

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

	)		
In the Matter of	)		
TENNESSEE VALLEY AUTHORITY	)	Docket Nos. 52-014 and 52-015	
(Bellefonte Nuclear Power Plant,	)	December 24, 2008	
Units 3 and 4)	)		

**TVA’S ANSWER TO REQUEST TO AMEND CONTENTION NEPA-N**

On December 15, 2008, the Intervenor filed “Joint Petitioners’ Request for Leave to Timely Amend Contention NEPA-N” (“Request”). The Request seeks to amend Contention NEPA-N related to construction cost estimates for Bellefonte, based in part upon the Tennessee Valley Authority’s (“TVA’s”) November 5 Letter,<sup>1</sup> which provides revised cost estimates. The Request also attempts to raise several new bases for the contention. TVA does not object to the Request to the extent that it attempts to amend Contention NEPA-N to include nuclear cost estimates from the November 5 Letter that are relevant to the admitted contention. However, TVA opposes the Request to the extent that it attempts to provide additional bases for Contention NEPA-N. As discussed below, the additional bases identified in the Request (1) recycle arguments that already were rejected by the Board; (2) raise arguments or information that are untimely; and (3) present arguments that are insufficient to justify amending this contention.

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<sup>1</sup> Letter from A. Sterdis, TVA, to NRC, Bellefonte Combined License Application – Additional Information Regarding Cost Estimates for Construction of New Nuclear, Coal- and Gas-Fired Electricity Generating Units (Nov. 5, 2008) (“November 5 Letter”), *available at* ADAMS Accession No. ML083120274. As explained in a later notification to the Board, the November 5 Letter was superseded by a letter dated November 18, 2008, but no substantive changes were made. Letter from S. Burdick, Morgan Lewis, to ASLB, Board Notification of Revised Update to Environmental Report Cost Information (Dec. 17, 2008), *available at* ADAMS Accession No. ML083520492.

## I. BACKGROUND AND SCOPE OF CONTENTION NEPA-N

The Intervenors' Petition to Intervene included a proposed contention regarding the cost estimates in the Environmental Report ("ER") for Bellefonte Units 3 and 4, which will utilize AP1000 reactors. The proposed contention argued that the nuclear cost data in the ER are obsolete, renewable energy sources in the ER are not properly evaluated, and the ER does not consider financial risk factors.<sup>2</sup> The Board rejected Intervenors' arguments regarding renewable energy sources and financial risk factors in their entirety. Additionally, the Board rejected all of the Intervenors' arguments on operational costs and one of the two studies (Keystone study) used to claim that the nuclear construction cost estimates have not been updated. As admitted and clarified by the Board, the only basis for Contention NEPA-N is Intervenors' reference to cost estimates for an AP1000 plant provided by Florida Power and Light Company ("FPL"), and the comparison of nuclear costs with the costs of a combination of alternatives.<sup>3</sup>

In response to the contention, TVA submitted the November 5 Letter, which provides a planned revision of the ER cost information. This planned ER revision provides a range of estimated costs for Bellefonte, which encompass the construction cost estimates provided by FPL.<sup>4</sup> The planned ER revision also provides updated cost estimates for wind power, coal, and gas-fired plants (which form the basis for the combination of alternatives).<sup>5</sup>

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<sup>2</sup> Petition for Intervention and Request for Hearing by the Bellefonte Efficiency and Sustainability Team, the Blue Ridge Environmental Defense League and the Southern Alliance for Clean Energy, at 84-92 (dated June 6, 2008) ("Petition to Intervene").

<sup>3</sup> *TVA* (Bellefonte Nuclear Power Plant Units 3 and 4), LBP-08-16, 68 NRC \_\_\_, slip op. at 66-69 (Sept. 12, 2008).

<sup>4</sup> November 5 Letter, encl. at 5-15 (planned revision to ER Section 10.4.2.1.1).

<sup>5</sup> *Id.*, encl. at 1-4 (planned revision to ER Sections 9.2.2.1, 9.2.2.9, 9.2.2.10, 9.2.2.11, 9.2.3.3.3, and 9.2.3.3.4).

