specifically to SAMA analysis, the Commission has explained that a licensing board's inquiry should not be whether there are "plainly better" methodologies or "whether the SAMA analysis can be refined further."[58] Rather, a licensing board's inquiry is to be whether the SAMA analysis resulted in erroneous conclusions on which SAMAs and SAMDAs are found cost-beneficial to implement.[59] Accordingly, there is no purpose for further refining a SAMDA analysis, "[u]nless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions or models may change the cost-benefit conclusions for the SAMA candidates evaluated."[60]

C. The Applicant's SAMDA Analysis

Because Contention CL-2 alleges that Applicant's estimate of replacement power costs in its SAMDA analysis is inadequate, it is appropriate for us to define and briefly describe the SAMDA analysis. The purpose of a SAMDA analysis is to identify and evaluate design alternatives that prevent a severe accident or mitigate the impacts of such an accident.[61] To perform the SAMDA analysis, Applicant compared the cost of each SAMDA against the benefit of implementing the SAMDA.[62] If the benefit from averting severe accidents was greater than

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[57] Id. (internal citations omitted).

[58] Id.

[59] Id. Although in Pilgrim, the Commission spoke only of the SAMA analysis, we consider its analysis to be equally applicable to the SAMDA analysis, which is a subpart or element of a SAMA analysis. See 72 Fed. Reg. at 49,426.

[60] Pilgrim, CLI-10-11, 71 NRC at __ (slip op. at 39).

[61] U.S. Nuclear Regulatory Commission, Environmental Standard Review Plan, NUREG-1555, at 7.3-1 (Oct. 1999) (ADAMS Accession Nos. ML003702134, Vol. 1; ADAMS Accession No. ML003701937, Vol. 2).

[62] See Applicant Summary Disposition Motion at 11; id., Attach. 2, Joint Affidavit of Jeffrey L. Zimmerly and Adrian Pieniazek ¶ 11 (Sept. 14, 2010) [hereinafter Applicant Joint Aff.].

the SAMDA cost (i.e., cost-beneficial), then Applicant considered implementing the SAMDA.[63]

Because proposed STP Units 3 and 4 would utilize the ABWR certified design, Applicant asserts that the SAMDA costs were determined during the ABWR design certification process and are listed in the Technical Support Document (TSD) for the ABWR.[64] The TSD is one of the components of the design certification application.[65] Of the listed potential SAMDAs for the ABWR, Applicant maintains that implementing the least expensive SAMDAs (i.e., lowest cost SAMDAs) would cost $100,000 (in 1991 dollars).[66]

Applicant asserts that the benefits of the SAMDAs are bounded by estimating the maximum averted cost of a severe accident using a probabilistic approach (i.e., total monetized impacts cost).[67] In its ER supplement, Applicant calculated a site-specific benefit that included the costs of a potential accident at one STP unit impacting the co-located STP units.[68] Applicant performed this calculation by totaling the onsite exposure costs, the onsite cleanup costs, the offsite costs, and the replacement power costs for outages both at the affected unit and at the unaffected units.[69]

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[63] See Applicant Summary Disposition Motion at 11.

[64] See Applicant Summary Disposition Motion at 11; see also Letter from J.F., Project Manager, ABWR Certification, to R.W. Borchardt, Director, Standardization Project Directorate, U.S. Nuclear Regulatory Commission, Attach. 1, Technical Support Document for the U.S. ABWR (Dec. 21, 1994) (ADAMS Accession no. ML100210563) [hereinafter TSD].

[65] See Standard Design Certification for the U.S. Advanced Boiling Water Reactor Design, 62 Fed. Reg. 25,800, 25,827 (May 12, 1997).

[66] See TSD at 61 tbl.A-6.

[67] NRC Staff guidance suggests that SAMDA analysis should consider the following costs: public health costs, occupational health costs, offsite property costs, onsite property costs (which includes clean up costs), long term replacement power costs, and repair costs. See U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research, Regulatory Analysis Technical Evaluation Handbook, NUREG/BR-0184, at 5.20 to 5.52 (Jan. 1997) (ADAMS Accession No. ML050190193) [hereinafter NUREG/BR-0184].

[68] See LBP-10-14, 72 NRC at __ (slip op. at 10).

[69] See Applicant Summary Disposition Motion at 14.

D. Applicant's Motion for Summary Disposition of Contention CL-2

As explained above, Contention CL-2 challenges the adequacy of Applicant's estimation of replacement power costs in its SAMDA analysis. Specifically, Contention CL-2 alleges:

> The Applicant's calculation in ER Section 7.5S of replacement power costs in the event of a forced shutdown of multiple STP Units is erroneous because it underestimates replacement power costs and fails to consider disruptive impacts, including ERCOT market price spikes.[70]

Applicant's motion for summary disposition argues that Contention CL-2 should be dismissed because there is no genuine issue as to any material fact that (1) Applicant's estimate of replacement power costs in its ER is reasonable; and (2) refining its replacement power cost calculation to account for the challenges alleged in Contention CL-2 does not change its SAMDA analysis conclusion that there is no cost-effective SAMDA.[71] Accordingly, Applicant contends it is entitled to a decision as a matter of law.[72] NRC Staff supports the motion for summary disposition.[73]

Even though Applicant has presented a number of undisputed facts that Intervenors do not contest, we nonetheless decline to grant Applicant's motion for summary disposition of Contention CL-2. We conclude that Intervenors' answer in response to the motion, including an affidavit of its expert, raises a genuine dispute regarding key material facts.

1. Applicant's Arguments in Support of Summary Disposition

In support of its motion, Applicant submitted a joint affidavit of Jeffrey L. Zimmerly and Adrian Pieniazek.[74] Mr. Zimmerly is an environmental engineer and corporate quality assurance

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[70] See LBP-10-14, 72 NRC at __ (slip op. at 30)

[71] See Applicant Summary Disposition Motion at 14-16.

[72] See id. at 2.

[73] See NRC Staff Answer to Applicant's Motion for Summary Disposition of Contention CL-2 (Oct. 7, 2010) at 2.

[74] See Applicant Joint Aff. ¶ 1.

manager for Tetra Tech NUS, Inc., which is a contractor for Applicant.[75] Mr. Zimmerly participated in the preparation of the ER for STP Units 3 and 4.[76] Ms. Pieniazek is the director of market policy for NRG LLC.[77] Ms. Pieniazek represents NRG Texas' interests before ERCOT and the Public Utility Commission of Texas and provides policy analysis on wholesale electricity market design issues.[78]

In arguing that no genuine issue of material fact exists, Applicant first points to the replacement power estimate that it submitted in ER Section 7.5S and claims that it is reasonable under NEPA.[79] Although this is the exact estimate that Contention CL-2 alleges is inadequate, Applicant now urges that its cost estimate is adequate because it followed the NRC methodology (as set forth in NUREG/BR0184) to calculate the replacement power costs.[80] And while Applicant acknowledges that Intervenors argue that actual ERCOT replacement power costs would be higher than the costs in NUREG/BR0184, Applicant faults Intervenors for not claiming that the costs in NUREG/0184 are unreasonable.[81] Additionally, Applicant claims its cost estimate is reasonable because NUREG-0184 specifies replacement power costs in a similar time period as the SAMDA costs listed in the TSD (i.e., replacement power costs in 1993 dollars compared to the SAMDA costs which are in 1991 dollars).[82] Applicant argues that the

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[75] Id.

[76] Id. ¶ 2.

[77] Id. ¶ 5.

[78] Id.

[79] See Applicant Summary Disposition Motion at 14.

[80] See id. Applicant notes that NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants" specifically permits the use of the methodology set forth in NUREG/BR0184 to estimate replacement power costs.

[81] See id. at 15.

[82] Id.

2008 replacement power costs suggested by Intervenors should not be directly compared to the SAMDA costs which were calculated in 1991 dollars.[83]

Second, Applicant contends that there is no genuine issue of material fact with regard to the adequacy of its replacement power cost calculation because, as a factual matter, none of the challenges advanced by Intervenors in Contention CL-2 change its SAMDA analysis conclusion that there is no cost-effective SAMDA.[84] Accordingly, Applicant argues that Intervenors' positions are bounded by Applicant's SAMDA analysis conclusion and there is no genuine dispute that will affect the outcome of the proceeding.[85]

To demonstrate this, Applicant performed a series of calculations to refine its replacement power cost input to account for the challenges raised by Contention CL-2.[86] Based on Intervenors' Contention CL-2 pleadings,[87] Applicant dissects Intervenors' position into the following challenges: (1) the replacement power cost input should be specific ERCOT region power costs or the specific power cost suggested by Intervenors; (2) the replacement power cost input should account for the market effects of an outage at the STP site; (3) the replacement power cost input should account for ERCOT price spikes; and (4) the replacement power cost input should account for the loss of the ERCOT grid.[88] We summarize briefly Intervenors' Contention CL-2 challenges and how Applicant refined its cost calculation to address those challenges below.

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[83] Id.

[84] See id. at 16.

[85] See id. at 2, 16-21.

[86] See id. at 16-21.

[87] Applicant notes that to date, Intervenors have provided no information during discovery. See id. at 16. As such, Applicant addresses only the arguments that Intervenors raised in proffering Contention CL-2. Id.

[88] See id. at 16-26.

Intervenors' first argument in support of Contention CL-2 is that, rather than use the replacement power costs specified in NUREG/BR0184, Applicant should have used either ERCOT 2008 or 2009 price data or Intervenors' suggested price forecast to calculate the replacement power cost input.[89] In its motion, Applicant counters that, even were the replacement power costs increased as Intervenors have sought, the resulting total monetized impacts would be less than the lowest-cost SAMDA.[90] To make this determination, Applicant used the consumer price index (CPI) to adjust the cost of the SAMDAs (which the TSD lists in 1991 dollars) for inflation.[91] After adjusting for inflation, Applicant calculated the lowest-cost SAMDA to be $158,000[92] and concludes that the total monetized cost would be less than the lowest-cost SAMDA (i.e., there are no cost-effective SAMDAs given the above assumptions).[93]

Intervenors' second argument in support of Contention CL-2 is that Applicant's replacement power cost calculation is inadequate because "it does not take into account the increase of ERCOT market prices due to the market effects of a STP outage."[94] In response, Applicant first contends that the loss of STP units would not have long term market effects in the ERCOT region and would not increase annualized replacement power costs because the region has adequate reserve margins to offset the lost generation.[95] Nonetheless, Applicant estimated the market effects of an outage by calculating the difference between the 2009 ERCOT prices—

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[89] See id. at 16-27.

[90] See Applicant Summary Disposition Motion, Attach. 1, Statement of Material Facts on Which No Genuine Issue Exists in Support of STP Nuclear Operating Company's Motion for Summary Disposition of Contention CL-2 (Sept. 14, 2010) ¶¶ IV.A to B, V.B. [hereinafter Statement of Material Facts].

[91] See Statement of Material Facts ¶ II.C; Applicant Joint Aff. ¶ 30.

[92] Statement of Material Facts ¶ II.C.

[93] See id. ¶¶ IV-V.

[94] Applicant Summary Disposition Motion at 19.

[95] See id. at 19-20.

assuming all four units are operating, and 2009 ERCOT prices—assuming all four units are shut down for a year.[96] To quantify this difference, Applicant "developed a simplified dispatch model that compares the annual load-weighted average wholesale market price under two scenarios: (1) the price with all four STP units available, and (2) the price with all four STP units removed from service."[97] Applicant contends that even if it adds the economic impact of that change in price to its replacement power costs, using the ERCOT 2008 prices, the total monetized impacts are still below the lowest-cost SAMDA.[98]

Intervenors' third argument in support of Contention CL-2 is that Applicant's calculation of replacement power cost is inadequate because it does not account for "disruptive impacts of potential price spikes and grid outages, which could be triggered by the simultaneous shutdown of all four STP units."[99] In attempting to demonstrate that there is no genuine dispute, Applicant first asserts that price spike impacts are already accounted for in ERCOT average prices.[100] Nonetheless, Applicant refined its replacement power cost estimate to account for an additional 20% increase in ERCOT prices to account conservatively for price spikes.[101] Even accounting for these additional price spikes, using the 2008 ERCOT prices, Applicant contends that the total monetized impacts are still below the lowest-cost SAMDA.[102]

Intervenors' final argument in support of Contention CL-2 is that Applicant's replacement power cost calculation is inadequate because it does not account for "the likelihood of outages

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[96] Id. at 20.

[97] Applicant Joint Aff. ¶ 47.

[98] Applicant Summary Disposition Motion at 20.

[99] Id. at 21.

[100] See id. at 22.

[101] Id.

[102] Id. at 23.

on the ERCOT grid which result in load shedding, or even uncontrolled blackouts."[103] To demonstrate no genuine dispute, Applicant first claims that it need not consider grid outages.[104] Nevertheless, Applicant refined its replacement power cost estimate to account for grid outages[105] by estimating the cost of grid outages to be $10 billion (similar to the 2003 Northeast blackout impacts).[106] Applicant contends that it even after adding this impact to the replacement power cost using "2008 ERCOT pricing data, and accounting for the consumer impacts due to market effects and increases in price spikes" the total monetized impacts remain below the lowest cost of the SAMDAs.[107]

In sum, even after refining replacement power costs as summarized above, Applicant claims Contention CL-2 challenges can make no difference to its overall conclusion that there is no cost-effective SAMDA.[108] Therefore, Applicant contends that Intervenors' position is bounded by its SAMDA analysis conclusions and summary disposition is warranted.[109]

2. Intervenors' Answer to Applicant's Motion for Summary Disposition

In opposing Applicant's motion for summary disposition, Intervenors present a response to Applicant's Statement of Material Facts[110] that is supported by the Affidavit of Clarence L.

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[103] Id.

[104] Id. at 24-26.

[105] Id. at 23-24.

[106] Id. at 26.

[107] Id.

[108] See Applicant Summary Disposition Motion at 17.

[109] See id. at 17 (citing Anderson, 477 U.S. at 248 for the proposition that "[o]nly disputes over fact that might affect the outcome of the suit under governing law will properly preclude the entry of summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted").

[110] Intervenors Response to Applicant Motion, Attach. 1, Intervenors' Response to Applicant's Statement of Facts Pursuant to 10 C.F.R. 2.710 (Oct. 8, 2010).

Johnson.[111] Mr. Johnson provides electric utility and energy policy advice through his consultancy practice, CJ Energy.[112] Mr. Johnson has testified in over 100 electric utility proceedings before state utility commissions.[113]

Intervenors dispute Applicant's claim that after refining its replacement power cost to account for Intervenors' challenges, the SAMDA analysis conclusion does not change.[114] In Mr. Johnson's professional opinion, Applicant used the wrong inflation rate to escalate the SAMDA costs to 2009 dollars and thus Applicant has erred in claiming the lowest-cost SAMDA is $158,000 (in 2009 dollars).[115] According to Mr. Johnson, Applicant inappropriately used the consumer price index (CPI) as the inflation rate to escalate the cost of the SAMDAs to 2009 dollars.[116] For its part, NRC Staff agrees that Applicant used an incorrect inflation rate in escalating the cost of the SAMDAs, but asserts that a higher inflation rate is appropriate rather than the lower rate suggested by Intervenors.[117]

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[111] See Intervenors Response to Applicant Motion, Attach. 2, In the Matter of Docket Nos. 52-102 (CL) and 52-103 (CL), Affidavit in Response to Motion for Summary Disposition, Clarence L. Johnson (Oct. 6, 2010) [hereinafter Johnson Aff.].

[112] Johnson Aff. at 1.

[113] Id.

[114] We note that in opposing Applicant's summary disposition motion, Intervenors have proffered arguments that seem to be outside the scope of admitted Contention CL-2. For example, Intervenors now challenge Applicant's use of a probabilistic risk assessment, a claim that is not fairly encompassed by Contention CL-2.

[115] Johnson Aff. ¶¶ 1-4.

[116] Id.

[117] See NRC Staff Answer to Applicant's Motion for Summary Disposition of Contention CL-2 (Oct. 7, 2010) at 11. NRC Staff claims that Applicant should have used the Bureau of Economic Analysis' Gross Domestic Product Implicit Price Deflator for Nonresidential Structures to adjust the SAMDA costs for inflation. See id., Attach. 1, Affidavit of James V. Ramsdell and David M. Anderson Concerning the Staff's Review of STPNOC's Updated SAMDA Evaluation ¶ 4(c) (Oct. 7, 2010).

