

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

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|--|---|-------------------------------|
| In the Matter of                           | ) |                               |
|  | ) |                               |
| SOUTH CAROLINA ELECTRIC & GAS              | ) | Docket Nos. 52-027 and 52-028 |
| COMPANY AND SOUTH CAROLINA                 | ) |                               |
| PUBLIC SERVICE AUTHORITY (ALSO             | ) | January 5, 2009               |
| REFERRED TO AS SANTEE COOPER)              | ) |                               |
|  | ) |                               |
| (Virgil C. Summer Nuclear Station, Units 2 | ) |                               |
| and 3)                                     | ) |                               |

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**SOUTH CAROLINA ELECTRIC & GAS COMPANY’S ANSWER OPPOSING THE  
PETITION TO INTERVENE OF SIERRA CLUB AND FRIENDS OF THE EARTH**

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**SOUTH CAROLINA ELECTRIC & GAS COMPANY’S ANSWER OPPOSING THE  
PETITION TO INTERVENE OF SIERRA CLUB AND FRIENDS OF THE EARTH**

**I. INTRODUCTION**

In accordance with 10 C.F.R. § 2.309(h), South Carolina Electric & Gas Company (“SCE&G”), applicant in the above-captioned matter, acting for itself and on behalf of the South Carolina Public Service Authority, hereby timely files its Answer to the “Petition to Intervene and Request for Hearing By Sierra Club and Friends of the Earth”(“Petition”) filed by the Sierra Club and Friends of the Earth (“FOE”) (jointly, “Petitioners”) on December 9, 2008.<sup>1</sup> The Petition responds to the U.S. Nuclear Regulatory Commission (“NRC” or “Commission”) Notice of Order, Hearing and Opportunity to Petition for Leave to Intervene on a Combined License (“COL”) for Virgil C. Summer Nuclear Station (“VCSNS”) Units 2 and 3, published in the *Federal Register* on October 10, 2008 (“Hearing Notice”).<sup>2</sup> The Hearing Notice provided an

<sup>1</sup> Although the first page of the Petition bears a date of Dec. 8, 2008, the Certificate of Service certifies that service was made on Dec. 9, 2008. Petition at 49.

<sup>2</sup> 73 Fed. Reg. 60,362.

opportunity to request a hearing and leave to intervene in connection with SCE&G's application for a COL to construct and operate two AP1000 advanced passive pressurized water reactors on the VCSNS site in Fairfield County, South Carolina (hereinafter "COLA" or "Application").

As discussed below, because FOE has failed to demonstrate standing, its request to intervene in this proceeding should be denied. Furthermore, although SCE&G does not contest Sierra Club's standing, the Petition should be denied in its entirety because Petitioners have failed to proffer an admissible contention.

## II. BACKGROUND

On March 27, 2008, SCE&G submitted its Application to the NRC for a COL for VCSNS Units 2 and 3.<sup>3</sup> The NRC Staff accepted the Application for docketing on August 6, 2008, and the Commission issued a Hearing Notice that was published in the *Federal Register* on October 10, 2008.<sup>4</sup> The Hearing Notice stated that any person whose interest may be affected by this proceeding, and who wishes to participate as a party, must file a petition for leave to intervene within 60 days of the Notice (*i.e.*, by December 9, 2008) in accordance with 10 C.F.R. § 2.309.<sup>5</sup> On December 9, 2008, the Sierra Club and FOE timely filed a joint Petition. SCE&G hereby responds to the Petition in accordance with 10 C.F.R. § 2.309(h).

Petitioners submitted a total of five declarations to support their claim of standing.<sup>6</sup> All of the declarants assert that they are members of the Sierra Club and authorize it to represent

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<sup>3</sup> See Acceptance for Docketing of an Application for Combined License for Virgil C. Summer Nuclear Station Units 2 and 3, 73 Fed. Reg. 45,792 (Aug. 6, 2008).

<sup>4</sup> *Id.*; Hearing Notice, 73 Fed. Reg. at 60,362.

<sup>5</sup> Hearing Notice, 73 Fed. Reg. at 60,362.