## II. DISCUSSION

### A. The Request Is Procedurally Defective

As acknowledged in the first sentence of the Request, an amendment to an admitted contention must comply with 10 C.F.R. § 2.309(f)(2). Section 2.309(f)(2) states that contentions may only be amended with leave of the presiding officer after showing:

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

To the extent that the Request attempts to add new bases for Contention NEPA-N, the Request does not address the three factors in Section 2.309(f)(2) and therefore should be denied.<sup>6</sup>

The Board has stated that a motion to amend an admitted contention must be filed within 30 days of “the event that provides the triggering basis for submitting a new or amended contention.”<sup>7</sup> The sources relied upon in the Request and the accompanying Makhijani Declaration are more than 30 days older than the Request. Thus, the new bases in the Request are untimely and should be rejected.<sup>8</sup>

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<sup>6</sup> See, e.g., *Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 347 (1998); *Shieldalloy Metallurgical Corp.* (License Amendment Request for Decommissioning of the Newfield, New Jersey Facility), CLI-07-20, 65 NRC 499, 504-05 (2007). Because the Request was filed after the date for submitting hearing petitions, intervenors must also demonstrate that the Request satisfies 10 C.F.R. § 2.309(c)(1). Memorandum and Order (Ruling on Request to Admit New Contention) at 5-6 (Oct. 14, 2008) (unpublished); see also *Nuclear Mgmt. Co. LLC* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006). Intervenors have not addressed this regulation.

<sup>7</sup> Memorandum and Order (Prehearing Conference and Status of General Schedule) at 3 (Nov. 10, 2008) (unpublished) (“General Schedule Order”). As the Commission has ruled, an amended contention “is not an occasion to raise additional arguments that could have been raised previously.” *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 385-86 (2002).

<sup>8</sup> The Request is also objectionable because the intervenors have failed to comply with the Board orders limiting motions to amend a contention to ten pages. See General Schedule Order at 3; Memorandum and Order (Initial Prehearing Order) at 5 n.2 (June 18, 2008) (unpublished). The Request is 21 pages with references and 18 pages without references.

**B. Intervenors' Allegations Regarding the Puget Sound Cost Estimate Are Not a Sufficient Basis for Amending Contention NEPA-N**

The Request criticizes the cost estimates for Bellefonte in the November 5 Letter, stating that “TVA has failed to include the highest capital cost estimate, that made by Puget Sound Energy, of \$10,000 per kWe.”<sup>9</sup> For several reasons, this allegation does not provide a sufficient basis for amending Contention NEPA-N.

First, Intervenors do not provide a primary reference to the Puget Sound estimate, but instead reference a slide presentation by Jim Harding (which also does not provide a primary reference).<sup>10</sup> The vague reference to the Puget Sound estimate is contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(v), which requires references to specific sources and documents. The Commission has ruled that such vague references do not suffice for a contention.<sup>11</sup>

Second, the reference to the Puget Sound estimate is untimely. The Harding presentation states that the Puget Sound estimate is dated January 2008. Furthermore, the Harding presentation itself is dated September 2008, and the exact same information on the Puget Sound estimate was provided in other publicly-available slides from Mr. Harding as early as March 2008.<sup>12</sup> Since both the Puget Sound estimate and the Harding presentation pre-date the Request by more than 30 days, the Request is untimely and therefore should be denied.

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<sup>9</sup> Request at 4-5.

<sup>10</sup> *Id.* at 5 n.4; Jim Harding, Slide Presentation at the Bulletin of the Atomic Scientists Conference, Nuclear Power 2008 (Sept. 2008) (provided with Request), Supplemental Slides at 1.

<sup>11</sup> *See Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-03, 29 NRC 234, 240-41 (1989). The incorporation of massive documents by reference, such as provided in Request at 18-21, is also unacceptable. *See TVA* (Browns Ferry Nuclear Plant, Units 1 and 2), LBP-76-10, 3 NRC 209, 216 (1976).