Mr. Johnson opines that the "weakness of the CPI is that it is based on fixed proportions of expenditures components and does not account for households' ability to change those proportions over time in response to price or other factors," and it is sensitive to "volatile price components."[118] Claiming that the SAMDA cost is sensitive to inflation rates, in Mr. Johnson's opinion, rather than the CPI, the Applicant should have used one of the following inflation rates: (1) the Gross Domestic Product Implicit Price Deflator; (2) the Personal Consumption Expenditures price index; or (3) the Core Personal Consumption Expenditures (Core PCE) price index.[119] Mr. Johnson opines that the cost of the SAMDA, as adjusted for inflation using the Core PCE, could be $143,000 (in 2008 dollars), which is very close to Applicant's monetized impact of $141,211.[120]

In Mr. Johnson's opinion, the SAMDA costs also should have been adjusted to account for regional consumer price variations by applying a cost of living differential that would have resulted in the lowest-cost SAMDA costing $131,000 (in 2009 dollars).[121] Such a SAMDA cost would be lower than Applicant's monetized impact of $141,211 and thus, in Mr. Johnson's opinion, the SAMDA would be cost-effective to implement.[122]

Additionally, Mr. Johnson offered his opinion that Applicant's dispatch model used to simulate the impact of market effects on ERCOT power prices was not realistic.[123] Mr. Johnson opines that Applicant's dispatch model is flawed because it: (1) employs an incorrect wind capacity factor, (2) contains a simplistic treatment of ancillary services, and (3) assumes perfect

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[118] Johnson Aff. ¶ 2.

[119] Id. ¶ 3.

[120] Id. ¶ 4.

[121] Id. ¶ 5. Specifically, in Mr. Johnson's judgment, Applicant should have used the cost of living index for Houston-Sugarland-Baytown which is 90.7 (whereas the national average is 100). Id.

[122] Id.

[123] Id. ¶ 10.

competition.[124] In Mr. Johnson's opinion, "competitive power markets are susceptible to market power, because one or more suppliers will be pivotal in certain hours."[125] As a consequence, Mr. Johnson concludes that the Applicant's dispatch model erroneously assumes that market power will not affect power prices.[126]

3. Analysis and Ruling

Based on Intervenors' pleadings and expert affidavit, we conclude that genuine issues of material fact remain in dispute regarding whether Intervenors' challenges to the replacement power costs estimate are bounded by Applicant's SAMDA analysis conclusion. For example, the parties dispute the inflation rate that should be used to adjust the cost of the SAMDAs, the necessity of adjusting SAMDA cost to account for regional price differences, and the reasonableness of the model used to estimate the impact of market effects on ERCOT power prices. These conflicting opinions demonstrate that genuine issues of material fact remain in dispute regarding Contention CL-2.[127] These disputes among the experts can best be resolved after an evidentiary hearing where we can weigh the factual claims and resolve those claims with merits finding.

Finally, because we believe that genuine disputes over issues of material fact remain regarding whether Intervenors' Contention CL-2 challenges are bounded by the Applicant's SAMDA analysis conclusion, we cannot address Applicant's first argument, that its replacement power cost calculation is reasonable as a matter of law. In our view, this legal conclusion is so

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[124] Id.

[125] Id.

[126] Id.

[127] See Phillips, 400 F.3d at 399; Private Fuel Storage, LBP-01-39, 54 NRC at 509.

closely intertwined with the factual disputes remaining before the Board that it must be made after the factual disputes are resolved at hearing.[128]

Based on the foregoing analysis, Applicant's motion for summary disposition of Contention CL-2 is denied.

E. NRC Staff's Motion for Summary Disposition of Contention CL-2

NRC Staff's motion is accompanied by an affidavit whose two affiants participated in the preparation of DEIS Section 5.11, "Environmental Impacts of Postulated Accidents."[129] Rather than argue that there is no material dispute as to the adequacy of the replacement power cost calculation in Applicant's SAMDA analysis, NRC Staff contends that the Commission has resolved all environmental issues regarding SAMDAs in this proceeding by rule.[130]

NRC Staff's claim is predicated upon a generic SAMDA analysis that GE Nuclear Energy (GE) performed as part of the environmental assessment for the ABWR design certification.[131] GE's SAMDA analysis is contained in the TSD, one component of the ABWR design certification application. [132] After reviewing the TSD, the Commission determined that GE's

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[128] In Pilgrim, the Commission explained that a SAMA analysis might be reasonable "[u]nless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions or models may change the cost-beneficial conclusions for the SAMA analysis." Pilgrim, CLI-10-11, 71 NRC at __ (slip op. at 39). Accordingly, we must first determine whether it is genuinely plausible that refining the replacement power cost input might change the Applicant's SAMDA analysis conclusion before we determine whether the SAMDA analysis is reasonable under NEPA.

[129] NRC Staff Summary Disposition Motion, Attach. 2, Affidavit of Richard L. Emch, Jr. and James V. Ramsdell, Jr. Concerning the Finality of SAMDA Conclusions in ABWR Design Certification as Applied to STP Units 3 and 4 ¶ 1 (July 2, 2010) [hereinafter NRC Staff Joint Affidavit].

[130] See NRC Staff Summary Disposition Motion at 6. For its part, Applicant supports NRC Staff's motion for summary disposition. See STP Nuclear Operating Company's Answer Supporting the NRC Staff Motion for Summary Disposition of Contention CL-2 (July 29, 2010) at 2.

[131] NRC Staff Summary Disposition Motion at 8.

[132] See 62 Fed. Reg. at 25,827.

SAMDA analysis conclusion that there are no additional cost-beneficial SAMDAs for the ABWR should be applied in future licensing proceedings referencing the ABWR certified design as long as that facility's site parameters are within the range specified in the TSD.[133]

NRC Staff asserts that the Commission codified this determination in 10 C.F.R. Part 52, Appendix A, which sets forth the finality of SAMDA issues for the ABWR certified design.[134] NRC Staff contends that the ABWR design certification rule resolves "all environmental issues" regarding SAMDAs for plants referencing the ABWR certified design whose site parameters are within those specified in the TSD.[135] NRC Staff also points to 10 C.F.R. § 52.63(a)(5), which affords finality to those matters resolved in connection with a design certification.[136]

Because Applicant's COL application references the ABWR certified design, the DEIS only considered whether the site characteristics for the STP site are within the site parameters specified in the TSD.[137] NRC Staff asserted that as long as it concluded the STP site was bounded by the ABWR site parameters, it could invoke the finality that the ABWR design

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[133] See id.

[134] NRC Staff Summary Disposition Motion at 9.

[135] See id. at 10 (emphasis added). The ABWR design certification rule provides in relevant part:

> B. The Commission considers the following matters resolved within the meaning of 10 CFR 52.63(a)(5) in subsequent proceedings for issuance of a combined license . . . involving plants referencing this appendix: . . . .
>
> 7. All environmental issues concerning severe accident mitigation design alternatives associated with the information in the NRC's final environmental assessment for the U.S. ABWR design and Revision 1 of the technical support document for the U.S. ABWR, dated December 1994, for plants referencing this appendix whose site parameters are within those specified in the technical support document.

10 C.F.R. Part 52, Appendix A, Section VI.B & VI.B.7.

[136] See NRC Staff Summary Disposition Motion at 9. Section 52.63(a)(5) states that "[e]xcept as provided in 10 CFR 2.335, in making the findings required for issuance of a combined license . . . , the Commission shall treat as resolved those matters resolved in connection with the issuance or renewal of a design certification rule."

[137] See NRC Staff Summary Disposition Motion at 10.

certification rule afforded.[138] NRC Staff further asserts the "population dose risk is the appropriate TSD site parameter to use for comparison with the STP site characteristics"[139] because the "population dose risk parameter includes all of the site-specific information used in the evaluation of SAMDAs in the TSD, whereas the remaining values in the SAMDA evaluation are either constants or not related to the site."[140] Once NRC Staff concluded the probability-weighted population dose risk at the STP site is lower than that used in the ABWR SAMDA analysis, it could state in the DEIS "'that the STP site characteristics are bounded by the site parameters considered during the ABWR design certification, and that the environmental issues related to the SAMDAs have been resolved by rule.'"[141] Asserting its analysis of the SAMDA issue is correct, NRC Staff contends that the issue raised by Contention CL-2 is resolved by rule and not material to this proceeding.[142] Accordingly, NRC argues that Contention CL-2 should be dismissed as a matter of law.[143]

Intervenors argue that NRC Staff's motion for summary disposition should be denied because Contention CL-2 does not fall within the ambit of issues resolved by the ABWR design certification rule.[144] We agree that NRC Staff's motion should be denied, but on different grounds.

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[138] See id.

[139] See id. at 11 (citing the DEIS at 5-110). NRC Staff Joint Affidavit defines population dose risk as "the product of the probability of a radiological release following a severe accident and the population dose within 50 miles that would result from that release." NRC Staff Joint Affidavit ¶ 3.

[140] NRC Staff Summary Disposition Motion at 13.

[141] Id. (quoting the DEIS at 5-111).

[142] Id. at 11.

[143] See id. at 11.

[144] See Intervenor Response to Staff Motion at 2-3.

NRC Staff's conclusion that the STP site characteristics are bounded by the site parameters listed in the ABWR TSD is erroneous. In the DEIS, NRC Staff admits that "[t]he technical support document does not contain a specific list of site parameters."[145] Thus NRC Staff used its own judgment to determine the correct specific site parameters. To the contrary, because there is no list of site parameters specified in the TSD, a prerequisite necessary for resolving SAMDA issues by rule is lacking. It is therefore impossible to demonstrate that the STP site parameters fall within the envelope defined by that list. This renders impossible the application of 10 C.F.R. Part 52, Section VI.B.7 to resolve SAMDA issues by rule. NRC Staff's creation of a list of site parameters for use in this proceeding cannot cure the absence of a list of site parameters in the TSD.[146]

In addition, NRC Staff fails to demonstrate that the population dose risk is the appropriate TSD site parameter to compare to the STP site for purposes of the design certification rule. The population dose risk parameter constitutes the offsite radiological consequences to the public of a severe accident.[147] Contrary to NRC Staff's claim, that parameter does not include all of the site-specific information used in the evaluation of SAMDAs in the TSD. Rather, GE also considered "onsite costs including economic losses, replacement power costs and direct accident costs" in its SAMDA evaluation.[148] NRC Staff provides no explanation for why these additional costs are not relevant in determining the appropriate TSD site parameters to compare to the STP site. Accordingly, we reject NRC Staff's claim that the population dose risk is the appropriate TSD site parameter for purposes of the ABWR design certification rule.

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[145] See DEIS at 5-110; NRC Staff Motion for Summary Disposition at 11.

[146] See Appendix Concerning the NRC Staff Motion for Summary Disposition of Contention CL-2.

[147] See NUREG/BR1084 at 5.10.

[148] See TSD at 32.

Because the ABWR TSD contains no specific list of site parameters and because even if the NRC Staff were permitted to generate its own list of site parameters, NRC Staff does not demonstrate that population dose risk is the appropriate TSD site parameter, we conclude that NRC Staff fails to show that the STP site parameters are bounded by the TSD site parameters. Accordingly, the ABWR design certification rule does not resolve Contention CL-2 in this proceeding.

Finally, we note that NRC Staff urges that because the DEIS does not contain any analysis of the issue raised in Contention CL-2, Intervenors should have filed a new contention based on this DEIS omission.[149] We disagree.

The Commission has never, by rule or decision, suggested that contentions based upon Applicant's ER are per se resolved by NRC Staff's environmental documents issued pursuant to NEPA. In fact, the Commission's regulations explicitly obligate petitioners and intervenors to challenge the Applicant's ER.[150] We reject NRC Staff's position that contentions of inadequacy challenging the ER (and Contention CL-2 is a contention of inadequacy) are automatically resolved by the mere publication of NRC Staff's environmental documents.

Indeed, NRC Staff's DEIS did not even address the NEPA challenge alleged by Contention CL-2. Rather, NRC Staff simply excluded any mention of the Applicant's site specific SAMDA analysis, which Contention CL-2 challenges, apparently based on NRC Staff's view that Applicant's analysis was not required by law. NRC Staff's position creates the unfortunate appearance that NRC Staff can avoid its obligation to take a "hard look" at the environmental issues raised by Contention CL-2 by simply omitting the challenged analysis from the DEIS.

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[149] See NRC Staff Summary Disposition Motion at 10 n.9.

[150] 10 C.F.R. § 2.309(f)(2). The DEIS might cure alleged omissions or deficiencies in the ER by including additional analysis that addresses such omissions or deficiencies. See Private Fuel Storage, CLI-4-22, 60 NRC at 130; Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382 (2002).

Based on the foregoing reasons, NRC Staff's motion is denied.

IV. New Contentions Based on the Draft Environmental Impact Statement

A. Legal Standards Governing Admissibility of Intervenors' Proposed Contentions

Three regulations govern the admissibility of new or amended contentions to a licensing proceeding: 10 C.F.R. § 2.309(f)(2), which establishes when a new or amended contention may be filed, 10 C.F.R. § 2.309(c), which establishes the criteria for admitting nontimely contentions; and 10 C.F.R. § 2.309(f)(1), which establishes the criteria that all contentions must meet in order to be admissible.

1. Timely New Contentions under 10 C.F.R. § 2.309(f)(2)

On issues arising under the NEPA, an intervenor must file contentions based on the applicant's ER, but may amend those contentions or file new contentions pursuant to 10 C.F.R. § 2.309(f)(2). In this regard, section 2.309(f)(2) addresses admitting new or amended contentions in two different situations. First, an intervenor may propose new or amended contentions based on 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 environmental documents.[151] Otherwise, an intervenor may propose new contentions, subject to leave of the Board, provided that intervenor shows:

> (i) the information upon which the amended or new contention is based was not previously available;
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> (ii) the information upon which the amended or new contention is based is materially different than information previously available; and
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> (iii) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.[152]

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[151] See 10 C.F.R. § 2.309(f)(2); see also Calvert Cliffs 3 Nuclear Project, LLC and Unistar Nuclear Operating Services, LLC (Combined License for Calvert Cliffs Unit 3), LBP-10-24, 72 NRC __, __ (slip op. at 6-9) (Dec. 28, 2010).

[152] 10 C.F.R. § 2.309(f)(2)(i)-(iii).

In either situation, newly proposed environmental contentions must be submitted promptly after the NRC's environmental documents are issued or new information becomes available.[153]

By prior order in this proceeding,[154] a proposed new contention will be considered timely if it is filed either within thirty (30) days of the date on which the subject new and material information first becomes available, or within forty (40) days of the issuance of the DEIS with respect to any new and material information contained therein. By subsequent order dated April 14, 2010,[155] the Board granted Intervenors an additional fourteen (14) days within which to file new contentions based on the DEIS. Because Intervenors filed their contentions on May 19, 2010,[156] their contentions challenging data or conclusions that differ significantly between the ER and the DEIS are timely filed, i.e., within the 54-day window. On the other hand, contentions challenging new information must be based on materially different new information not available before April 19, 2010 to be considered timely.

2. Nontimely Additional Contentions under 10 C.F.R. § 2.309(c)

If a proposed contention does not qualify as timely filed under 10 C.F.R. § 2.309(f)(2), it may still be admissible if it satisfies the criteria set forth in 10 C.F.R. § 2.309(c), which deals with nontimely filings. In accordance with section 2.309(c)(1), the Board may admit a nontimely filed contention after balancing eight factors:

(i) Good cause, if any, for the failure to file on time;

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

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[153] See Changes to Adjudicatory Process (Final Rule), 69 Fed. Reg. 2182, 2221 (Jan. 14, 2004).

[154] See Licensing Board Initial Scheduling Order (Oct. 20, 2009) at 8 (unpublished) [hereinafter Initial Scheduling Order].

[155] See Licensing Board Order (Granting Intervenors' Motion for Extension of Time to File New Contentions Based on DEIS) (Apr. 14, 2010) at 1 (unpublished).

[156] See Motion for New Contentions.

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

(iv) The possible effect of any order that may be entered in the proceeding on the requestor's/petitioner's interest;

(v) The availability of other means whereby the requestor's/petitioner's interest will be protected;

(vi) The extent to which the requestor's/petitioner's interests will be represented by existing parties;

(vii) The extent to which the requestor's/petitioner's participation will broaden the issues or delay the proceeding; and

(viii) The extent to which the requestor's/petitioner's participation may reasonably be expected to assist in developing a sound record.[157]

Intervenors seeking admission of a nontimely filed contention bear the burden of showing that, on balance, the section 2.309(c)(1) factors weigh in favor of admitting the proposed contention.[158] Longstanding NRC practice dictates that an intervenor's failure to affirmatively address the section 2.309(c) factors serves as a sufficient basis for dismissal.[159]

The first factor, whether good cause exists for the failure to file on time, is entitled to the most weight.[160] In addressing the good cause factor, a petitioner must explain not only why it failed to file within the time required, but also why it did not file as soon thereafter as possible.[161]

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[157] 10 C.F.R. § 2.309(c)(1).

[158] See, e.g., Baltimore Gas & Electric Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 347 & n.9 (1998), aff'd, National Whistleblower Center v. Nuclear Regulatory Commission, 208 F.3d 256 (D.C. Cir. 2000).