<sup>6</sup> See Declarations of Thomas W. Clements ("Clements Declaration"), Susan Corbett ("Corbett Declaration"), Pamela Greenlaw ("Greenlaw Declaration"), Leslie A. Minerd ("Minerd Declaration"), and Meira Maxine Warshauer ("Warshauer Declaration") (dated Dec. 7 and 8, 2008).

them in this proceeding.<sup>7</sup> Two of the five declarants also assert that they are members of FOE.<sup>8</sup> Those two declarants, however, only authorize the Sierra Club to represent them in this proceeding.<sup>9</sup> Thus, none of the declarants has authorized FOE to represent them. Accordingly, as discussed below, Sierra Club—but not FOE—has established standing to intervene in this proceeding. Nonetheless, because the Sierra Club has failed to proffer an admissible contention, the Petition should be denied in its entirety.

### III. ANALYSIS OF PETITIONERS' STANDING

#### A. Applicable Legal Standards and NRC Precedent

NRC regulations require that a petitioner provide certain basic information to support its claim of standing.<sup>10</sup> This required information includes: (1) the nature of the petitioner's right under the Atomic Energy Act of 1954 ("AEA"), as amended, to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on its interest.<sup>11</sup> Thus, a petitioner must demonstrate either that it satisfies the traditional elements of standing, or that it has presumptive standing based on geographic proximity to the proposed facility.<sup>12</sup> These concepts, as well as organizational standing, are discussed below.

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<sup>7</sup> *Id.*

<sup>8</sup> *See* Clements Declaration and MinerD Declaration.

<sup>9</sup> *See* Clements Declaration., Corbett Declaration., Greenlaw Declaration., MinerD Declaration., and Warshauer Declaration.

<sup>10</sup> *See* 10 C.F.R. § 2.309(d)(1).

<sup>11</sup> *See id.* § 2.309(d)(1)(ii)-(iv).

<sup>12</sup> *See Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station, Units 2 & 3), CLI-05-26, 62 NRC 577, 579-83 (2005).

## 1. Traditional Standing

Judicial concepts of standing are generally followed in NRC proceedings.<sup>13</sup> Thus, to demonstrate standing, a petitioner must show: (1) an actual or threatened, concrete and particularized injury that is (2) fairly traceable to the challenged action and (3) likely to be redressed by a favorable decision.<sup>14</sup> These three criteria are commonly referred to as injury-in-fact, causality, and redressability, respectively.

First, a petitioner's injury-in-fact showing "requires more than an injury to a cognizable interest. It requires that the party seeking [to participate] be himself among the injured."<sup>15</sup> The injury must be "concrete and particularized," not "conjectural" or "hypothetical."<sup>16</sup> "As a result, standing [will] be denied when the threat of injury is too speculative."<sup>17</sup> Additionally, the alleged "injury-in-fact" must lie within "the zone of interests" protected by the statutes governing the proceeding—either the AEA or the National Environmental Policy Act of 1969, as amended ("NEPA").<sup>18</sup> The injury-in-fact, therefore, must generally involve potential radiological or environmental harm.<sup>19</sup>

Second, a petitioner must establish that the injuries alleged are fairly traceable to the proposed action—in this case, the issuance of the COL for VCSNS Units 2 and 3.<sup>20</sup> Although a petitioner is not required to show that the injury flows directly from the challenged action, it

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<sup>13</sup> See *Nuclear Mgmt. Co., LLC* (Monticello Nuclear Generating Plant), CLI-06-6, 63 NRC 161, 163 (2006).

<sup>14</sup> See *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

<sup>15</sup> *Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972).

<sup>16</sup> *Sequoyah Fuels Corp.* (Gore, Okla. Site), CLI-94-12, 40 NRC 64, 72 (1994) (citations omitted).

<sup>17</sup> *Id.*

<sup>18</sup> *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, N.M.), CLI-98-11, 48 NRC 1, 5 (1998), *aff'd sub nom. Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999).

<sup>19</sup> See *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-02-16, 55 NRC 317, 336 (2002).

<sup>20</sup> See *Sequoyah Fuels*, CLI-94-12, 40 NRC at 75.

must nonetheless show that the “chain of causation is plausible.”<sup>21</sup> The relevant inquiry is whether a cognizable interest of the petitioner might be adversely affected by one of the possible outcomes of the proceeding.<sup>22</sup>

Finally, each petitioner is required to show that “its actual or threatened injuries can be cured by some action of the tribunal.”<sup>23</sup> In other words, “it must be likely, as opposed to merely speculative that the injury will be redressed by a favorable decision.”<sup>24</sup>

## **2. Standing Based on Geographic Proximity**

Under NRC case law, a petitioner may, in some instances, be presumed to have fulfilled the judicial standards for standing based on his or her geographic proximity to a facility or source of radioactivity.<sup>25</sup> “Proximity” standing is based on the assumption “that an accident associated with [a] nuclear facility could adversely affect the health and safety of people working or living offsite but within a certain distance of that facility.”<sup>26</sup> The Commission has held that working or living within a 50-mile radius of a nuclear power reactor is sufficient to invoke the proximity presumption in proceedings involving the issuance of a construction permit or an operating license.<sup>27</sup> As a COL is a combined construction permit and operating license,<sup>28</sup> the proximity presumption would apply to individuals working or living within 50-miles of the VCSNS facility.