<sup>12</sup> Jim Harding, Slide Presentation at the Wisconsin Public Utility Institute Seminar, Nuclear Power – Is the Renaissance Real? (Mar. 2008), *available at* <http://wpui.wisc.edu/programs/Institute%20Lunches/Nuclear/Presentations/Harding.ppt#256,1,Nuclear Power – Is the Renaissance Real?>

Third, and most importantly, the Harding presentation states that the basis for the Puget Sound estimate is unknown.<sup>13</sup> For example, the Request does not indicate whether the Puget Sound estimate is for an AP1000 or even for a light water reactor. Furthermore, the Request does not identify whether the estimate is in real or nominal dollars, nor does it set forth any of the assumptions used in deriving the estimate. Therefore, the Request does not provide sufficient bases for demonstrating that the Puget Sound estimate is material to the construction cost estimate for Bellefonte. In this regard, the Board has already rejected as a basis for Contention NEPA-N a study by the Keystone Center that the Petition to Intervene referenced, stating that “[w]e find the information provided in the . . . report to be too generic to be useful in this instance.”<sup>14</sup> This same conclusion equally applies to the Puget Sound estimate.

**C. Mr. Harding’s Estimate Is Not a Sufficient Basis for Amending Contention NEPA-N**

The November 5 Letter discusses the Keystone study, stating that “[i]t is difficult to compare study results due to differing assumptions and analytical approaches,” but that in any case the revised Bellefonte cost estimates bracket the Keystone estimates (and several other estimates).<sup>15</sup> The Request claims that the Keystone study is obsolete, stating that one of the members of the Keystone panel, Mr. Harding, has updated his cost estimates.<sup>16</sup>

As presented by the Intervenors, this “update” is a slide presentation by Mr. Harding. However, the slides provide no details that would explain their applicability to Bellefonte Units 3 and 4. In particular, the slides do not indicate whether the cost estimate is for an AP1000

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<sup>13</sup> Nuclear Power 2008, Supplemental Slides at 12 (“Basis not stated”).

<sup>14</sup> *Bellefonte*, LBP-08-16, slip op. at 68 n.18.

<sup>15</sup> November 5 Letter, encl. at 5 (planned revision to ER Section 10.4.2.1.1).

<sup>16</sup> Request at 6.

reactor. As a result, the Board should reject the Harding estimate as a basis for amending Contention NEPA-N for the same reasons it rejected the Keystone study as a basis.<sup>17</sup>

Intervenors' Request refers to Mr. Harding's estimates for a new nuclear plant of \$107 to \$230 per MWh.<sup>18</sup> Mr. Harding states that the estimate of \$107 MWh is the medium estimate for a 0% real escalation rate, whereas the estimate of \$230 per MWh is the high estimate assuming a 14% real rate of escalation. Mr. Harding's medium estimate is within the range of \$66 to \$123 per MWh provided in the November 5 Letter,<sup>19</sup> and therefore does not establish a genuine dispute with TVA. Mr. Harding's high estimate exceeds TVA's estimate, but is based upon a postulated 14% real escalation rate. Intervenors have provided no basis for applying such a high escalation rate to construction of Bellefonte. In contrast, Mr. Harding's high estimate, assuming a 0% real escalation rate, is \$117 per MWh,<sup>20</sup> which again falls within the range provided by TVA in the November 5 Letter and therefore does not raise a genuine dispute of material fact.<sup>21</sup>

**D. The Board Previously Rejected Intervenors' Arguments on Financial Risk**

The Request repeats some of the arguments in the Petition to Intervene, including arguments that TVA failed to account for cost increases due to delays and for uncertainties in the costs of nuclear power.<sup>22</sup> The Request also argues that natural gas plants have a lesser financial risk.<sup>23</sup> These arguments were previously rejected in LBP-08-16, in which the Board concluded that Intervenors have not met their burden to establish admissibility with respect to arguments on

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<sup>17</sup> See *Bellefonte*, LBP-08-16, slip op. at 68 n.18.

<sup>18</sup> Request at 6.

<sup>19</sup> November 5 Letter, encl. at 9, 12 (planned revision to ER Section 10.4.2.1.1).

<sup>20</sup> Nuclear Power 2008, at 6.

<sup>21</sup> Additionally, the Board has already rejected similar unsupported arguments regarding financial forecasting, including Intervenors' arguments regarding cost escalation. See *Bellefonte*, LBP-08-16, slip op. at 68.