[159] See Seabrook Station (Duane Arnold Energy Center), CLI-06-21, 64 NRC 30, 33-34 (2006) (failure to comply with pleading requirements for late filings constitutes sufficient grounds for rejecting intervention and hearing requests); see also BG&E, CLI-98-25, 48 NRC at 347-48 (noting that the Commission has summarily dismissed petitioners who failed to address the factors for a late-filed petition).

[160] See, e.g., New Jersey (Department of Law and Public Safety), CLI-93-25, 38 NRC 289, 296 (1993).

[161] See Westinghouse Electric Corp. (Nuclear Fuel Export License for Czech Republic – Temelin Nuclear Power Plants), CLI-94-7, 39 NRC 322, 329 (1994) ("Even if these Petitioners did not learn about Westinghouse's application 'until mid-March,' they made no effort

The availability of new information may provide good cause for nontimely filing, but the test for good cause is not simply when the intervenor became aware of the material sought to be introduced. Instead, the test is when the information became available and when the intervenor reasonably should have become aware of the information.[162] That is, not only must the intervenor have acted promptly after learning of the new information, but the information itself must be new information, not information already in the public domain.[163] Where the intervenor fails to tender a showing of good cause, an intervenor's demonstration on the other factors must be particularly strong.[164]

3. Contention Admissibility Requirements of 10 C.F.R. § 2.309(f)(1)

Regardless of when filed, all proposed contentions must comply with the general contention admissibility criteria set forth in 10 C.F.R. § 2.309(f)(1):

(i) Specificity: Provide a specific statement of the issue of law or fact to be raised or controverted;

(ii) Brief Explanation: Provide a brief explanation of the basis for the contention;

(iii) Within Scope: Demonstrate that the issue raised in the contention is within the scope of the proceeding;

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

(v) Concise Statement of Alleged Facts or Expert Opinion: 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

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whatsoever to explain why, upon learning of Westinghouse's application, they waited over a month to file their very perfunctory petitions.").

[162] Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-92-12, 36 NRC 62, 69-70 (1992) (noting that the discovery of information publicly available six months prior to the date of the petition has been held insufficient to establish good cause for late intervention).

[163] Id.

[164] See, e.g., id. at 73.

documents on which the requestor/petitioner intends to rely to support its position on the issue; and

(vi) Genuine Dispute: Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.[165]

Failure to comply with any of these requirements precludes admission of a contention.[166]

B. Board Analysis and Rulings on Intervenors' Proposed Contentions

1. DEIS-1 (need for power)

Contention DEIS-1: The DEIS analysis of the need for power is flawed and incomplete.[167]

Intervenors contend that NRC Staff's need for power assessment in the DEIS is flawed and incomplete because it does not adequately address a variety of topics that would reduce or eliminate the need for power that proposed STP Units 3 and 4 would meet. Before addressing their specific challenges, we turn first to the role of the need for power analysis in the NRC's compliance with NEPA.

a. Need for Power Assessment under NEPA

Unlike other environmental statutes, NEPA mandates particular procedures, not particular results.[168] Chief among these procedures is the EIS, which NEPA requires federal agencies to prepare for those proposed actions that have the potential to significantly affect the

[165] See 10 C.F.R. § 2.309(f)(1).

[166] See Private Fuel Storage, CLI-99-10, 49 NRC at 325 (citing Arizona Public Service Co. (Palo Verde Nuclear Station, Units 1, 2, & 3), CLI- 91-12, 34 NRC 149, 155-56 (1991)).

[167] Motion for New Contentions at 2.

[168] See Robertson, 490 U.S. at 350-51 ("If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs.") (citing Strycker's Bay, 444 U.S. at 227-28 and Vermont Yankee, 435 U.S. at 558).

quality of the human environment.[169] The EIS must describe the potential environmental impact of the proposed action and discuss any reasonable alternatives.[170]

Although NEPA does not explicitly mention cost-benefit balancing, courts have interpreted the statute as requiring federal agencies to balance the environmental costs against the anticipated benefits of a proposed action.[171] Section 51.107(a)(3) of the NRC's rules addresses this mandate by requiring a "weighing [of] the environmental, economic, technical, and other benefits against environmental and other costs."[172] Therefore, as part of the NRC's NEPA analysis for licensing a nuclear power plant, the agency must balance the costs and benefits resulting from issuance of a license.[173]

When balancing benefits and costs under section 51.107(a)(3), one significant benefit of a combined license is the capacity of a new nuclear power plant to satisfy a need for additional electric power.[174] Concomitantly, the NRC must address any purported need for additional

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[169] 42 U.S.C. § 4332(2)(C).

[170] See 42 U.S.C. § 4332.

[171] Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 88 (1998) (citing Idaho By and Through Idaho Public Utilities Commission v. ICC, 35 F.3d 585, 595 (D.C. Cir. 1994) and Calvert Cliffs' Coordinating Committee, Inc. v. AEC, 449 F.2d 1109, 1123 (D.C. Cir. 1971)).

[172] 10 C.F.R. § 51.107(a)(3).

[173] The EIS need not, however, always contain a formal or mathematical cost-benefit analysis. LES, CLI-98-3, 47 NRC at 88; see also Sierra Club v. Lynn, 502 F.2d 43, 61 (5th Cir.1974) ("NEPA does not demand that every federal decision be verified by reduction to mathematical absolutes for insertion into a precise formula"), cert. denied, 422 U.S. 1049 (1975); Council on Environmental Quality (CEQ) Regulations, 40 C.F.R. § 1502.23 ("the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations"). Commission regulations direct NRC Staff to consider and weigh the environmental, technical, and other costs and benefits of a proposed action and alternatives, and, "to the fullest extent practicable, quantify the various factors considered." 10 C.F.R. § 51.71(d). If important factors cannot be quantified, they may be discussed qualitatively. Id.

[174] In the past, the NRC equated the need for power with the benefits of the proposed action, see, e.g., Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 804 (1979) ("The demand for electricity is of course the justification for building

power during its environmental review of the combined license application.[175] Therefore, because the EIS contains an analysis of the need for power, it is appropriate for a party to file contentions on the issue of need for power.[176]

Although NEPA obligates the Commission to satisfy itself that there is a need for the power a proposed nuclear facility will generate, in preparing a need for power assessment NRC Staff may nonetheless rely on studies and forecasts prepared by expert, independent agencies "charged with the duty of insuring that the utilities within their jurisdiction fulfill the legal obligation to meet customer demands."[177] NRC Staff's need for power analysis may accord such an agency's forecasts and studies "great weight" and may give "heavy reliance" to those forecasts and studies absent a showing they contain a "fundamental error."[178]

Regardless of whether the NRC itself conducts the need for power assessment, or relies on another agency's forecasts and studies, that assessment need only be reasonable.[179] In this

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any power plant. Satisfaction of that demand is the principal beneficial factor weighed against the environmental costs in striking the balance the National Environmental Policy Act requires."), although other benefits have been considered, see Kansas Gas and Electric Co. (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 327 (1978).

[175] See 10 C.F.R. § 51.71(d) (requiring the Draft EIS to "consider[] . . . the economic, technical, and other benefits and costs of the proposed action"); see also id. § 51.103(a)(3) (requiring the record of decision to discuss "relevant factors including economic and technical considerations" among alternatives); see also NUREG-1555, at 8.0-1.

[176] See Nuclear Energy Institute; Denial of Petition for Rulemaking, 68 Fed. Reg. 55,905, 55,911 (Sept. 29, 2003) (declining a rulemaking petition to remove need for power analysis from NRC's NEPA regulations).

[177] Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), ALAB-490, 8 NRC 234, 241 (1978).

[178] See id. at 240-41; see also 69 Fed. Reg. at 55,909 ("in considering the need for power as part of the NEPA process, the NRC does not supplant the States, which have traditionally been responsible for assessing the need for power generating facilities, their economic feasibility and for regulating rates and services").

[179] See Niagara Mohawk Power Corp. (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 366-67 (1975) cited with approval in U.S. Energy Research and Development Administration Project Management Corp. Tennessee Valley Authority (Clinch River Breeder Reactor Plant), CLI-76-13, 4 NRC 67, 77 (1976); see also Kansas Gas & Electric, ALAB-462, 7

regard, the Commission has emphasized the need for power assessment need not "precisely identify future market conditions and energy demand, or . . . develop detailed analyses of system generating assets, costs of production, capital replacement ratios, and the like in order to establish with certainty that the construction and operation of a nuclear power plant is the most economical alternative for generation of power."[180] Rather, it is sufficient if the need for power analysis is at a level of detail "sufficient to reasonably characterize the costs and benefits associated with proposed licensing actions."[181] Otherwise "[q]uibbling over the details of an economic analysis" would effectively "stand[] NEPA on its head by asking that the license be rejected not due to environmental costs, but because the economic benefits are not as great as estimated."[182] Finally, we note that because a need for power assessment necessarily entails forecasting power demands in light of substantial uncertainty and the duty of providing adequate and reliable service to the public, need for power assessments are inherently conservative.[183]

NRC at 328 ("Given the legal responsibility imposed upon a public utility to provide at all times adequate, reliable service—and the severe consequences which may attend upon a failure to discharge that responsibility—the most that can be required is that the forecast be a reasonable one in the light of what is ascertainable at the time made."); 68 Fed. Reg. at 55,909 ("The NRC has acknowledged the primacy of State regulatory decisions regarding future energy options. However, this acknowledgment does not relieve the NRC from the need to perform a reasonable assessment of the need for power.").

[180] See, e.g., 68 Fed. Reg. at 55,910 (citing LES, CLI-98-3, 47 NRC at 88, 94).

[181] Summer, CLI-10-01, 72 NRC at __ (slip op. at 21-22) (citing 68 Fed. Reg. at 55,910) (rejecting a need for power-related contention because, in part, the Joint Petitioners' load forecast claim called for a more detailed need for power analysis than the NRC requires).

[182] Private Fuel Storage, CLI-04-22, 60 NRC at 145 (internal quotation marks omitted).

[183] See Niagara Mohawk Power Corp., ALAB-264, 1 NRC at 365-68, cited with approval in Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, & 4), CLI-79-5, 9 NRC 607, 609-10 (1979); see also Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 410 (1976) ("To be sure, if demand does turn out to be less than predicted it can be argued…that the cost of the unneeded generating capacity may turn up in the customers' electric bills. This is not an ineluctable result, for oft times the surplus can be profitably marketed to other systems or the new capacity can replace older, less efficient units. But should the opposite occur and demand outstrip capacity, the consequences are far more serious.").

b. Need for Power Assessment for Proposed STP Units 3 and 4

Chapter 8 of the DEIS addresses the need for power.[184] It projects a future shortage of baseload power of up to 4,400 MW of baseload generation during the period 2014-2019[185]—when proposed STP Units 3 and 4 are scheduled to come on line—and a need for additional power of 10,417 MW by 2024.[186] The DEIS also concludes that proposed STP Units 3 and 4 could partially satisfy this shortage,[187] so that "there is a justified need for new baseload generating capacity in the ERCOT region in excess of the planned 2,740 MW capacity output of proposed Units 3 and 4 at STP."[188]

NRC Staff claims it conducted an independent review of ERCOT's studies and concluded they were systematic, comprehensive, subject to confirmation, and responsive to forecasting uncertainty.[189] In addition to its review of these ERCOT studies, NRC Staff claims that it conducted its own assessments of the risk of retiring generating units,[190] the longer-term

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[184] DEIS at 8-1.

[185] Id. at 8-25. As explained in the DEIS, the DEIS focuses on baseload power needs. See id. at 8-8, 8-25 to 8-26. Proposed Units 3 and 4 at the STP site would be baseload merchant power plants, which means they would operate most cost effectively by producing power more than 90 percent of the time. DEIS at 8-8. As a result, and like any other baseload provider, proposed Units 3 and 4 would satisfy the alleged growing need for power at near-minimum demand hours, typically nighttime. In contrast, ERCOT emphasizes peak load demand because of ERCOT's institutional responsibilities for meeting peak demand and reserve margin. DEIS at 8-8. In contrast to baseload demand, peak power demand reflects short bursts of high power demand, typically during daytime hours. The ability to satisfy the comparatively short bursts of intense demand requires only power providers that may operate intermittently. To ensure that more than enough providers can satisfy the peak demand, ERCOT mandates that more power is available at any one time than may be demanded, i.e., a reserve margin requirement of 12.5 percent. DEIS at 8-14.

[186] Id. at 8-23.

[187] Id. at 8-25.

[188] Id. at 8-26.

[189] See id. at 8-5 to 8-7.

[190] See id. at 8-23.

effects of the 2008 to 2009 recession,[191] the impact of Texas's energy conservation plan,[192] and the expanded role of wind power in Texas.[193] On this basis, NRC Staff submits its need for power analysis is adequate.

c. Allegations Regarding DEIS-1

With this background, we now turn to the specific allegations Intervenors assert as support for this contention that challenges NRC Staff's need for power analysis in the DEIS. Intervenors present eight independent arguments in support of proposed contention DEIS-1. Each allegation falls into one of two categories: (1) the DEIS need for power analysis fails to account for ongoing efforts to reduce demand; or (2) the DEIS need for power analysis fails to account for power obtained from other generating sources. Intervenors have asserted as much themselves.[194] Accordingly, we have grouped these allegations together as those relating to reduction of demand (1-A, 1-B, and 1-G), followed by those relating to other sources of available power (1-C, 1-D, 1-E, 1-F, and 1-H). For the reasons set forth below, the Board admits one aspect of this contention related to Intervenors DEIS-1-G arguments, but declines to admit the remainder.

i. Allegations Related to Reduction of Demand

> DEIS-1-A: The DEIS analysis of the need for power is incomplete because it accounts only for decline in demand attributable to demand side management from the requirements of Texas House Bill 3693. The DEIS does not account for reduced demand caused by funds for energy efficiency programs under the American Recovery and Reinvestment Act nor additional funds for the same purpose as proposed in the recently passed U.S House of Representatives HB 5019. Additionally, the DEIS does not address the recent energy efficiency experiences of the San Antonio municipal utility that yielded a peak reduction of 44.7 MW

[191] See id. at 8-24.

[192] See id. at 8-24.

[193] See id. at 8-24.

[194] See New Contentions Reply at 4; Tr. at 1122.

> and anticipated energy savings of 86,712,978 KWh at a cost of $0.032/KWh. The DEIS's attenuated consideration of the effects of energy efficiency/demand side management programs has the effect of overstating the Applicant's need for power.[195]
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> DEIS-1-B: The DEIS analysis of the need for power is flawed because it does not consider the most recent energy forecast from ERCOT [the Electricity Reliability Council of Texas]. The DEIS assumes that peak demand in 2015 will be 72,172 MW. However, the most recent ERCOT forecast actually projects peak demand in 2015 at 70,517 MW or a 1655 MW/ 2.2% reduction in peak demand. The failure to consider this more recent energy forecast has the effect of overstating the Applicant's need for power.[196]
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> DEIS-1-G: The DEIS does not account for reduced demand caused by the adoption of the International Energy Conservation Code. The IECC building code has the potential to reduce peak demand by 2,362 MW annually by 2023 in the ERCOT region. The failure of the DEIS to account for this reduction in peak demand has the effect of understating the total capacity available in the ERCOT region.[197]

1. DEIS-1-A Arguments

With DEIS-1-A, Intervenors claim that the DEIS overstates the need for power by failing to account for federal legislation and municipal programs that might reduce the demand for power in the subject area.[198] Specifically, Intervenors assert that although the DEIS does account for demand side management pursuant to Texas House Bill 3693,[199] it fails to consider

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[195] Motion for New Contentions at 2-3.

[196] Id. at 3.

[197] Id. at 4.

[198] See id. at 2-3; Motion for New Contentions, Attach., David Power, Comments Regarding Draft Environmental Impact Statement for Combined Licenses for South Texas Project Units 3 & 4, at 2, 6 (May 19, 2010) [hereinafter David Power Report].

[199] The DEIS accounts for reduced demand by relying upon 2009 ERCOT forecasts that account for demand side management (DSM) programs. See DEIS at 8-15. These DSM programs, pursuant to Texas House Bill 3693 (signed into law in 2007), require regulated utilities in the ERCOT region and integrated utilities outside the ERCOT region to offer DSM programs sufficient to offset 15% of the growth in demand by December 31, 2008 and 20% of the growth in demand by December 31, 2009. See 2007 Tex. Sess. Law Serv. Ch. 939 (West) (codified as Tex. Util. Code Ann. § 39.905(a)(3)(B), (C) (2007), approved June 1, 2007, effective Sept. 1, 2007).

energy efficiency programs arising under either the American Recovery and Reinvestment Act (ARRA)[200] or U.S. House of Representatives Bill 5019 (H.R. 5019).[201] Likewise, Intervenors assert that the track record of the San Antonio, Texas municipal utility suggests energy demand will not be as high as the DEIS projects.[202]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. §2.309(f)(2) for the information relied upon in DEIS-1-A.[203] For the first time in their reply and later at oral argument,[204] Intervenors assert that they filed proposed contention DEIS-1 in response to new information, specifically the enactment of ARRA on February 17, 2009 and the publication of the Nexant Report on April 26, 2010. However, neither the enactment of ARRA nor the publication of Nexant's Measurement and Verification Report support the timeliness of proposed contention DEIS-1. Intervenors' suggestion of H.R. 5019[205] is even less convincing because H.R. 5019 has not even been enacted into law.[206]

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[200] See American Recovery and Reinvestment Act of 2009, Pub. L. No. 111–5, 123 Stat. 115 (2009) (enacted on Feb. 17, 2009) [hereinafter ARRA].