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<sup>21</sup> *Id.*

<sup>22</sup> *Nuclear Eng’g Co., Inc.* (Sheffield, Ill., Low-Level Radioactive Waste Disposal Site), ALAB-473, 7 NRC 737, 743 (1978).

<sup>23</sup> *Sequoyah Fuels Corp.* (Gore, Okla. Site Decommissioning), CLI-01-2, 53 NRC 9, 14 (2001).

<sup>24</sup> *Sequoyah Fuels*, CLI-94-12, 40 NRC at 76 (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992) (internal quotations omitted)).

<sup>25</sup> *Peach Bottom*, CLI-05-26, 62 NRC at 580.

<sup>26</sup> *Id.* (citations omitted).

<sup>27</sup> *See Fla. Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 & 2), CLI-89-21, 30 NRC 325, 329 (1989).

<sup>28</sup> *See* 10 C.F.R. § 52.1(a).

### 3. Standing of Organizations

An organization that wishes to intervene in a proceeding may do so either in its own right (by demonstrating injury to its organizational interests), or in a representative capacity (by demonstrating harm to the interests of its members).<sup>29</sup> To intervene in a proceeding in its own right, an organization must allege—just as an individual petitioner must—that it will suffer an immediate or threatened injury to its organizational interests that can be fairly traced to the proposed action and be redressed by a favorable decision.<sup>30</sup>

General environmental or public policy interests are insufficient to confer organizational standing. In *Sierra Club v. Morton*, the U.S. Supreme Court held that a “special interest in the conservation and the sound maintenance of the national parks, game refuges, and forests of the country” was insufficient to provide organizational standing to a petitioner.<sup>31</sup> The Court stated that:

[A] mere ‘interest in a problem,’ no matter how longstanding the interest and no matter how qualified the organization is in evaluating the problem, is not sufficient by itself to render the organization ‘adversely affected’ or ‘aggrieved’ . . . . [I]f a ‘special interest’ in this subject were enough to entitle the [petitioner] to commence this litigation, there would appear to be no objective basis upon which to disallow a suit by any other bona fide ‘special interest’ organization however small or short-lived.<sup>32</sup>

Similarly, an organization’s assertion “that it has an interest in state and federal environmental laws and in the land, water, air, wildlife, and other natural resources that would be affected” is insufficient to establish standing.<sup>33</sup> Equally insufficient for standing purposes is a

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<sup>29</sup> *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998) (citing *Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), CLI-95-12, 42 NRC 111, 115 (1995)).

<sup>30</sup> See *Ga. Tech*, CLI-95-12, 42 NRC at 115.

<sup>31</sup> 405 U.S. 727, 730, 741 (1972).

<sup>32</sup> *Id.* at 739.

<sup>33</sup> *Int’l Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 251-52 (2001).

petitioner's mere academic interest in a proceeding,<sup>34</sup> in presenting "sound science" to a Licensing Board,<sup>35</sup> in disseminating information on nuclear non-proliferation,<sup>36</sup> in environmental and consumer protection,<sup>37</sup> in promoting compliance with federal and state laws and regulations,<sup>38</sup> and in promoting the "development of sound energy policy."<sup>39</sup>

To invoke representational standing, an organization must: (1) show that at least one of its members has standing in his or her own right (*i.e.*, by demonstrating geographic proximity in cases where the presumption applies, or by demonstrating injury-in-fact within the zone of protected interests, causation, and redressability); (2) identify that member by name and address; and (3) show, "preferably by affidavit," that the organization is authorized by that member to request a hearing on behalf of the member.<sup>40</sup> Where the affidavit of the member is devoid of any statement that he or she wants and has authorized the organization to represent his or her interests, the presiding officer should not infer such authorization.<sup>41</sup> Indeed, the Commission has held that "[t]he failure both to identify the member(s) [that the petitioners] purport to represent

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<sup>34</sup> *Puget Sound Power & Light Co.* (Skagit/Hanford Nuclear Power Project, Units 1 & 2), LBP-82-74, 16 NRC 981, 983-84 (1982).