<sup>22</sup> Request at 5. See Petition to Intervene at 89-90, 92 for the Intervenors' similar earlier arguments.

<sup>23</sup> Request at 11-12.

financial risks.<sup>24</sup> The Request does not present information that is “materially different than information previously available,” and thus does not satisfy 10 C.F.R. § 2.309(f)(2).

**E. Intervenor’s Arguments on Loan Guarantees Do Not Establish a Genuine Dispute**

Intervenors argue that TVA is comparing “apples-to-oranges” because the lower end of the range of levelized nuclear costs in the November 5 Letter is allegedly based on a study by the Nuclear Energy Institute (NEI) that assumes use of federal loan guarantees for nuclear plants, whereas TVA’s estimates of the costs of alternatives allegedly do not.<sup>25</sup> This argument neither accurately describes TVA’s estimates nor establishes a genuine dispute over a material issue.

The planned revision to the ER in the November 5 Letter accounts for a number of recent studies on nuclear, coal-fired, and gas-fired costs. One of these studies is the 2008 NEI study from which TVA identifies two ranges of costs. The first range, \$66.5-\$78.3/MWh, is based on an 80 percent debt/20 percent equity capital structure, supported by a federal loan guarantee, and the second range, \$100.1-\$122.7/MWh, is based on a 50 percent debt/50 percent equity capital structure without loan guarantees.<sup>26</sup> Since the upper end of TVA’s cost estimate for Bellefonte (*i.e.*, \$123 per MWh) does not take credit for loan guarantees, there is no basis for Intervenors’ argument that TVA has underestimated the cost of Bellefonte.

**F. The Arguments on Costs of Natural Gas Plants Do Not Establish a Genuine Dispute**

The Request disputes TVA’s estimated cost of natural gas-fired power plants with carbon capture, stating that the value in planned ER Table 10.4-X3 of \$103/MWh should actually be \$90-\$137/MWh.<sup>27</sup> While the Intervenors’ low range is slightly below TVA’s \$103/MWh estimate, Intervenors’ upper range estimate is significantly greater than TVA’s estimate, which

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<sup>24</sup> *Bellefonte*, LBP-08-16, slip op. at 68.

<sup>25</sup> Request at 7-9.

<sup>26</sup> November 5 Letter, encl. at 3, 14 (planned ER Table 10.4-X1).

<sup>27</sup> Request at 4, 9.

actually favors nuclear. Since TVA's estimate falls within the range provided by the Intervenors, Intervenors' argument does not create a genuine material dispute with the ER and therefore should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(vi).<sup>28</sup>

**G. The Arguments on Spent Fuel Disposal Are Speculative and Contrary to Statute**

The Request claims that President-elect Obama will likely stop the Yucca Mountain project and that the designated Secretary of Energy favors reprocessing. As a result, the Request alleges that these positions will result in an increase to the \$1/MWh nuclear cost estimate by TVA for spent fuel disposal.<sup>29</sup> Not only is this argument speculative and without any basis, it also challenges a statute. The Nuclear Waste Policy Act states that the fee for "acceptance of title, subsequent transportation, and disposal" of spent fuel equals 1.0 mil per kilowatt-hour, or \$1/MWh.<sup>30</sup> Intervenors' arguments constitute an improper challenge to the costs set by statute.<sup>31</sup> Additionally, Intervenors' allegations regarding reprocessing present an inherently invalid economic argument, because they only address the costs of reprocessing and do not account for the economic value of reprocessed fuel.

**H. The Arguments on Alternatives Are Untimely and Have Been Previously Rejected**

The Request makes numerous arguments regarding the viability of alternatives, such as energy efficiency, peak shaving options, purchase power, solar, and wind.<sup>32</sup> These arguments

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<sup>28</sup> The Request at 9 also cites to recent lowering natural gas prices. However, as the Board has previously ruled, short-term fluctuations do not provide a valid basis for contesting long-term financial forecasts. *See Bellefonte*, LBP-08-16, slip op. at 47 (rejecting arguments regarding perceived near-term estimates as immaterial). Therefore, this argument should also be rejected as a basis for amending Contention NEPA-N.

<sup>29</sup> Request at 4, 10-11.