[201] Home Star Energy Retrofit Act of 2010, H.R. 5019, 111th Cong. (2010).

[202] See Nexant "Measurement and Verification of CPS Energy's 2009 DSM Program Offerings" (April 26, 2010) [hereinafter Nexant Report], cited by David Power Report at 2.

[203] With respect to contentions filed after the initial petition, Intervenors have the burden to show they meet the criteria of 10 C.F.R. § 2.309(f)(2) and 10 C.F.R. § 2.309(c), where appropriate. To the extent that they have not done so, their proposed contentions will not be timely filed. See, e.g., Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Unit 3), CLI-09-5, 69 NRC 115, 126 (2009) ("The Board correctly found that failure to address the requirements [of 10 C.F.R. § 2.309(c) and 10 C.F.R. § 2.309(f)(2)] was reason enough to reject the proposed new contentions.").

[204] See New Contentions Reply at 2, 4-5; Tr. at 1151, 1153. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[205] See Motion for New Contentions at 3; David Power Report at 6.

[206] During the 111th Congress, House Bill 5019 passed the House of Representatives, was referred to the Senate, and was received by the Senate Committee on Finance; however, H.R. 5019 has not been enacted into law. See Applicant Answer, Attach. 11, Summary of H.R. 5019, available at http://thomas.loc.gov/cgi-bin/bdquery/z?d111:HR05019:@@@R|/home/LegislativeData.php|. While we recognize the

For ARRA, Intervenors recognize that they previously raised the topic of federal funding for energy efficiency programs in Contention 26 of their initial petition,[207] which the Board found inadmissible.[208] In conjunction with this new proposed contention, Intervenors argue that the precise funding levels in ARRA for energy efficiency programs support the admissibility of proposed contention DEIS-1.[209] Yet, the President signed ARRA into law in February 2009 and Intervenors provide no indication as to when Congress appropriated funds. Intervenors have failed to show that the funding of ARRA is new information that arose within thirty days of the date this new proposed contention was filed, and so it must be measured by the 10 C.F.R. § 2.309(c)(1) criteria.[210]

For the Nexant Report, Intervenors claim that affordable DSM programs can reduce peak demand, e.g., a DSM program in San Antonio reduced peak demand by 44.7 MW.[211] But Intervenors fail to show how this information materially differs from information previously available. In fact, Nexant has long provided information regarding affordable DSM programs capable of reducing peak demand in the range of 40 MW.[212] As a result, Intervenors have failed

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DEIS may reasonably consider information other than the product of formal legislative action, the DEIS can scarcely be faulted for declining to engage in speculation regarding the likely outcome of pending legislation. See Tennessee Valley Authority (Bellefonte Nuclear Power Plant, Units 3 & 4), LBP-08-16, 68 NRC 361, 410 (2008) (noting that potential legislative action that might result in a reduction in demand is speculative and therefore does not provide a basis for admission of a contention on need for power).

[207] See Petition for Intervention and Request for Hearing (Apr. 21, 2009) at 63.

[208] See LBP-09-21, 70 NRC at 633.

[209] See New Contentions Reply at 4-5; Tr. at 1151.

[210] See 10 C.F.R. § 2.309(f)(2)(iii); Initial Scheduling Order at 8 (stating that a proposed new contention will be considered timely if it is filed within thirty (30) days of the date when the new and material information on which the proposed contention is based first becomes available).

[211] See David Power Report at 2.

[212] Applicant Answer, Attach. 3, Nexant, Demand Side Management Potential Study at 14 (Nov. 24, 2008), available at http://www.cpsenergy.com/files/Nexant_Market_Potential.pdf (discussing affordable DSM programs for reducing peak demand).

to show that the subject information from the Nexant Report is new information that arose within thirty days of the date this new proposed contention was filed, and so it must be measured by 10 C.F.R. § 2.309(c)(1).

With respect to both the ARRA and the Nexant Report information, Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c). Intervenors have not demonstrated good cause based on the availability of new information regarding either ARRA's precise funding estimate or affordable DSM programs capable of reducing peak demand in the Nexant Report. And Intervenors offer no explanation for why they failed to file the proposed contention within the time required or as soon as possible thereafter.[213] Moreover, Intervenors' failure to specify how ARRA funding or the lessons from the Nexant Report could result in energy savings risks unnecessarily broadening this proceeding and compromising the development of a sound record.[214] For the above reasons, Intervenors DEIS-1-A arguments fail to support the admissibility of proposed contention DEIS-1.

1. DEIS-1-B Arguments

With DEIS-1-B, Intervenors claim that the DEIS overstates the need for power by failing to consider ERCOT's May 2010 energy forecasts. According to Intervenors, the DEIS erroneously relies upon ERCOT's 2009 forecast that projects peak demand in 2015 of 72,172 MW.[215] Instead, Intervenors assert, a more recent ERCOT projection indicates that

[213] See Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 564-65 (2005) (defining "good cause" as a showing that the petitioner (1) could not have met the filing deadline and (2) "filed as soon as possible thereafter").

[214] See 10 C.F.R. § 2.309(c)(1)(vii), (viii).

[215] See DEIS at 8-9 (citing ERCOT, Long-Term Hourly Peak Demand and Energy Forecast (May 2009)).

peak demand in 2015 will be 70,517 MW,[216] a 1,655 MW (2.2%) reduction in peak demand from ERCOT's 2009 forecast.[217]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. §2.309(f)(2) for the information relied upon in DEIS-1-B.[218] For the first time in their reply and later at oral argument, Intervenors assert that they filed proposed contention DEIS-1 in response to new information, specifically ERCOT's May 2010 Report.[219] However, merely referring to ERCOT's May 2010 Report does not support the timeliness of proposed contention DEIS-1. Intervenors fail to show that this information supports their contention and that it materially differs from information that was previously available, and upon which NRC Staff claims it relied in preparing the DEIS.[220] In fact, although Intervenors suggest ERCOT's May 2010 Report projects a lower need for power than ERCOT's May 2009 Report, a review of the entire document suggests exactly the opposite result. Intervenors' reference to ERCOT's May 2010 Report omits revised forecasts showing total generating resources declining (in 2014 from

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[216] See Motion for New Contentions, Attach. A, Dan Woodfin, Director, System Planning, ERCOT, May 2010 Load Forecast and Reserve Margin Update at 7 (May 18, 2010) [hereinafter ERCOT's May 2010 Report].

[217] See Motion for New Contentions at 3; David Power Report at 3.

[218] See supra note 203.

[219] See New Contentions Reply at 2; Tr. at 1152. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[220] See 10 C.F.R. § 2.309(f)(2)(ii).

79,123 MW[221] to 76,893 MW[222] and in 2015 from 78,017 MW[223] to 77,543 MW[224]), and revised forecasts showing reserve margin in 2014 declining (from 13.9%[225] to 13.7%[226]). As a result, Intervenors have failed to show that the subject information from ERCOT's May 2010 Report is new supporting information that arose within thirty days of the date this new proposed contention was filed, and so their contention must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But Intervenors have not justified their nontimely filing under 10 C.F. R. § 2.309(c)(1), even though they bear the burden of doing so.[227] As such, Intervenors' DEIS-1-B arguments do not support the admissibility of proposed contention DEIS-1.

2. DEIS-1-G Arguments

With DEIS-1-G, Intervenors claim that the DEIS overstates the need for power by failing to account for the reduced demand that would result from the proposed adoption of an energy

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[221] See DEIS at 8-20 (citing Applicant Answer, Attach. 4, ERCOT, Report on the Capacity, Demand, and Reserves in the ERCOT Region at 8 (May 2009) [hereinafter ERCOT's May 2009 Report]).

[222] See ERCOT's May 2010 Report at 7.

[223] See Applicant Answer, Attach. 16, ERCOT, Report on the Capacity, Demand and Reserves in the ERCOT Region at 4 (Dec. 2009) [hereinafter ERCOT's December 2009 Report].

[224] See ERCOT's May 2010 Report at 7.

[225] DEIS at 8-16 (citing ERCOT's May 2009 Report at 8).

[226] See ERCOT's May 2010 Report at 7. Both Applicant and Intervenors provide ERCOT's May 2010 Report as attachments to their respective pleadings. See Applicant Answer, Attach. 5; Motion for New Contentions, Attach. A. However, the attachments are not identical. Applicant provides a version that reports a reserve margin in 2014 of 13.7% and Intervenors provide a version that reports a reserve margin in 2014 of 13.5%. Although neither party offers an explanation for the difference, for our purposes no explanation is necessary. We used 13.7% for our consideration of this contention because the value both favors Intervenors and was reported by Applicant.

[227] The Commission has affirmed rejection of late-filed contentions that did not address these late-filing criteria. See Millstone, CLI-09-5, 69 NRC at 126 ("The Board correctly found that failure to address the requirements [of 10 C.F.R. § 2.309(c) and 10 C.F.R. § 2.309(f)(2)] was reason enough to reject the proposed new contentions.") see also BG&E, CLI-98-25, 48 NRC at 347.

efficient building code based on the International Energy Conservation Code (IECC).[228] According to Intervenors, adoption of an energy efficient building code, such as the IECC, has the potential to reduce peak demand by 2,362 MW annually in Texas by the year 2023.[229]

At the time Intervenors filed their Motion for New Contentions, Texas had only proposed building code changes.[230] We take notice[231] that, on June 4, 2010, subsequent to Intervenors filing new contentions, Texas adopted energy efficient building code rules.[232] As we stand informed, Intervenors present a timely contention under 10 C.F.R. § 2.309(f)(2) and our Initial Scheduling Order.[233]

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[228] See Motion for New Contentions at 4; David Power Report at 4.

[229] Motion for New Contentions at 4; David Power Report at 4 (citing Motion for New Contentions, Attach. D, American Council for an Energy-Efficient Economy, Potential for Energy Efficiency, Demand Response, and Onsite Renewable Energy to Meet Texas's Growing Electricity Needs (Mar. 2007) [hereinafter ACEEE Report]).

[230] See SECO Proposes Updates to Building Energy Performance Standards (filed on Mar. 11, 2010), http://www.seco.cpa.state.tx.us/news/2010/seco_ch19.php, cited by David Power Report at 4 n.10.

[231] See 10 C.F.R. § 2.337(f). Although section 2.337(f), by its terms, applies to "evidence at hearings," the bounds this rule places on official notice is also appropriate for the contention admissibility stage of a proceeding. Here, the promulgation of State regulations falls within the broad reach of "any fact of which a court of the United States may take judicial notice or of any technical or scientific fact within the knowledge of the Commission as an expert body." Id.; see also Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-91-02, 33 NRC 61, 66, 74-75 (1991) ("The Commission, in deciding an issue, can take into consideration 'a matter beyond reasonable controversy' and one that is 'capable of immediate and accurate determination by resort to easily accessible sources of indisputable accuracy."); Fed. R. Evid. 201(b), (f) ("Judicial notice may be taken at any stage of the proceeding.").

[232] See 35 Tex. Reg. 4727, 4728 (June 4, 2010) (adopting Final Rule, 34 Tex. Admin. Code § 19.53).

[233] For the same reasoning that a proposed rule or proposed law may not support an admissible contention, i.e., its ultimate effect is at best speculative, a newly adopted rule or law may support an admissible contention, i.e., it now has indisputable legal effect. Here, the adoption of building code rules by Texas presents new and materially different information not previously available, upon which Intervenors may rest their proposed contention. See 10 C.F.R. § 2.309(f)(2)(i), (ii); see also Northern States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC __, __ (slip op. at 17-18) (Sept. 30, 2010).

Section 2.309(f)(1) governs the admissibility of contentions, by listing six criteria that contentions must meet. Guided by Intervenors' part G arguments, we find DEIS-1, as narrowed by the Board, to meet those contention admissibility criteria.

First, DEIS-1 contains a "specific statement of the issue of law or fact" sought to be litigated, as required by 10 C.F.R. § 2.309(f)(1)(i). It asserts, in relevant part, that NRC Staff's need for power assessment is incomplete because the DEIS does not account for reduced demand from adoption of an energy efficient building code.[234]

Second, Intervenors provide a "brief explanation of the basis for the contention" as required by 10 C.F.R. § 2.309(f)(1)(ii). Intervenors explain that failure to account for the adoption of an energy efficient building code results in the DEIS overstating future demand and therefore inflating the projected need for power that proposed STP Units 3 and 4 could satisfy.[235] According to Intervenors, not only would a building code, adopted today, result in substantial energy savings in the future, i.e., approximately 2,362 MW annually of peak summer demand by 2023,[236] but also savings in the near-term as more buildings come into compliance.[237] Neither Applicant nor NRC Staff dispute the near-term and long-term savings that implementation of an energy efficient building code offer.[238] They argue only that building code changes alone will not entirely satisfy the projected need for power otherwise met by proposed STP Units 3 and 4. But Intervenors do not purport to offer, as the basis for their proposed contention, the entire satisfaction of an unmet need for power.[239]

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[234] Motion for New Contentions at 2, 4.

[235] See New Contentions Reply at 7.

[236] See David Power Report at 4.

[237] See New Contentions Reply at 7; Tr. at 1143-44.

[238] See Applicant Answer at 27-28; NRC Staff Answer at 20-21.

[239] See Tr. at 1146-47.

Third, DEIS-1 is "within the scope" of this proceeding.[240] As discussed earlier,[241] NRC Staff's need for power assessment is vital to balancing the costs versus benefits of the proposed licensing action under section 51.107(a)(3) of the Commission's regulations.[242] Therefore, Intervenors may contest the issue of need for power in the course of this licensing proceeding.[243]

Fourth, Intervenors demonstrate that the "issue raised in [DEIS-1] is material to the findings the NRC must make to support" granting the proposed license.[244] Inasmuch as NRC Staff relies upon the benefits of proposed STP 3 and 4 in satisfying an otherwise unmet need for power, the adequacy of the need for power assessment is material to granting the proposed combined license.[245] In other words, if proposed STP Units 3 and 4 satisfy an unmet need for power, the Commission may consider that these units accrue a benefit when balancing the costs versus benefits under NEPA. On the other hand, that purported benefit may be challenged if facts suggest that the need for power assessment is inadequate.

It is the adequacy of the need for power assessment that Intervenors challenge in their DEIS-1-G arguments. According to Intervenors, the DEIS need for power assessment is inadequate for failing to consider the effects of an energy efficient building code.[246] In particular,

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[240] Neither Applicant nor NRC Staff dispute this point.

[241] See supra Part IV.B.1.a.

[242] See, e.g., Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 804 (1979) ("The demand for electricity is of course the justification for building any power plant. Satisfaction of that demand is the principal beneficial factor weighed against the environmental costs in striking the balance the National Environmental Policy Act requires.").

[243] See 68 Fed. Reg. at 55,911.

[244] See 10 C.F.R. § 2.309(f)(1)(iv).

[245] See, e.g., Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 804 (1979)

[246] See Motion for New Contentions at 2, 4; Tr. at 1122, 1142.

Intervenors claim the failure to consider the reduced demand associated with adoption of an energy efficient building code may have a substantial effect on the DEIS need for power assessment[247] because of the "significant energy savings" associated with implementing energy efficient building codes.[248]

NRC Staff and Applicant challenge neither that need for power assessments are material to the grant of a license nor that Intervenors may contest a need for power assessment. Applicant, however, does assert that Intervenors have not raised a material issue. Applicant argues that the peak demand savings from implementing the building code would be insufficient to affect the need for power assessment that includes the addition of the generating capacity from proposed STP Units 3 and 4. Stated otherwise, Applicant claims the implementation of the building code could not make a difference in the outcome of the proceeding, i.e., it cannot be material.[249]

Were we to adopt Applicant's articulation of materiality, however, we would be compelled to find that only those issues determined to have a conclusive effect on an ultimate licensing decision are material. In our estimation, materiality here refers rather to those issues whose resolution would make a difference in the outcome of a licensing proceeding. In other words, Applicant erroneously seeks us to utilize an outcome determinative material-effect test, rather than the material-issue test as the regulations direct us.[250]

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[247] See New Contentions Reply at 7.

[248] See David Power Report at 4 (internal quotation marks omitted).

[249] See Applicant Answer at 27-28 (citing Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333-34 (1999)).

[250] See, e.g., U.S. Dep't of Energy (High-Level Waste Repository), LBP-09-6, 69 NRC 367, 413-16 (2009) (rejecting a test for materiality that would require petitioners to demonstrate quantitatively how an alleged defect would result in a violation of pertinent requirements; noting that instead, under 10 C.F.R. § 2.309(f)(1) a petitioner need only properly allege a defect in meeting pertinent requirements); see also Private Fuel Storage, LBP-98-7, 47 NRC at 179-80, aff'd as to other matters, CLI-98-13, 48 NRC 26 (1998).