<sup>35</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 176, *aff'd*, CLI-98-13, 48 NRC 26 (1998) ("*PFS*").

<sup>36</sup> *Transnuclear, Inc.* (Export of 93.15% Enriched Uranium), CLI-94-1, 39 NRC 1, 5-6 (1994).

<sup>37</sup> *See Consumers Energy Co.* (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 411-12 (2007) (finding that petitioner's interest in promoting the "economic use of energy, including nuclear energy, and to promote the public interest, environmental protection, and consumer protection" was insufficient to provide standing).

<sup>38</sup> *Int'l Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-02-3, 55 NRC 35, 46-47 (2002).

<sup>39</sup> *Edlow Int'l Co.* (Agent for the Gov't of India on Application to Export Special Nuclear Material), CLI-76-6, 3 NRC 563, 572 (1976); *see also Sacramento Mun. Util. Dist.* (Rancho Seco Nuclear Generating Station), CLI-92-2, 35 NRC 47, 59 (1992) (finding that petitioner's institutional interest in disseminating information "regarding the need for future energy sources in California" is insufficient for standing purposes).

<sup>40</sup> *Consumers Energy Co.*, CLI-07-18, 65 NRC at 408-10; *see also N. States Power Co.* (Monticello Nuclear Generating Plant, Prairie Island Nuclear Generating Plant, Units 1 & 2; Prairie Island Independent Spent Fuel Storage Installation), CLI-00-14, 52 NRC 37, 47 (2000); *see also GPU Nuclear Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000).

<sup>41</sup> *Duquesne Light Co.* (Beaver Valley Power Station, Unit 2), LBP-84-6, 19 NRC 393, 411 (1984).

and to provide proof of authorization therefore precludes [the petitioners] from qualifying as intervenors.<sup>42</sup>

**B. The Sierra Club, But Not Friends of the Earth, Has Demonstrated Standing To Intervene**

SCE&G does not oppose the standing of the Sierra Club to intervene in this matter. The Sierra Club's standing is based on its capacity as a representative of its members.<sup>43</sup> Based on Commission precedent granting individuals who live within fifty miles of a proposed nuclear plant presumptive standing, all five of the Sierra Club's identified members, who have authorized the Sierra Club to represent them, would have standing in this proceeding on their own.<sup>44</sup> Therefore, SCE&G does not contest the standing of the Sierra Club.<sup>45</sup>

FOE's claim of standing rests on its representation of two of its members, Thomas W. Clements and Leslie A. Miner. Both Mr. Clements and Ms. Miner (who also assert that they

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<sup>42</sup> *Consumers Energy Co.*, CLI-07-18, 65 NRC at 410.

<sup>43</sup> It is unclear, however, whether the Sierra Club, as a national organization, or its South Carolina Chapter is actually the Petitioner. The Petition itself refers to both, although it is signed by Ms. Corbett as Chapter Chair, South Carolina Chapter. Similarly, the appended Declarations of Ms. Corbett, Mr. Clements, Ms. Greenlaw, Ms. Warshauer and Ms. Miner simply authorize the Sierra Club to act on their behalf (although Ms. Corbett, in ¶ 1, notes her affiliation with the South Carolina Chapter). In the event that the Board, notwithstanding the fatal deficiencies in the Petition discussed at length in this Answer, grants the Petition, it should require clarification of this matter by the Sierra Club.

<sup>44</sup> *See Fla. Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 & 2), CLI-89-21, 30 NRC 325, 329 (1989).

<sup>45</sup> To the extent that the Commission adheres to contemporaneous judicial concepts of standing, the Board may wish to consider the U.S. Supreme Court's recent decision in *Davis v. Fed. Election Comm'n*, No. 07-320, slip op. at 7 (June 26, 2008), available at <http://www.supremecourtus.gov/opinions/07pdf/07-320.pdf>. In *Davis*, the Court found that "[s]tanding is not dispensed in gross." "Rather, 'a plaintiff must demonstrate standing for each claim he seeks to press' and 'for each form of relief that is sought.'" *Davis, id.* (citing *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 352 (2006) (quoting *Friends of Earth v. Laidlaw Env't'l Servs. (TOC), Inc.*, 528 U.S. 167, 185 (2000))). This case appears to at least limit the holdings in *Duke Power Co. v. Carolina Env'tl. Study Group*, 438 U.S. 59 (1978) and *Sierra Club*, prior Supreme Court decisions on which the Commission has relied, if not overturn them. The *Davis* opinion suggests that a presumption of standing for individuals living within fifty miles of a nuclear plant is no longer supported by contemporaneous judicial concepts of standing. Rather, if there is no nexus between the specific contentions proposed and the basis proposed to demonstrate standing, (living in proximity to the proposed site), the petitioner's standing is challengeable. At a minimum, the proposition that an individual who lives within fifty miles of a nuclear power plant has a presumption of standing should be rebuttable. Nevertheless, in this case, SCE&G has not objected to the Sierra Club's standing.