<sup>30</sup> Nuclear Waste Policy Act of 1982 § 302(a), 42 U.S.C. § 10222(a) (2000).

<sup>31</sup> *See Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-07-11, 65 NRC 41, 57-58 (2007) (ruling that "any contention that amounts to an attack on applicable statutory requirements must be rejected by a licensing board as outside the scope of the proceeding") (citing *Philadelphia Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974)).

<sup>32</sup> Request at 12-18.

should be rejected, because they are unrelated to Contention NEPA-N, are untimely, and have been previously rejected by the Board.

Contention NEPA-N focuses on nuclear construction costs. To the extent it addresses alternatives, it only relates to the costs of nuclear generation as compared to the costs of the combinations of alternatives involving wind/solar and fossil-fueled plants.<sup>33</sup> The contention does not pertain to the viability of alternatives, such as energy efficiency, peak shaving options, and purchase power. Since these topics are not material to the contention, they should be rejected as a basis for amending the contention pursuant to 10 C.F.R. § 2.309(f)(1)(iv).

Moreover, Intervenors already made similar arguments about these alternatives in their Petition to Intervene.<sup>34</sup> These arguments were rejected by the Board.<sup>35</sup> The November 5 Letter does not identify any changes to the ER with respect to those alternatives, and Intervenors have not identified any information from the past 30 days that would justify a late-filed contention on those alternatives.<sup>36</sup> Therefore, Intervenors' arguments are untimely and should be rejected pursuant to 10 C.F.R. § 2.309(f)(2).

Intervenors' arguments on wind and solar are also defective. As demonstrated in ER Section 9.2.3.3.3, the cost of solar is higher than the cost of wind. Consequently, TVA conservatively used the cost of wind in its comparison of nuclear to the combinations of alternatives. Because TVA used the lowest cost alternative, Intervenors' arguments regarding

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<sup>33</sup> *Bellefonte*, LBP-08-16, slip op. at 66-69; Memorandum and Order (Ruling on Motion for Clarification) at 3-4 (Oct. 14, 2008) (unpublished).

<sup>34</sup> Petition to Intervene at 46-48, 50-51, 55-63, 84, 88-91.

<sup>35</sup> See *Bellefonte*, LBP-08-16, slip op. at 41-55, 66-68.

<sup>36</sup> The Request at 17-18 also references approvals by Colorado regulators to close four coal plants and build solar and wind power units. In addition to being entirely irrelevant to the Bellefonte project and outside the scope of Contention NEPA-N, this information is older than 30 days and does not support a new or amended contention.

solar are not material to the comparison of nuclear with combinations of alternatives.<sup>37</sup>

Furthermore, the Board previously rejected Intervenors' arguments related to the costs of solar as a basis for this contention.<sup>38</sup>

Finally, the November 5 Letter did not provide any update on the costs of solar, and did not change the estimate of wind resources that are available in the region of interest. Therefore, that letter cannot provide a basis for an amended contention on those topics. Thus, Intervenors' arguments on wind and solar are untimely, defective, or both, and should be rejected.

### **III. CONCLUSION**

Intervenors' Request repeats past arguments that already were rejected by the Board, raises arguments that are untimely, or otherwise raises arguments that do not establish a genuine dispute of material fact. Therefore, Intervenors' Request to amend Contention NEPA-N should be rejected for failure to satisfy the applicable requirements in 10 C.F.R. § 2.309(f)(2).

Respectfully submitted,

/signed (electronically) by Steven P. Frantz

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Dated in Washington, D.C.  
this 24th day of December 2008

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<sup>37</sup> Additionally, Intervenors' estimates for solar are for the Southwest United States, Request at 12-13, and therefore are not relevant to the cost of solar in the region of interest for Bellefonte. Furthermore, ER Section 9.2.3.3.3 shows that the costs of combinations of alternatives are largely driven by the cost of fossil-fueled sources, and Intervenors have not disputed those costs.

<sup>38</sup> *Bellefonte*, LBP-08-16, slip op. at 68.

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	)	

**CERTIFICATE OF SERVICE**

I hereby certify that on December 24, 2008 a copy of “TVA’s Answer to Request to Amend Contention NEPA-N” was filed electronically with the Electronic Information Exchange on the following recipients:

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