As we read 10 C.F.R. § 2.309(f)(1)(iv), Intervenors need only demonstrate that the issue raised in the contention is material to a licensing decision, i.e., that the issue would make a difference in the licensing decision.[251] This, Intervenors have done. Intervenors need not demonstrate that the issue will make a difference in the licensing decision. As a recent Board enunciated, at the contention admissibility stage of a proceeding, Intervenors need not marshal their evidence as though preparing for an evidentiary hearing.[252] Our regulations prudently avoid litigating issues whose resolution would not affect the outcome of a proceeding, but also contemplate that a fuller decision may be made at a later stage in litigation and on the merits.

Fifth, Intervenors provide a "concise statement of the alleged facts or expert opinions which support [their] position"[253] that the DEIS is inadequate because it fails to consider the effects of an energy efficient building code in the ERCOT region. For instance, Intervenors reference an ACEEE Report indicating that "Texas could save . . . 2,362 megawatts annually of peak summer demand by 2023."[254] As the DEIS factored peak demand into assessing the need for power,[255] Intervenors' undisputed factual statement supports their position that the DEIS need for power assessment is inadequate.

Sixth, Intervenors "provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact."[256] For a contention of omission, as here, Intervenors need only "identif[y] . . . each failure [to include the required information]

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[251] Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333-34 (1999).

[252] See, e.g., Dep't of Energy, LBP-09-6, 69 NRC at 416 (noting that requiring petitioners to proffer additional and conclusive support for the effect of their proposed contention "would improperly require. . . Boards to adjudicate the merits of contentions before admitting them").

[253] 10 C.F.R. § 2.309(f)(1)(v).

[254] David Power Report at 4.

[255] See DEIS at 8-25.

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

and the supporting reasons for [Intervenors'] belief" that such a failure exists.[257] This Intervenors have done. Intervenors contend that the DEIS fails to consider the effects of an energy efficient building code as part of its need for power assessment. Neither NRC Staff nor Applicant dispute the DEIS omission. At oral argument, NRC Staff conceded that the DEIS does not consider the effects of an energy efficient building code in the ERCOT region. The principal reason for this omission is that Texas only adopted an energy efficient building code after publication of the DEIS.[258]

Conceding that the DEIS omits any discussion of building codes, NRC Staff proceeds to claim Intervenors nonetheless fail to raise a genuine dispute of material fact because (1) the documents upon which Intervenors rely do not accurately forecast the projected energy savings that would result from the building code Texas ultimately adopted; and (2) Intervenors do not explain how the alleged summer peak demand energy reductions in 2023 would materially affect the DEIS conclusions regarding the need for baseload power in the years 2014-2019, which span the potential completion dates for proposed STP Units 3 and 4. [259]

Treating NRC Staff's arguments in order: first, we are scarcely surprised that Intervenors' supporting documents do not perfectly forecast demand savings or that the documents make certain inapplicable assumptions about the implementation of an energy efficient building code in Texas. The ACEEE Report, after all, was published in 2007 and purports to suggest policy recommendations that were seen as both "effective and politically viable in Texas."[260] The ACEEE Report is prophetic in this regard because in June 2010 Texas

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[257] See id.

[258] See Tr. at 1145, 1148.

[259] See NRC Staff Answer at 21.

[260] See ACEEE Report at viii.

did adopt an energy efficient building code.[261] More importantly, however, at the contention admissibility stage, Intervenors need only raise a genuine dispute of material fact; they need not prove their contention is correct. Second, NRC Staff rephrases Applicant's argument that Intervenors' failure to prove the conclusive effects of their contention precludes the admissibility of their contention. For the same reasons we earlier rejected Applicant's argument, we now reject NRC Staff's argument.[262]

Accordingly, we conclude that DEIS-1 satisfies the contention admissibility criteria of 10 C.F.R. § 2.309(f)(1)(i)-(vi) and therefore admit the contention as a contention of omission. Based on the arguments proffered by Intervenor, we reformulate DEIS-1 as follows:

> NRC Staff's DEIS analysis of the need for power is incomplete because it fails to account for reduced demand caused by the adoption of an energy efficient building code in Texas, the implementation of which could significantly reduce peak demand in the ERCOT region.

ii. Allegations Related to Other Sources of Available Power

> DEIS-1-C: The DEIS analysis does not account for increases in wind carrying capacity. The most recent ERCOT analysis indicates that wind carrying capacity has increased from 708 MW to 793 MW so far this year and is expected to increase another 115 MW by 2015. The failure of the DEIS to account for this increase has the effect of understating the total generation capacity available in the ERCOT region.[263]

> DEIS-1-D: The DEIS fails to account for the addition of 2,073 MW of non-nuclear capacity to the ERCOT generation portfolio. This additional capacity was not accounted for in the need for power discussion in the DEIS. The failure of the DEIS to account for this increase has the effect of understating the total capacity available in the ERCOT region.[264]

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[261] See ACEEE Report at 25, 48 (recommending adoption of "more stringent building energy codes").

[262] See supra pp. 44-46 (analyzing "materiality" contention admissibility criteria).

[263] Motion for New Contentions at 3.

[264] Id. at 4.

> DEIS-1-E: The DEIS does not account for 31,757 MW of additional capacity through interconnections in the ERCOT region by 2015. The addition of this capacity will create a reserve capacity of 51% in the ERCOT region. The failure of the DEIS to account for this increase has the effect of understating the total capacity available in the ERCOT region without the addition of STP Units 3 & 4.[265]
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> DEIS-1-F: The DEIS does not account for a non-wind renewable capacity mandate under consideration by the Texas PUC [Public Utility Commission]. Adoption of this renewable portfolio standard would add 500 MW of capacity in the ERCOT region. The failure of the DEIS to account for this increase has the effect of understating the total capacity available in the ERCOT region.[266]
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> DEIS-1-H: The DEIS does not account for a compressed air energy storage (CAES) project planned for Texas by ConocoPhillips/General Compression that will be available for baseload capacity. This recently announced project is proof that the combination of wind capacity and CAES is a viable means of generating baseload power. The failure of the DEIS to account for this source of baseload capacity has the effect of understating the future total generating capacity in the ERCOT region.[267]

1. DEIS-1-C Arguments

With DEIS-1-C, Intervenors claim the DEIS overstates the need for power by failing to account for increases in wind carrying capacity.[268] Specifically, Intervenors point to ERCOT increasing its estimated wind carrying capacity by 85 MW from 708 MW (March 2010 Report) to 793 MW (May 2010 Report), as well as an additional 115 MW of planned wind units by 2015, totaling 908 MW.[269]

Contrary to Intervenors' claim, however, the DEIS does account for increases in wind carrying capacity. The DEIS agrees with Intervenors that "[l]arge amounts of wind energy have

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[265] Id.

[266] Id.

[267] Id. at 5.

[268] See Motion for New Contentions at 3; David Power Report at 3.

[269] See David Power Report at 3.

entered or are about to enter the ERCOT region" and later accounts for such additions in its need for power assessment.[270] Thus, by 2014 the DEIS projects 708 MW of effective load carrying capacity (ELCC)[271] for wind units, as well as an additional 211 MW of planned ELCC,[272] which totals 919 MW of ELCC. And by 2019 the DEIS projects the ELCC of planned wind units will rise substantially to 1,606 MW, totaling 2,314 MW of ELCC.[273] In effect, during the period 2014-2019, the DEIS forecasts a greater increase in wind unit capacity in the ERCOT region than Intervenors sought through this contention. As such, Intervenors' DEIS-1-C arguments do not support the admissibility of proposed contention DEIS-1.[274]

2. DEIS-1-D Arguments

With DEIS-1-D, Intervenors claim the DEIS overstates the need for power by failing to account for 2,073 MW of additional generation that ERCOT projects.[275] Specifically, Intervenors point to ERCOT's May 2010 report identifying new generation from Coleto Creek Unit 2 (756 MW), Papalote Creek Wind (17 MW), and Panda Temple Power (1,300 MW).[276]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. §2.309(f)(2) for the information relied upon in DEIS-1-D.[277] Once again, for the first time at oral argument, Intervenors assert that they filed proposed contention DEIS-1 in response

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[270] DEIS at 8-17.

[271] ERCOT defines ELCC as "8.7% of the nameplate capacity," as recommended by the Generation Adequacy Task Force (GATF). See ERCOT's May 2009 Report at 6.

[272] See DEIS at 8-20.

[273] See DEIS at 8-20.

[274] See 10 C.F.R. § 2.309(f)(1)(v).

[275] See Motion for New Contentions at 4; David Power Report at 4 & n.7.

[276] See ERCOT's May 2010 Report at 4.

[277] See supra note 203.

to new information, specifically ERCOT's May 2010 Report.[278] However, merely referring to ERCOT's May 2010 Report does not support the timeliness of proposed contention DEIS-1. Intervenors fail to show how this information supports their contention and materially differs from information previously available. In fact, although Intervenors suggest ERCOT's May 2010 Report projects a lower need for power than previous studies, just the opposite is indicated in reviewing the entire document. Notably, in addition to identifying new generation, ERCOT's May 2010 Report also identifies lost generation from cancelled projects, including Sterling Energy Center (26 MW) and Lenorah Wind Project (22 MW), as well as mothballed units, Valley 1, 2 & 3 (1,069 MW), Tradinghouse 2 (787 MW), Spencer 4 (and 5 after 2010) (122 MW), and North Texas 1, 2 & 3 (75 MW).[279] As a whole, therefore, ERCOT's May 2010 Report, relied upon by Intervenors, projects not a net gain, but rather a net loss (446 MW), in available generating capacity from the previous December 2009 update.[280] As a result, Intervenors have failed to show that the subject information from ERCOT's May 2010 Report is new supporting information that arose within thirty days of the date this new proposed contention was filed. This contention must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1),[281] even though they bear the burden of doing so.[282] As such, Intervenors' DEIS-1-D arguments do not support the admissibility of proposed contention DEIS-1.

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[278] See Tr. at 1153. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[279] See ERCOT's May 2010 Report at 4.

[280] See id.

[281] See Tr. at 1153.

[282] See supra note 227.

3. DEIS-1-E Arguments

With DEIS-1-E, Intervenors claim the DEIS overstates the need for power by failing to account for 31,757 MW of additional capacity through alleged interconnections that could be available in the ERCOT region by 2015.[283] Intervenors assert that accounting for these interconnections would increase reserve margin to 51% in the ERCOT region.[284]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. §2.309(f)(2) for the information relied upon in DEIS-1-E.[285] Once again, for the first time at oral argument, Intervenors assert that they filed proposed contention DEIS-1 in response to new information, specifically ERCOT's May 2010 Report.[286]

However, merely referring to ERCOT's May 2010 Report does not support the timeliness of proposed contention DEIS-1. Intervenors fail to show how this information supports their contention and materially differs from information previously available. Notably, both the May 2009 and 2010 ERCOT studies considered the potential capacity additions that Intervenors seek to have considered, but ERCOT concluded neither was sufficiently reliable to be considered "available" during the pertinent period for purposes of calculating "total resources" or "reserve margin."[287] Essentially, Intervenors assert that the DEIS is inadequate because it fails to consider certain potential future capacity, but they do not address either why that potential future capacity should be considered or why ERCOT's, and thereby the DEIS, assessment is inadequate. As a result, Intervenors have failed to show that the subject information from ERCOT's May 2010 Report is new supporting information that arose within thirty days of the

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[283] Motion for New Contentions at 4; David Powers Report at 4 & n.8.

[284] Motion for New Contentions at 4; David Powers Report at 4 & n.8.

[285] See supra note 203.

[286] See Tr. at 1153. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[287] Compare ERCOT's May 2010 Report at 7, with ERCOT's May 2009 Report at 8.

date this new proposed contention was filed, and so it must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1),[288] even though they bear the burden of doing so.[289] As such, Intervenors' DEIS-1-E arguments do not support the admissibility of proposed contention DEIS-1.

4. DEIS-1-F Arguments

With DEIS-1-F, Intervenors claim that the DEIS overstates the need for power by failing to account for 500 MW of non-wind renewable capacity.[290] Specifically, Intervenors note that the Texas Public Utility Commission (PUC) is considering adding a renewable energy mandate to the state's existing renewable portfolio standard, having issued a draft, so-called strawman rule.[291]

The mandate to which Intervenors refer[292] is a draft rule subject to PUC rulemaking.[293] As Intervenors themselves recognize, although a hearing was held on April 30, 2010 and final comments were received on May 11, 2010,[294] no rule has been promulgated.[295] Contrary to Intervenors' claim, the DEIS cannot be faulted for declining to speculate on the outcome of a

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[288] See Tr. at 1153.

[289] See supra note 227.

[290] Motion for New Contentions at 4.

[291] David Power Report at 4.

[292] See id.

[293] See Applicant Answer, Attach. 12, Public Utility Commission of Texas, Rulemaking to Relating to the Goal for Renewable Energy, Project #35792, available at http://www.puc.state.tx.us/rules/rulemake/35792/Strawman_122009.pdf [hereinafter Texas PUC Strawman].

[294] See David Power Report at 4.

[295] See Tr. at 1153-54. At the time this order was published, Texas had not adopted the draft rule.

proposed rulemaking.[296] Moreover and contrary to what Intervenors claim, the terms of the proposed rule would not result in 500 MW of additional capacity even were the rule issued in its draft form. The draft rule does not set forth requirements for renewable energy capacity, but only seeks to "establish renewable energy credits to serve as the enforcement mechanism for the [existing] 500 megawatt non-wind renewable energy target in [Texas Public Utility Regulatory Act] § 39.904."[297] Accordingly, Intervenors fail to show how the draft rule materially differs from information previously available. As a result, Intervenors have failed to show that the draft rule is new information that arose within thirty days of the date this new proposed contention was filed, and so it must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1), even though they bear the burden of doing so.[298] We therefore must conclude that Intervenors' DEIS-1-F arguments do not support the admissibility of proposed contention DEIS-1.

5. DEIS-1-H Arguments

With DEIS-1-H, Intervenors claim that the DEIS overstates the need for power by failing to account for additional available baseload power generated by a compressed air energy storage (CAES) pilot project.[299] In particular, Intervenors rely on an April 14, 2010 announcement indicating that ConocoPhillips and General Compression have entered into an

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[296] See Bellefonte, LBP-08-16, 68 NRC at 410 (noting that potential legislative action that might result in a reduction in demand is speculative and therefore does not provide a basis for admission of a contention on need for power); see also Summer, CLI-10-1, 71 NRC at __ & n.__ (slip op. at 22-23 & n.84) (rejecting a proposed need for power contention based on "merely conclusory statements, without supporting facts or detail").

[297] See Texas PUC Strawman.

[298] See supra note 227.

[299] Motion for New Contentions at 5; David Power Report at 6-7.

agreement to develop CAES projects, beginning with the "evaluat[ion of] a multi-phase pilot project in Texas."[300]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. § 2.309(f)(2) for the information relied upon in DEIS-1-H.[301] Once again, for the first time at oral argument, Intervenors assert that they filed proposed contention DEIS-1 in response to new information, specifically an April 14, 2010 announcement indicating that ConocoPhillips and General Compression entered into an agreement to evaluate building a CAES pilot project in Texas.[302] However, merely referring to the ConocoPhillips announcement does not support the timeliness of proposed contention DEIS-1. Intervenors fail to show how this information materially differs from information previously available.[303] In fact, Intervenors also reference a 2007 Luminant press release for the same purpose as the ConocoPhillips press release, i.e., to demonstrate progress in compressed air energy storage systems.[304]

As a result, Intervenors have failed to show that the subject information from the ConocoPhillips press release is new information that arose within thirty days of the date this

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[300] David Power Report at 6; Applicant Answer, Attach. 14, PrairieGold Venture Partners, General Compression Signs Agreement with ConocoPhillips to Develop CAES Projects (Apr. 14, 2010), available at http://www.pgvp.com/news/index.php?newsid=15 [hereinafter ConocoPhillips Announcement]

[301] See supra note 203.

[302] See Tr. at 1131-32, 1154. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[303] While Intervenors at least impliedly addressed the filing deadline requirement of 10 C.F.R. § 2.309(f)(2)(iii) by noting that the April 14, 2010 announcement date came "pretty close" to being within the filing window, Intervenors failed to address whether the information upon which the new contention was based was not previously available, see 10 C.F.R. § 2.309(f)(2)(i), and whether the information upon which the new contention was based is materially different than information previously available, see 10 C.F.R. § 2.309(f)(2)(ii).