are members of the Sierra Club) live within fifty miles of the proposed site for VCSNS Units 2 and 3.<sup>46</sup> Thus, because of their proximity to the proposed site, they would be entitled to a presumption of standing. FOE's request to be admitted as a party to this proceeding must be denied, however, because the identified members did not specifically authorize FOE to represent them in this proceeding, contrary to NRC requirements described above.<sup>47</sup> Rather, they state only that they "have authorized the Sierra Club to represent [them] and [their] interests in any licensing proceeding and/or related rulemaking proceeding that concerns the safety and environmental impacts of the proposed nuclear power plant."<sup>48</sup> Furthermore, FOE has not presented any discussion of harm to its organizational interests and has not claimed that its standing rests on organizational interests that may be potentially harmed by approval of the application at issue. Accordingly, FOE's request to be admitted as a party must be denied pursuant to 10 C.F.R. § 2.309(d).

#### **IV. OVERVIEW OF NRC CONTENTION ADMISSIBILITY STANDARDS AND REQUIREMENTS FOR WAIVER OF A RULE OR REGULATION**

##### **A. The Contention Admissibility Criteria of 10 C.F.R. § 2.309(f)(1)**

As explained above, to intervene in an NRC licensing proceeding, a petitioner must propose at least one admissible contention.<sup>49</sup> Under 10 C.F.R. § 2.309(f)(1), a hearing request "must set forth with particularity the contentions sought to be raised." In addition, that section specifies that each contention must: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention;

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<sup>46</sup> See Clements Declaration and Miner Declaration. In addition to being a member, Mr. Clements is an employee of FOE.

<sup>47</sup> See *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant Units 3 and 4), LBP-08-16, slip op. at 9-10 (Sept. 12, 2008) (finding that an organization did not have standing because none of the affidavits from people living in the vicinity of the plant authorized the organization to represent them).

<sup>48</sup> See Corbett, Clements, Greenlaw, Worshauer and Miner Declarations at 2, ¶ 4.

<sup>49</sup> 10 C.F.R. § 2.309.

(3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact.<sup>50</sup>

The purpose of these six criteria is to “focus litigation on concrete issues and result in a clearer and more focused record for decision.”<sup>51</sup> The Board will deny a petition to intervene and request for hearing from a petitioner who has standing, but has not proffered at least one admissible contention.<sup>52</sup> The Commission has stated that it “should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing.”<sup>53</sup>

The NRC's contention admissibility rules are thus “strict by design.”<sup>54</sup> The rules were further “toughened . . . in 1989 because in prior years ‘licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.’”<sup>55</sup> Thus, failure to comply with any one of the six admissibility criteria is grounds for rejecting a

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<sup>50</sup> See 10 C.F.R. § 2.309(f)(1)(i)-(vi). The seventh contention admissibility requirement—10 C.F.R. § 2.309(f)(1)(vii)—is only applicable in proceedings arising under 10 C.F.R. § 52.103(b) and, therefore, has no bearing on the admissibility of Petitioner's Proposed Contentions in this proceeding.

<sup>51</sup> Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004) (Final rule).

<sup>52</sup> *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 26 (2001).

<sup>53</sup> Changes to Adjudicatory Process, 69 Fed. Reg. at 2202.

<sup>54</sup> *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

<sup>55</sup> *Id.*

proposed contention.<sup>56</sup> The legal principles governing the application of each of the six pertinent criteria in 10 C.F.R. § 2.309(f)(1) are discussed below.