[304] See Applicant Answer, Attach. 19, Luminant, Luminant and Shell Join Forces to Develop a Texas-Sized Wind Farm (July 27, 2007), available at http://www.luminant.com/news/newsrel/detail.aspx?prid=1087 [hereinafter Luminant Announcement], cited in David Power Report at 7.

new proposed contention was filed, and so it must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1),[305] even though they bear the burden of doing so.[306] As such, Intervenors' DEIS-1-H arguments do not support the admissibility of proposed contention DEIS-1.

2. DEIS-2 (global warming)

> Contention DEIS-2: The DEIS understates the effect of global warming on the cumulative impacts of the operation of STP 3 & 4.[307]

As with proposed contention DEIS-1, Intervenors present several arguments to support their proposed contention.

> DEIS-2-A: The DEIS conclusion that cumulative effects of greenhouse gas emissions are projected to be "noticeable but not destabilizing" is contradicted by the EPA [Environmental Protection Agency]'s April 27, 2010 report "Climate Change Indicators in the United States". Inter alia, the EPA report finds compelling evidence that composition of the atmosphere and many fundamental measures of climate are changing. By understating the effects of climate change the DEIS effectively minimizes the contributions to the GHG inventory attributable to operation of STP Units 3&4. This has the further effect of minimizing the importance of selecting the lowest GHG alternatives to generate electricity. A full accounting for all stages of the UFC shows that nuclear power has significantly greater GHG burdens than wind, solar power or geothermal. The DEIS did not make any such comparison, however.[308]
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> DEIS-2-B: The DEIS acknowledges that a rising sea level caused by climate change could cause salt water to flow farther up the Colorado River towards the Reservoir Makeup Pumping Facility but does not consider the increased salinity of the water on plant operations. Increased salinity of water from the Colorado River could have adverse effects on plant operations.[309]

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[305] See. Tr. at 1154.

[306] See supra note 227.

[307] Motion for New Contentions at 5.

[308] Id. at 5-6.

[309] Id. at 6.

> DEIS-2-C: The DEIS describes STP 3 & 4 cumulative impacts on surface water and groundwater quality but fails to compare cumulative impacts to surface water quality from alternatives such as wind and solar. The failure to compare water quality impacts from alternatives including wind, solar, geothermal, etc. has the effect of distorting the relative advantages of nuclear power.[310]
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> DEIS-2-D: The DEIS fails to consider the effect of global warming on operations of STP Units 3 & 4 related to 1) water availability and 2) increased ambient temperatures of air and the effect of higher cooling water temperatures. The failure to consider these adverse impacts has the effect of omitting material information concerning water usage and temperature thereof and effects on plant operations. This omission has the effect of overstating relative advantages of nuclear power and understating environmental impacts.[311]

a. DEIS-2-A Arguments

With DEIS-2-A, Intervenors claim the DEIS understates the cumulative impact of greenhouse gas (GHG) emissions by wrongly concluding GHG emissions will have a "noticeable but not destabilizing" worldwide impact.[312] As a result of this alleged understatement, Intervenors claim (1) the DEIS artificially reduces the contribution of proposed STP Units 3 and 4 to the worldwide GHG inventory and (2) the DEIS improperly restricts the comparison of renewable generating alternatives, such as wind, solar, and geothermal.[313]

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[310] Id.

[311] Id.

[312] See Motion for New Contention at 5-6; David Power Report at 8-9; Tr. at 1174-76.

[313] See Motion for New Contentions at 5-6.

Under NEPA, NRC Staff must consider a proposed facility's cumulative impacts,[314] including GHG emissions.[315] NRC Staff asserted in the DEIS that it considered the effects of preconstruction, construction, and operation of proposed STP Units 3 and 4 on various natural resources, including land use, water use and quality, ecology, and air quality.[316] According to the DEIS, cumulative impacts result when the effects of an action are added to, or interact with, other past, present, and reasonably foreseeable future effects on the same resources.[317] By their nature, therefore, cumulative impacts can result from individually minor, but collectively significant, actions taking place over time.[318]

In evaluating the significance of potential cumulative impacts, the DEIS establishes a ranking system with three significance levels, small, medium, and large.[319] However, the DEIS cautions that an action that has a small impact, when viewed in isolation, could result in a

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[314] In implementing its NEPA obligations, the NRC expressly adopts certain definitions promulgated by the Council on Environmental Quality (CEQ) including 40 C.F.R. §§ 1508.7, 1508.8, and 1508.25. 10 C.F.R. § 51.14(b). CEQ regulations state that an EIS must consider the direct, indirect, and cumulative impacts of an action. See 40 C.F.R. § 1508.25(c). Direct impacts are those caused by the federal action, and occurring at the same time and place as that action, while indirect impacts are caused by the action at a later time or more distant place, yet are still reasonably foreseeable. See id. § 1508.8. Cumulative impacts are those "which result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." Id. § 1508.7. Yet if the impacts are remote or speculative, the EIS need not discuss them. See Vermont Yankee, 435 U.S. at 551.

[315] See Duke Energy Carolinas, LLC (William States Lee III Nuclear Station, Units 1 and 2), Tennessee Valley Authority (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-21, 70 NRC 927, 931 (2009).

[316] DEIS at 7-54.

[317] Id. at 7-1 to -2 (adopting the same definition of "cumulative" as under CEQ regulations). The DEIS lists the particular actions considered by NRC Staff in the cumulative analysis in Table 7-1 of the DEIS. DEIS at 7-3 to 7-6.

[318] Id. at 7-1 to -2 (adopting the same definition of "cumulative" as under CEQ regulations).

[319] DEIS at 7-1 to -2.

moderate or large cumulative impact, when viewed in combination with the impacts of other actions on the affected resource.[320] In other words, the DEIS does not and "cannot treat the identified environmental concern in a vacuum."[321]

In chapter 7 of the DEIS, NRC Staff maintains that the cumulative impacts of GHG emissions from proposed STP Units 3 and 4's, "for the full plant lifecycle are minimal."[322] Asserting the national and worldwide cumulative impacts of GHG emissions are noticeable, but not destabilizing, the DEIS concludes that the additional GHG emissions of proposed STP Units 3 and 4 would not appreciably change this conclusion.[323] As support for this position, the DEIS purports to rely on a U.S. Global Change Research Program report[324] (GCRP Report) that synthesized the results of numerous climate modeling studies.[325] NRC Staff also notes that EPA, the U.S. agency with the primary role in evaluating GHG emissions, relied on this GCRP Report in its assessment of climate change.[326]

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[320] DEIS at 7-2.

[321] See Taxpayers of Michigan Against Casinos v. Norton, 433 F.3d 852, 864 (D.C. Cir. 2006) (quoting Grand Canyon Trust v. FAA, 290 F.3d 339, 341, 346 (D.C. Cir. 2002)).

[322] DEIS at 7-43. According to the DEIS significance ranking system, the cumulative impacts from other past, present, and reasonably foreseeable future actions on air quality resources in the geographic areas of interest would be moderate, and the incremental contribution of impacts on air quality resources from proposed STP Units 3 and 4 would be small. See DEIS at 7-45.

[323] DEIS at 7-44.

[324] U.S. Global Change Research Program, Global Climate Change Impacts in the United States (Thomas R. Karl et al. eds., 2009) (ADAMS Accession No. ML100580077), available at http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf [hereinafter GCRP Report], cited by DEIS at 7-44.

[325] DEIS at 7-44.

[326] See Applicant Answer, Attach 7, Environmental Protection Agency, Climate Change Indicators in the United States 68 (Apr. 2010) ("Assessment reports from the Intergovernmental Panel on Climate Change and the U.S. Global Change Research Program have linked many of these changes to increasing greenhouse gas emissions from human activities, which are also documented in this report."), available at http://www.epa.gov/climatechange/indicators/pdfs/CIconclusion.pdf [hereinafter EPA Report].

Rather than challenging the DEIS conclusions that proposed STP Units 3 and 4 would cause minimal cumulative impact, Intervenors challenge the DEIS characterization of the worldwide impacts of GHG emissions as "noticeable, but not destabilizing." In support of this claim, Intervenors assert this DEIS conclusion contradicts EPA's characterization of the worldwide impacts of GHG emissions. According to Intervenors, "[i]t's hard to conclude that changes in temperature that 'can disrupt a wide range of natural processes' and 'cause illness and death in vulnerable populations' are not destabilizing."[327]

Intervenors for the first time in their reply and later at oral argument assert that they filed proposed contention DEIS-2 in response to new information, specifically the publication of the EPA Report in April 2010.[328] Specifically, Intervenors claim that the EPA Report now relies upon better climate change indicators than it would have in the past.[329] But Intervenors do not connect the purported new information to their proffered contention. That is, Intervenors do not explain how the EPA's use of better climate change indicators contradicts the DEIS characterization of the worldwide impacts by GHG emissions as "noticeable, but not destabilizing."[330] As Intervenors articulate their contention, they could have filed their proposed contention any time before publication of the EPA Report.

Moreover, Intervenors offer no explanation as to how EPA's use of better climate change indicators contradicts the DEIS and results in the DEIS (1) artificially reducing the contribution of proposed STP Units 3 and 4 to the worldwide GHG inventory or (2) improperly restricting the comparison of renewable generating alternatives, such as wind, solar, and geothermal. Not only do Intervenors fail to establish the nexus, but they likely could not. As a practical matter,

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[327] David Power Report at 8-9 (citing DEIS at 7-44).

[328] See Tr. at 1163, 1180. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[329] See New Contentions Reply at 3; Tr. at 1181.

[330] See New Contentions Reply at 3; Tr. at 1181.

the DEIS assessment of the annual GHG emission rate from a nuclear power plant is independent of the DEIS characterization of the cumulative worldwide impact of GHG emissions.[331] And Intervenors DEIS-2-A arguments appear to center not on the EPA's recent pronouncement of better climate change indicators, but on NRC Staff's discretion in narrowing the comparison of viable NEPA alternatives to baseload power generators.[332] Even so, Commission case law provides that NRC Staff may "accord[] substantial weight" to the stated purpose of the project, i.e., to provide additional baseload electrical generation capacity for use in the owner's current markets and/or for potential sale on the wholesale market.[333] For the above reasons, Intervenors' reference to the EPA Report does not support the admissibility of proposed contention DEIS-2.[334]

b. DEIS-2-B Arguments

With DEIS-2-B, Intervenors claim the DEIS does not consider "increased salinity of . . . water [from the Colorado River] on plant operations" even though it could have "adverse effects on plant operations."[335] Specifically, Intervenors maintain the DEIS fails to analyze the "impact

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[331] Compare DEIS at 7-44 (comparison of annual carbon dioxide emission rates), and DEIS Appendix I (noting that the carbon dioxide footprint estimates for a 1000 MW(e) light water reactor were based on the summing the individual carbon emissions from each stage of the lifecycle), with DEIS at 7-44 (noting that the national and worldwide cumulative impact of GHG emissions were based on the GCRP report).

[332] See Motion for New Contentions at 5-6.

[333] See 68 Fed. Reg. at 55,909 (citing Hydro Resources, Inc., (P.O. Box 15910, Rio Rancho, NM 87174) CLI-01-4, 53 NRC 31, 55 (2001)); Exelon Generation Co. (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 806-08 (2005) (excluding the energy efficiency alternative because it would not advance the applicant's goals), aff'd Environmental Law and Policy Center v. NRC, 470 F.3d 676 (7th Cir. 2006).

[334] See 10 C.F.R. § 2.309(f)(v).

[335] Motion for New Contentions at 6 (citing U.S. Nuclear Regulatory Commission, Information Notice No. 84-71: Graphitic Corrosion of Cast Iron in Salt Water (Sept. 6, 1984) (ADAMS Accession No. ML082700134), available at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1984/in84071.html and Applicant Answer, Attach. 26, John A. Nelson, The Marley Cooling Tower Company, Cooling Towers & Salt Water (Nov. 5, 1986) (republished SPX Cooling Technologies, 2005), available at http://spxcooling.com/pdf/CTs-and-Salt-Water.pdf.

of the salt water incursion into the Reservoir Makeup Pumping Facility or the increased salinity of the groundwater used for makeup."[336] Were such increased salinity to occur, Intervenors assert "the current freshwater-based cooling system will be subject to corrosion and may become inoperable or need to be replaced by a desalinization facility."[337]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. § 2.309(f)(2) for the information relied upon in DEIS-2-B.[338] Once again, Intervenors for the first time at oral argument assert that they filed proposed contention DEIS-2 in response to new information, specifically the publication of the EPA Report in April 2010.[339] Yet although Intervenors at oral argument asserted their DEIS-2-B arguments were based on the EPA Report, they made no reference to the EPA Report in articulating their argument. Instead, Intervenors referenced the GCRP Report from 2009, an NRC Information Notice from 1984, and sales literature regarding cooling towers from 1986.[340] Therefore Intervenors have failed to show what information arose within thirty days of the date this new proposed contention was filed, and so it must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1),[341] even though they bear the burden of doing so.[342] Intervenors essentially conceded as much during oral argument, noting that contention DEIS-2 relative to their salinity arguments is just a "refinement" of prior-Contention 11, without the support of any new information or difference between the DEIS and

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[336] David Power Report at 10.

[337] Id.

[338] See supra note 203.

[339] See Tr. at 1180. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[340] See Motion for New Contentions at 6; David Power Report at 9-10.

[341] See Tr. at 1169-71, 1180-81.

[342] See supra note 227.

the ER.[343] As such, Intervenors' DEIS-2-B arguments do not support the admissibility of proposed contention DEIS-2.

c. DEIS-2-C Arguments

With DEIS-2-C, Intervenors claim the DEIS failed to compare the cumulative impacts on surface water quality of a nuclear plant on the STP site with similar impacts resulting from the use of renewable energy sources, i.e., wind, solar, and geothermal. According to Intervenors, this omission in the DEIS distorts the relative advantages of nuclear power.

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. §2.309(f)(2) for the information relied upon in DEIS-2-C.[344] Once again, Intervenors for the first time at oral argument assert that they filed proposed contention DEIS-2 in response to new information, specifically the publication of the EPA Report in April 2010.[345] Yet although Intervenors at oral argument asserted their DEIS-2-C arguments were based on the EPA Report, they made no reference to the EPA Report in articulating their argument, instead exclusively citing the DEIS.[346] As a contention based on "new information," Intervenors have failed to show what information arose within thirty days of the date this new proposed contention was filed. As a contention based on the DEIS, Intervenors have failed to show what data or conclusions in the DEIS differ significantly from the Applicant's ER. Intervenors conceded the latter during oral argument, noting that the DEIS and ER are "essentially the same" with respect to their assessment of impacts on surface and groundwater.[347] However, in either case, whether filed in response to new information or the DEIS, the contention must be measured by

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[343] See Tr. at 1171-77.

[344] See supra note 203.

[345] See Tr. at 1180. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

[346] See Motion for New Contentions at 6.

[347] See Tr. at 1173.

the 10 C.F.R. § 2.309(c)(1) criteria. But, Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1),[348] even though they bear the burden of doing so.[349] As such, Intervenors' DEIS-2-C arguments do not support the admissibility of proposed contention DEIS-2.

d. DEIS-2-D Arguments

With DEIS-2-D, Intervenors claim the DEIS fails to consider the effects of global warming on the availability and temperature of cooling water required to operate proposed STP Units 3 and 4.[350] As a consequence, according to Intervenors, the DEIS overstates the advantages of nuclear power and understates environmental impacts, such as the risk of non-compliance with thermal discharge limits.[351]

Intervenors largely do not address the timeliness criteria of 10 C.F.R. § 2.309(c) and 10 C.F.R. § 2.309(f)(2) for the information relied upon in DEIS-2-D.[352] Once again, Intervenors for the first time at oral argument assert that they filed proposed contention DEIS-2 in response to new information, specifically the publication of the EPA Report in April 2010.[353] Yet although Intervenors at oral argument asserted their DEIS-2-D arguments were based on the EPA Report, they made no reference to the EPA Report in articulating their DEIS-2-D arguments, instead citing the DEIS, the 2009 GCRP Report, and two studies by the University of Texas,

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[348] See Tr. at 1173, 1176, 1180.

[349] See supra note 227.

[350] See Motion for New Contentions at 6; David Power Report at 10-11. According to Intervenors, their discussion of "increased ambient air . . . temperatures" relates to their discussion of "higher [cooling water] temperatures" because of "the impact of increased ambient temperature on the temperature of the cooling water reservoir." See David Power Report at 10.

[351] See David Power Report at 10-11.

[352] See supra note 203.

[353] See Tr. at 1180. Intervenors previously indicated their "new contentions . . . are derived from the [DEIS]." See Motion for New Contentions at 1.

published in 2009 and 2008.[354] To the extent this contention is based on "new information," Intervenors have failed to show what information arose within thirty days of the date this new proposed contention was filed. To the extent this contention is based on the DEIS, Intervenors have failed to show what data or conclusions in the DEIS differ significantly from the Applicant's ER. Intervenors essentially conceded as much during oral argument, agreeing that they identified no new information or differences between the DEIS and ER with respect to the effects of global warming on the availability and temperature of cooling water for the operation of STP Units 3 and 4.[355] Therefore, the contention must be measured by the 10 C.F.R. § 2.309(c)(1) criteria. But, Intervenors have not justified their nontimely filing under 10 C.F.R. § 2.309(c)(1),[356] even though they bear the burden of doing so.[357] As such, Intervenors' DEIS-2-D arguments do not support the admissibility of proposed contention DEIS-2.

3. DEIS-3 (comparison greenhouse gas emissions)

> Contention DEIS-3: The DEIS fails to compare the CO2 emissions of the UFC [uranium fuel cycle] to the CO2 emissions of wind and solar power.[358]

Intervenors contend the DEIS does not adequately compare the GHG emissions of the UFC with the GHG emissions of renewable energy sources, such as wind and solar.[359] For example, Intervenors claim the DEIS lacks a "meaningful discussion" because it does not

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[354] See Motion for New Contentions at 6; David Power Report at 10-11.

[355] See Tr. at 1169, 1172.

[356] See Tr. at 1169, 1172, 1180.

[357] See supra note 227.

[358] Motion for New Contentions at 7-8.

[359] See id. at 7.

quantitatively compare the GHG emissions of the UFC with the GHG emissions of renewable energy sources.[360]

Intervenors argue the DEIS "mistakenly assumes that alternatives such as wind, solar and geothermal (or combinations thereof) are not viable baseload alternatives."[361] As support for their assertion that such renewable energy sources are viable baseload alternatives, Intervenors rely upon a series of press releases that discuss compressed air energy storage (CAES) projects.[362]

Under NEPA, NRC Staff must consider the cumulative impact of GHG emissions from a proposed facility.[363] NRC Staff maintains it has done precisely that in the DEIS. In reaching its conclusion that the cumulative impacts of GHG emissions from proposed STP Units 3 and 4, "for the full plant lifecycle [would be] minimal,"[364] the DEIS asserts that a nuclear plant at the STP site would result in the "lowest level of emissions of [GHG] among the viable alternatives."[365] Moreover, according to the DEIS, because the proposed "objective is for a new

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[360] See id. Although offering their contention as one of omission, Intervenors appear to concede that the DEIS compares GHG emissions between nuclear power and renewable alternatives. See id. (citing DEIS § 9.2.5 and DEIS Appendix I).

[361] Motion for New Contentions at 7.

[362] See Motion for New Contentions at 7-8; David Power Report at 6-7.

[363] See William States Lee III, CLI-09-21, 70 NRC at 931.

[364] DEIS at 7-43. According to the DEIS significance ranking system, the cumulative impacts from other past, present, and reasonably foreseeable future actions on air quality resources in the geographic areas of interest would be moderate, and the incremental contribution of impacts on air quality resources from STP Units 3 and 4 would be small. See id. at 7-45.

[365] See id. at 9-31. The DEIS reached the same conclusion, i.e., that the nuclear alternative would produce the lowest GHG emissions, comparing the alternatives both during their operating lives as well as during their entire lifecycle (for nuclear facilities, this includes the uranium fuel cycle). See id. at 9-29.

baseload generation facility, a fossil energy source, most likely coal or natural gas, would need to be a significant contributor to any reasonable alternative energy combination."[366]

Contrary to Intervenors' assertion, the DEIS does compare the GHG emissions of nuclear generation (considering the UFC) with the GHG emissions of various generating alternatives and combinations thereof. The DEIS analyzes renewable energy sources, including wind, solar, and hydropower, by comparing their GHG emissions to those of nuclear power.[367] The DEIS focuses on GHG emissions from renewable energy sources during their construction (including workforce transportation) and decommissioning.[368] In the estimation of NRC Staff, total GHG emissions associated with renewable energy sources would have minimal cumulative impact.[369] With respect to other alternative sources, including combustion of oil, wood waste, municipal solid waste, or biomass-derived fuels, the DEIS concludes that these would produce GHG emissions from combustion similar in magnitude to traditional fossil-fuel generating alternatives (e.g., coal or natural gas).[370] The DEIS stops there, however.

NRC Staff has the discretion to distinguish between, baseload sources and non-baseload sources.[371] At this point, NRC Staff deems viable only those baseload power alternatives that utilize at least some fossil fuel source, i.e., NRC Staff claims it has not

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[366] Id. at 9-27.

[367] See id. at 9-30.

[368] See id. at 9-30.

[369] See id. at 9-30.

[370] See id. at 9-30, 9-31.

[371] See Clinton ESP, CLI-05-29, 62 NRC at 810 ("Because a solely wind- or solar-powered facility could not satisfy the project's purpose, there was no need to compare the impact of such facilities to the impact of the proposed nuclear plant."). Under NEPA, an agency need not compare the environmental impacts of the proposed action with the environmental impacts of alternatives that are not reasonable or feasible. See, e.g., Fuel Safe Washington v. Federal Energy Regulatory Commission, 389 F.3d 1313, 1323 (10th Cir. 2004).

discovered any viable renewable-only energy system that produces baseload power.[372] Therefore, as described in the DEIS, only in combination with a fossil fuel backup power supply can solar and wind provide baseload power. For example, the DEIS evaluates a representative, cost-effective combination of alternatives capable of providing baseload power, such as hydropower, biomass sources, conservation and demand-side management, and wind power, supplemented with natural gas. It concludes that this alternative would produce approximately 190,000,000 metric tons of carbon dioxide during operation and result in small to moderate impacts on air quality.[373] This alternative, however, would produce substantially more GHG emissions than nuclear power which, according to the DEIS, would produce only 20,000 metric tons of carbon dioxide emissions during operation, something the DEIS characterizes as a small impact on air quality.[374]

Nonetheless, Intervenors proceed to argue that renewable sources alone can produce baseload power in combination with a CAES system.[375] However, Intervenors do not address the DEIS discussion of such combinations. In Chapter 9, the DEIS evaluates the use of CAES in combination with wind generation, identifying two existing CAES plants (one of which would generate 290 MW, the other 110 MW), as well as a proposal for a 268 MW CAES plant in Iowa.[376] However, the DEIS maintains that neither of the existing CAES plants produce

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[372] See DEIS at 9-27, 9-31.

[373] See id. at 9-30.

[374] See id. at 9-30.

[375] Intervenors largely track arguments they previously made in support of their original Contention 23, where they claimed, inter alia, that STP's ER improperly excluded renewable energy alternatives from comparison as intermittent and too unreliable for baseload power. See LBP-09-21, 70 NRC 581, 620-27 (2009). We found that contention inadmissible because it neither disputed the ER's evaluation of alternatives nor did it offer any information suggesting the feasibility of renewable alternatives providing baseload power. Id., 70 NRC at 625-26.

[376] See DEIS at 9-21.

baseload power,[377] nor has a CAES facility been contemplated that generates the 2,700 MW baseload capacity of proposed STP Units 3 and 4. On that basis, the DEIS concludes that CAES in conjunction with wind power is not likely to produce 2,700 MW of baseload power in Texas.[378] What support Intervenors do offer for a renewable-CAES baseload facility is vague and uninformative.[379] Consequently, in light of the facts that (1) NRC Staff performed the allegedly omitted comparison of GHG emissions from renewable sources, and (2) Intervenors

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[377] See Applicant Answer, Attach. 20, Boise State University, Overview of Compressed Air Energy Storage at 2 (Dec. 2007), available at http://coen.boisestate.edu/WindEnergy/resources/ER-07-001.pdf.

[378] See DEIS at 9-21.

[379] For example, Intervenors rely upon press releases announcing two agreements—one between ConocoPhillips and General Compression and a second between Shell and Luminant—to claim that CAES units support baseload generation. See David Power Report at 6-7 (citing General Compression, Expanding Clean Power, http://www.generalcompression.com/gcaes.html) and ConocoPhillips Announcement and Luminant Announcement). But the announcements specify no construction or operation schedule. The announcement by ConocoPhillips and General Compression indicates merely that the companies have agreed "to develop compressed air energy storage projects," beginning with the "evaluat[ion of] a multi-phase pilot project in Texas." See ConocoPhillips Announcement. The announcement by Shell and Luminant only indicates that the companies "will . . . explore the use of compressed air storage." See Luminant Announcement. In sum, neither announcement indicates that a CAES facility is likely to be built in the immediately foreseeable future in Texas.

Intervenor's reliance on a National Renewable Energy Laboratory concept poster and comments from Raymond Dean is similarly misplaced. See Applicant Answer, Attach. 18, National Renewable Energy Laboratory, Creating Baseload Wind Power Systems Using Advanced Compressed Air Energy Storage Concepts, (Oct. 3, 2006), available at http://www.nrel.gov/docs/fy07osti/40674.pdf [hereinafter NREL Poster], cited by Motion for New Contentions at 8; Motion for New Contentions, Attach. E, Raymond H. Dean, Ph.D., Comments Regarding Luminant's Revision to the Comanche Peak Nuclear Power Plant, Units 3 & 4 COL Application Part 3 – Environmental Report, at 4-5 [hereinafter Dean Report], cited by David Power Report at 7. The NREL Poster discusses wind generation combined with CAES as only a "concept." See NREL Poster. The NREL Poster proceeds to explain the conceptual nature of the technology by noting that "[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." See NREL Poster. And the Dean comments offer only theoretical suggestions regarding the combination of CAES with another source, without identifying any existing baseload CAES facilities. See Dean Report at 4-5. But in order to challenge an EIS, an intervenor must provide more than just conclusory statements or anecdotal references; there must be supporting facts or detail. See Summer, CLI-10-1, 71 NRC at __ & n.__ (slip op. at 22-23 & n.84).

provide no legal support for the claim that NRC Staff is required to further quantitatively compare the GHG emissions of renewable sources, Intervenors proposed contention fails for lack of legal support.[380]

4. DEIS-4 (greenhouse gas mitigation)

> Contention DEIS-4: The DEIS analysis of STP 3 & 4 construction impacts related to GHG emissions assumes appropriate mitigation measures would be adopted but fails to discuss what mitigation measures would be available to minimize GHG emissions during construction.[381]

Intervenors contend that, in contravention of 10 C.F.R. § 51.70(b), the DEIS is not sufficiently "analytic" in its discussion of the impact of GHG emissions during construction. As grounds for this claim, Intervenors assert the DEIS "makes no attempt to determine what mitigation measures/alternatives are available [during the construction phase] let alone what actual effects on GHG emissions would be realized by such."[382]

The Board notes that Intervenors' proposed contention is based on a misreading of the DEIS—as counsel for Intervenors conceded during oral argument[383]—that conflates the DEIS discussion of GHG emissions with the DEIS discussion of overall air quality. In addressing overall air quality, the DEIS states "impacts from STP Units 3 and 4 construction and preconstruction activities on air quality would not be noticeable because appropriate mitigation

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[380] See 10 C.F.R. § 2.309(f)(1)(vi). Additionally, Intervenors fail to explain why the contention should be considered timely under section 2.309(f)(2) and how their filing satisfies the nontimely filing criteria under section 2.309(c)(1). Intervenors conceded as much during oral argument, agreeing that they identified no new information or differences between the DEIS and ER with respect to comparing the GHG emissions of the uranium fuel cycle (UFC) with the GHG emissions of alternative generating sources, such as wind and solar power, even though they claim to have based DEIS-3 on a difference between the ER and DEIS. See Tr. at 1186-88. As such, Intervenors submit DEIS-3 nontimely, but do not address the nontimely filing criteria of 10 C.F.R. § 2.309(c)(1), even though they bear the burden of doing so. Consequently, proposed contention DEIS-3 is nontimely, and hence inadmissible for this additional reason.

[381] Motion for New Contentions at 8-9.

[382] Id. at 8-9.

[383] See Tr. at 1203.

measures would be adopted."[384] But, in assessing GHG emissions, (principally CO2), the DEIS estimates that the "total construction equipment CO2 emission footprint for building two nuclear power plants at the STP site would be of the order of 70,000 metric tons, as compared to a total United States annual CO2 emission rate of 6,000,000,000 metric tons."[385] On that basis, the DEIS concludes that the "impacts of [GHG emissions] from construction and preconstruction activities would not be noticeable and no additional mitigation would be warranted."[386]

In light of the facts that (1) Intervenors have not sought to challenge the DEIS conclusion that no mitigation of GHG emissions is warranted for preoperational activities, and (2) the overall air quality mitigation measures are focused on pollutants other than GHG emissions, e.g., fugitive dust,[387] there is nothing in dispute in this regard. Consequently, there being no genuine dispute of material fact, this contention may not be admitted.[388]

5. DEIS-5 (climate change)

> Contention DEIS-5: The DEIS conclusion that impacts caused by changes in global climate change "may not be insignificant" fails to meet the requirements of 10 CFR 51.70(b) to be "clear and analytic".[389]

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[384] DEIS at 4-63 (emphasis added).

[385] Id.

[386] DEIS at 4-63; see also id. at 4-64 (same conclusion for construction workforce transportation); DEIS at 4-65 ("[T]he review team concludes that the impacts of STP site development on air quality from emissions of criteria pollutants and CO2 emissions are SMALL and that no further mitigation is warranted.").

[387] See id. at 4-62 to 4-63.

[388] See 10 C.F.R. § 2.309(f)(1)(vi). Initially, Intervenors asserted that proposed contention DEIS-4 was based on a difference between the DEIS and the ER. See Tr. at 1197. But once conceding their error at oral argument, it is beyond dispute that Intervenors show no material difference between the DEIS and the ER with respect to GHG mitigation measures. See Tr. at 1203. As such, DEIS-4 was also nontimely, and hence inadmissible for that reason as well. See 10 C.F.R. § 2.309(f)(2)(ii).

[389] Motion for New Contentions at 9-10.

Intervenors contend that, in contravention of 10 C.F.R. § 51.70(b), the DEIS is not sufficiently "clear and analytic" in concluding, on the one hand that climate change impacts are "not insignificant," and on the other that the cumulative impacts on groundwater use and nonradiological health are small.[390] During oral argument, NRC Staff explained that the DEIS characterization of climate change impacts as "not insignificant" referred to global conditions, while its characterization of groundwater use and nonradiological health impacts as "small" referred to local conditions at the STP site.[391] Accordingly, there being no genuine dispute of material fact, we will not admit proposed contention DEIS-5.[392] Nevertheless, we urge NRC Staff to clarify in the Final EIS that the phrase "not insignificant" refers to global climate change, while "small" refers to the impacts on local groundwater and radiological health.

6. DEIS-6 (water needs)

> Contention DEIS-6: The DEIS analysis of surface water availability fails to account for the sale of 19,356 acre ft/yr from the Colorado River to the Las Brisas coal-fired power plant.[393]

Intervenors contend that the DEIS fails to account for the sale of 19,356 acre-feet/year of water from the Colorado River for use by the Las Brisas Energy Center.[394] As a consequence of this omission, Intervenors claim the DEIS does not adequately analyze the availability of make-up water from the Colorado River for proposed STP Units 3 and 4.

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[390] See id.

[391] See Tr. at 1205.

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

[393] Motion for New Contentions at 10-11.

[394] See Motion for New Contentions at 10-11; David Power Report at 1, 11-12. Las Brisas is a proposed power plant that would be fueled by petroleum coke, a product of refining oil. See Applicant Answer, Attach. 8, Corpus Christi Caller, Corpus Christi City Council to Discuss Las Brisas Water Incentives (Mar. 26, 2010), available at http://www.caller.com/news/2010/mar/26/corpus-christi-city-council-to-discusslas-water/.

Contrary to Intervenors' allegation, the DEIS does account for the sale of water rights to the Las Brisas plant.[395] The water right at issue is a portion of the Garwood water right owned by the city of Corpus Christi.[396] This water right is accounted for in the 2006 Lower Colorado Regional Water Planning Group (LCRWPG) Region K Water Plan.[397] The DEIS relies upon this plan in assessing the surface water use impacts of proposed STP Units 3 and 4.[398] Specifically, the LCRWPG Plan states: "Water rights are considered property rights and can be bought, sold, or transferred with state approval . . . . Water availability will be based on the assumption that all senior water rights in the basin are being fully utilized. That is, water user groups cannot depend on 'borrowing' water from unused water rights."[399] Consequently, the sale of the Corpus Christi Garwood water right to the Las Brisas plant would not alter the conclusions in the DEIS, because use of this water is already accounted for in the LCRWPG Plan and the DEIS.[400]

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[395] By this we mean the DEIS accounts for the ability to sell the water rights at issue, either now or in the future, given Texas's water management laws. Although the timing of the sale does not affect our analysis, as of the date of the pleadings, Corpus Christi had apparently not yet sold water rights to the Las Brasis plant. See Applicant Answer, Attach. 24, Denise Malan, Corpus Christi Caller Times, Corpus Christi Council Gives City Manager Authority to Sell Water to Las Brisas Energy Center (May 11, 2010), available at http://www.caller.com/news/2010/may/11/corpus-christi-council-gives-city-manager-to-to/.

[396] See Applicant Answer, Attach. 22, Fanny S. Chirinos, Corpus Christi Caller Times, Las Brisas Proposes Water Pipeline (Feb. 11, 2009), available at http://www.caller.com/news/2009/feb/11/las-brisas-proposes-water-pipeline/?print=1.

[397] See Applicant Answer, Attach. 23, Lower Colorado Regional Water Planning Group, 2006 Region "K" Water Plan for the Lower Colorado Regional Water Planning Group, at 3-12 (Jan. 2006), available at http://www.twdb.state.tx.us/rwpg/2006_RWP/RegionK/Chapter%203.pdf (identifying major run-of-the-river rights in the Colorado Basin) [hereinafter LCRWPG Plan].

[398] Specifically, the DEIS relies upon the LCRWPG Plan in Section 2.3.2.1, which "serves as a baseline for the [DEIS] cumulative impacts assessments [regarding surface water use]." DEIS 7-9; see also DEIS 2-33 ("The total water demand for Matagorda County includes the STPNOC water rights of 102,000 ac-ft per year (LCRWPG 2006).").

[399] LCRWPG Plan at 3-2.

[400] See Tr. at 1210-13.

Intervenors, having failed to provide adequate factual or legal support for this proposed contention, do not raise a genuine dispute as to material fact or law.[401]

V. Conclusion

For the foregoing reasons:

A. Intervenors' challenge to NRC Staff's denial of documentary access is moot.

B. The Applicant's motion for summary disposition of Contention CL-2 is denied.

C. NRC Staff's motion for summary disposition of Contention CL-2 is denied.

D. Proposed Contention DEIS-1 is admitted, as narrowed by the Board.

E. Proposed Contentions DEIS-2 through 6 are inadmissible and, as such, will not be further considered in this proceeding.

It is so ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD
/RA/

_____
Michael M. Gibson, Chairman
ADMINISTRATIVE JUDGE

/RA/

_____
Gary S. Arnold
ADMINISTRATIVE JUDGE

/RA/

_____
Randall J. Charbeneau
ADMINISTRATIVE JUDGE

Rockville, Maryland
February 28, 2011

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

Dissenting Opinion of Judge Gary S Arnold

While I agree with my colleagues concerning most of this Order, I would grant Applicant's motion for summary disposition. As the Order points out, there is no purpose for further refining a SAMDA analysis,

> [u]nless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions or models may change the cost-beneficial conclusions for the SAMA analysis candidates evaluated.[402]

In this case, Applicant has demonstrated that even if every claim made by Intervenor is true, no SAMDA becomes cost effective.

The claims made by Intervenors are:

1. The 1991 cost of the SAMDAs should be projected to the year 2009 using a refined Core Index of Personal Consumption Expenditures to a 2009 cost of $131,000.[403]
2. Replacement power costs should be based on actual ERCOT prices and should not use 2009 prices which are non-representatively low.
3. Applicant's understatement of market effects is unrealistic.[404] Applicant's expert provides suggestions for better incorporation of market effects.
4. "Applicant's conclusions related to the effect of price spikes are understated."[405]

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[402] Entergy Nuclear Generation Co. and Entergy Nuclear Operations Inc. (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC __, __ (slip op. at 39) (Mar. 26, 2010).

[403] See Intervenors' Response to Applicant's Motion for Summary Disposition of Contention CL-2 (Oct. 8, 2010) at 4-5 [hereinafter Intervenor Answer to Applicant Motion].

[404] Id. at 6

[405] Id. at 7

5. "Applicant's assessment of the consequences of the loss of the grid[406] understate the economic effects from such an occurrence."[407]

The table below extracts from the affidavit supplied with Applicant's Motion calculated expected benefits of the lowest cost SAMDAs using several assumptions. The last row in this table incorporates claims 2-5 made by Intervenors, and hence represents the greatest SAMDAs savings that could be obtained if all of Intervenors claims were found valid.

Table/ Paragraph[408]	Characteristics	3% Discount rate[409]	7% Discount Rate
1	NUREG/BR-0184 in 1993 dollars	$23,015	$13,377
2	NUREG/BR-0184 in 2009 dollars	$28,656	$16,945
3	2009 ERCOT pricing in 2009 dollars	$40,783	$24,615
4	2008 ERCOT pricing in 2009 dollars	$82,416	$50,947
5	Johnson Report Pricing	$57,351	$35,094
6	2008 ERCOT pricing with NINA accounting for market effect in 2009 dollars	$83,972	$51,930
¶ 58	2008 ERCOT pricing with Johnson Report accounting for market effects in 2009 dollars	$103,139	$71,669
¶ 65	2008 ERCOR pricing with Johnson Report accounting for market effects and 20% effect for price spikes in 2009 dollars	$134,971	$103,501
¶ 74	2008 ERCOR pricing with Johnson Report accounting for market effects, 20% effect for price spikes and loss of grid in 2009 dollars	$141,211	$109,741

Although Intervenors challenge Applicant's use of a 3% discount rate in its sensitivity calculations, they fail to challenge the use of a 7% discount rate in Applicant's main calculations.

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[406] A loss of grid does not affect "replacement power cost," but instead should be included in offsite economic costs. Hence, strictly speaking, this cost is out of scope of this contention. However, to be generous to Intervenors, it is considered herein.

[407] Intervenor Answer to Applicant Motion at 8

[408] Table/paragraph numbers reference the tables or paragraphs in Joint Affidavit of Jeffrey L Zimmerly and Adrian Pieniazek submitted as Attachment 2 of STP Nuclear Operating Company's Motion for Summary Disposition of Contention CL-2 (Sept. 14, 2010) [hereinafter Applicant Joint Aff.].

[409] The 3% values represent a sensitivity calculation only. See STP Nuclear Operating Company's Motion for Summary Disposition of Contention CL-2 (Sept. 14, 2010) at 27.

The term “sensitivity calculation” is typically used as a calculation to evaluate the effects of a change of input on the output of some function. A sensitivity calculation does not imply either a bounding calculation nor the most realistic calculation. It has not been challenged in this proceeding that NEPA requires a realistic calculation, and not a worst case calculation. The result of the main SAMDA benefit calculation, purportedly the most realistic calculation, is used for comparison with the SAMDA cost in the SAMDA analysis.[410] The sensitivity calculation is not used. Thus, in the table above, it is the figures in the rightmost column that must be used in the cost/benefit comparison of the SAMDA analysis. Intervenors have not challenged this. This leads to a cost/benefit analysis, assuming all of Intervenors claims are correct, of a SAMDA cost of $131,000 versus an expected benefit of only $109,741. Hence, even if all of Intervenors’ claims were found to be true, no new SAMDAs would be found cost effective.

This conclusion is made without any weighing of evidence, I simply assume Intervenors to be correct on every claim they make. Applicant’s Motion contains the calculation of SAMDA expected savings for this condition, and it is less than the cost of implementation put forth by Intervenors. There can be no other conclusion than that assuming all Intervenors claims are correct, there is no genuine issue as to any material fact and Applicant is entitled to a decision as a matter of law

Applicant provides additional information that illustrates that the SAMDA cost-benefit comparison strongly demonstrates that there exists no cost beneficial SAMDA. In the Affidavit Applicant submitted with the motion, the conservatism associated with the calculated averted cost of a severe accident used in the SAMDA analysis was explained:

> 14. This methodology of comparing the costs and benefits for a SAMDA is conservative, because in actuality there are no SAMDAs that would prevent all severe accidents, and therefore there will always be some cost-risk that cannot be averted. In other words, implementing a SAMDA will not realize all of the benefits of avoiding the severe accidents, but will only achieve a portion of those

[410] Applicants’ use of the 3% discount rate value for comparison in its motion is perplexing. But their incorrect comparison is no reason why we should similarly err.

> benefits. Therefore, if the benefits of a SAMDA are shown to be higher than the cost of a SAMDA using the above methodology, then further evaluation would be necessary to determine how much of the benefit actually would be achieved by implementing the SAMDA (*i.e.*, how much the severe accident risk would be reduced by the SAMDA).[411]

A quantification of the conservatism associated with this assumption was provided at oral argument. Regarding the assumption that a SAMDA would avert all severe accident costs, Applicant stated:

> that's also an extremely conservative assumption. For example, there are approximately, I believe, four different SAMDAs that cost less than $299,000. The best one, the very best one, only mitigates around 2 percent of the total core damage frequency.[412]

This was clarified at oral argument when Applicant was asked what Applicant's response would be if an additional SAMDA were found to be cost effective:

> Oh, we would definitely refine our analysis and take advantage of the 2 percent cost. That's a factor of 50 right there, that when you apply that, there's obviously no cost- beneficial SAMDA, so we would simply refine -- sharpen- our pencils and refine our analysis.[413]

In other words, the cost of a severe accident would have to increase by a factor of 50 before the SAMDA cost-benefit analysis could possibly indicate a cost beneficial SAMDA.

Clearly the motion for summary disposition includes the concept that the SAMDA-calculated averted cost of a severe accident includes significant conservatism. Additionally it encompasses the concept that if an apparently cost-effective SAMDA were to be identified, a revision of the averted cost calculation would be used to demonstrated that the SAMDA was not, in fact, cost effective. This was not challenged by Intervenors. In light of these facts it is difficult to fathom how this motion could be denied.

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[411] Applicant Joint Aff. ¶ 14.

[412] Tr. at 1084.

[413] Id. at 1092.

Appendix Concerning NRC Staff Motion for Summary Disposition of Contention CL-2

We take this opportunity to explain a potential problem with applying the ABWR SAMDA analysis to other plants in the manner that NRC Staff suggests. As noted in our Order, NRC Staff's argument for summary disposition is based upon the design certification rule for the ABWR.[414]

Staff acknowledged in the DEIS that "[t]he technical support document does not contain a specific list of site parameters."[415] Thus NRC Staff had to use its own judgment to determine correct specific site parameters. NRC Staff asserts that "[t]he probability-weighted population dose risk parameter includes all of the site-specific information used in the evaluation of SAMDAs in the TSD, whereas the remaining values in the SAMDA evaluation are either constants or not related to the site."[416] The purpose of this Appendix is to explain that, in the Board's opinion, this assertion is likely erroneous.

A SAMDA analysis is performed to determine if there are any additional cost effective design alternatives that would prevent or combat the effects of a severe accident. To be cost effective, the cost of implementing the alternative must be less than the total averted expected cost of a severe accident.[417] In order to perform the SAMDA evaluation, one must have extensive knowledge of the various ways that costs can be incurred due to a severe accident.

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[414] See NRC Staff Motion for Summary Disposition Motion (July 22, 2010) at 5 [hereinafter NRC Staff Summary Disposition Motion]; 10 C.F.R. Part 52, Appendix A, Section VI.B & VI.B.7.

[415] See DEIS at 5-110.

[416] NRC Staff Summary Disposition Motion at 13.

[417] The expected cost of a severe accident is the sum over all possible severe accidents of the product of the probability of the specific accident times the cost of the consequences of the accident. The averted expected cost is the reduction in the expected cost due to implementing an alternative.

The costs to be considered are provided by the guidance document NUREG/BR-0184.[418] Although this reference was not available during performance of the ABWR SAMDA analysis, it now provides the current best guidance. The costs of an accident are enumerated within this document in the following sections:

5.7.1 Public Health – the cost due to exposing the public to radiation

5.7.3 Occupational Health– the cost due to exposing plant workers to radiation

5.7.5 Offsite Property – cost to remediate damage to offsite property

5.7.6 Onsite Property – cost to remediate damage to onsite property, which includes:

5.7.6.1 Cleanup and decontamination
5.7.6.2 Long-term replacement power
5.7.6.3 Repair and refurbishment

There might be additional costs associated with short-term replacement power and premature facility closure, but these will be neglected in this discussion. To be consistent with Table 7.3-1 of the STP ER, which addresses costs of a severe accident, we refer to these costs respectively as:

1. Offsite exposure cost (Public Health)
2. Onsite exposure cost (Occupational Health)
3. Offsite economic cost (Offsite Property)
4. Onsite cleanup cost (including cleanup, decontamination, repair and refurbishment)
5. Replacement power costs

Evaluation of these costs requires some knowledge of the site and the area surrounding it. Determination of offsite exposure requires knowledge of the population density around the site. Onsite exposure costs are dependent on the number of people on the site. Offsite economic cost is dependent on the nature and amount of property surrounding the site. Calculation of onsite cleanup or equipment refurbishment requires knowledge of the amount

[418] See U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research, Regulatory Analysis Technical Evaluation Handbook, NUREG/BR-0184 (Jan. 1997) (ADAMS Accession No. ML050190193).

and type of equipment on site. And finally, calculation of replacement power cost requires knowledge of the amount of power that needs replacement.

By letter dated December 21, 1994, GE provided NRC Staff with details of the SAMDA analysis for the ABWR design certification.[419] This document provides the treatment of accident costs considered in the ABWR SAMDA analysis.

"[O]nsite costs including economic losses, replacement power costs and direct accident costs are considered in this evaluation as credits against the cost of the modification."[420] These onsite costs, including both onsite exposure and onsite cleanup, were calculated assuming a single ABWR plant with the number of onsite personnel appropriate for a single unit. "Replacement power was based on a rate of $.013/kW-h differential as bar cost."[421] The power-replacement cost was calculated as the product of the output of one ABWR times the duration replacement power was needed times this monetary factor. Thus the evaluations of onsite costs did not account for the greater number of personnel at the STP site (which would result in greater onsite exposure), the much larger value of equipment at STP, nor the much greater cost of replacing power from four reactors at the STP site.

GE stated, "Offsite factors evaluated were limited to health effects to the general public based on total exposure (in person-rem) to the population within 50 miles of the site."[422] "The offsite costs for other items such as relocation of local residents, elimination of land use and

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[419] Letter from J.F. Quirk, Project Manager, ABWR Certification, to R.W. Borchardt, Director, Standardization Project Directorate, U.S. Nuclear Regulatory Commission, Attach. 1, Technical Support Document for the U.S. ABWR (Dec. 21, 1994) (ADAMS Accession no. ML100210563) [hereinafter TSD].

[420] See TSD at 32.

[421] Id. at 33.

[422] Id. at 31.

decontamination of contaminated land were not considered."[423] That is, the ABWR SAMDA considered offsite exposure cost, but did not consider the offsite economic cost.

The costs assumed by the ABWR SAMDA analysis and the costs that would have to be considered in a SAMDA analysis for the STP site are compared in the table below.

	ABWR SAMDA	**STP Site**
Offsite exposure cost[424]	4.5×10^{-3} person-rem/yr	4.2×10^{-3} person-rem/yr
Onsite exposure cost	Exposure to staff of a single ABWR	Exposure to staffs of two ABWRs and two PWRs
Offsite economic cost	Neglected	Small
Onsite cleanup cost	Appropriate for cleanup of one ABWR	Appropriate for cleanup of two ABWRs and two PWRs
Replacement power costs	For 1300 MWe	For up to 5420 MWe[425]

The Staff's assertion that population dose risk is the appropriate TSD site parameter to use for comparison with the STP site characteristics neglects major costs due to the STP site having four units instead of just one. This assertion appears in error. The appropriate site specific parameter list that should have been present in the TSD, and against which the Staff should have judged the applicability of the ABWR SAMDA evaluation should have been:

Offsite exposure	Less than 4.5×10^{-3} person-rem/yr
No. of reactors on site	one ABWR[426]
Offsite economic cost	negligible

[423] Id. at 32.

[424] In this table, the offsite exposure cost already accounts for the low probability of fission product release from an accident at an ABWR. Other costs in this table must be multiplied by this low probability before they are summed to yield the expected cost of a severe accident.

[425] The total electrical output of four STP units.

[426] The number of units on site is site-specific information apparently not considered in NRC Staff's DEIS evaluation.

It appears that proposed STP Units 3 and 4 would not fall within the correct site parameter envelope defined by the generic ABWR SAMDA evaluation. In fact, by Applicant's accounting, offsite exposure constitutes only about 1% of the cost of a severe accident while onsite cleanup cost and replacement power cost constitutes 97% of the cost.[427] This strongly suggests that use of the offsite exposure cost alone as the criterion used to determine applicability of the ABWR SAMDA evaluation is likely to lead to an incorrect conclusion.

[427] See ER at tbl.7.3-1 and 7.3-5.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
NUCLEAR INNOVATION NORTH AMERICA LLC (NINA)	)	Docket Nos. 52-012-COL and 52-013-COL
	)	
	)	
(South Texas Project Units 3 and 4)	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM AND ORDER (RULINGS ON QUESTION REGARDING INTERVENORS' CHALLENGE TO NRC STAFF DENIAL OF DOCUMENTARY ACCESS, ON MOTIONS FOR THE SUMMARY DISPOSITION OF CONTENTION CL-2, AND ON THE ADMISSIBILITY OF NEW DEIS CONTENTIONS) (LBP-11-07) have been served upon the following persons by the Electronic Information Exchange.

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Dated at Rockville, Maryland
this 28th day of February 2011