### **1. Petitioner Must Specifically State the Issue of Law or Fact to Be Raised**

A petitioner must provide “a specific statement of the issue of law or fact to be raised or controverted.”<sup>57</sup> The petitioner must “articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party].”<sup>58</sup> Namely, an “admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application].”<sup>59</sup> The contention rules “bar contentions where petitioners have only ‘what amounts to generalized suspicions, hoping to substantiate them later.’”<sup>60</sup>

### **2. Petitioner Must Briefly Explain the Basis for the Contention**

A petitioner must provide “a brief explanation of the basis for the contention.”<sup>61</sup> This includes “sufficient foundation” to “warrant further exploration.”<sup>62</sup> The petitioner’s explanation serves to define the scope of a contention, as “[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases.”<sup>63</sup> The Board, however, must determine the admissibility of the contention itself, not the admissibility of individual “bases.”<sup>64</sup>

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<sup>56</sup> See Changes to Adjudicatory Process, 69 Fed. Reg. at 2221; see also *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

<sup>57</sup> 10 C.F.R. § 2.309(f)(1)(i).

<sup>58</sup> *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 338 (1999).

<sup>59</sup> *Millstone*, CLI-01-24, 54 NRC at 359-60.

<sup>60</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 424 (2003) (quoting *Oconee*, CLI-99-11, 49 NRC at 337-39).

<sup>61</sup> 10 C.F.R. § 2.309(f)(1)(ii); see Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989) (Final Rule).

<sup>62</sup> *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-942, 32 NRC 395, 428 (1990) (citation omitted).

<sup>63</sup> *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988), *aff’d sub nom.*, *Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir. 1991).

<sup>64</sup> See *La. Energy Servs., L.P.* (Nat’l Enrichment Facility), LBP-04-14, 60 NRC 40, 57 (2004) (“licensing boards generally are to litigate ‘contentions’ rather than ‘bases’”) (citation omitted).

As the Commission has observed, “[i]t is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of [the] proceeding.”<sup>65</sup> In other words, “[a] contention’s proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions.”<sup>66</sup>

### **3. Contentions Must Be Within the Scope of the Proceeding**

A petitioner must demonstrate “that the issue raised in the contention is within the scope of the proceeding.”<sup>67</sup> The scope of the proceeding is defined by the Commission’s notice of opportunity for a hearing.<sup>68</sup> Moreover, contentions are necessarily limited to issues that are germane to the specific application pending before the Licensing Board.<sup>69</sup> Any contention that falls outside the specified scope of the proceeding must be rejected.<sup>70</sup>

A contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding.”<sup>71</sup> Furthermore, a contention that raises a matter that is, or is about to become, the subject of a rulemaking, is also outside the scope of this proceeding.<sup>72</sup> This includes

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<sup>65</sup> *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-14, 48 NRC 39, 41 (1998).

<sup>66</sup> *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998).

<sup>67</sup> 10 C.F.R. § 2.309(f)(1)(iii).

<sup>68</sup> *See Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790-91 (1985).

<sup>69</sup> *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204 (1998).

<sup>70</sup> *See Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979).

<sup>71</sup> 10 C.F.R. § 2.335(a).

<sup>72</sup> *Oconee*, CLI-99-11, 49 NRC at 345 (citing *Potomac Elec. Power Co.* (Douglas Point Nuclear Generating Station, Units 1 & 2), ALAB-218, 8 AEC 79, 85 (1974)). *See also* Conduct of New Reactor Licensing Proceedings, Final Policy Statement, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008) (“New Reactor Policy Statement”).

contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking.<sup>73</sup>

Similarly, any contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must be rejected by the Board as outside the scope of the proceeding.<sup>74</sup> Accordingly, a contention that simply states the petitioner's views about regulatory policy—or takes issue with the nature of existing regulations—does not present a litigable issue.<sup>75</sup>

As here, when an applicant references a standard design certification, NRC regulations limit the scope of a COL proceeding as follows: “Except as provided in 10 C.F.R. § 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.”<sup>76</sup> Appendix D to 10 C.F.R. Part 52 specifies the matters that are considered to be resolved in a COL application that references the AP1000 standard design certification. Issues that are considered to be resolved include all nuclear safety issues associated with the design information in the AP1000 Design Control Document (“DCD”).<sup>77</sup> Thus, any challenges to the AP1000 design are outside the scope of this proceeding.<sup>78</sup>

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<sup>73</sup> See *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159-60, *aff'd*, CLI-01-17, 54 NRC 3 (2001).

<sup>74</sup> *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-07-11, 65 NRC 41, 57-58 (2007) (citing *Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 & 3), ALAB-216, 8 AEC 13, 20 (1974)).

<sup>75</sup> See *Peach Bottom*, ALAB-216, 8 AEC at 20-21. Within the adjudicatory context, however, a petitioner may submit a request for waiver of a rule under 10 C.F.R. § 2.335(b) as discussed in Section IV.A.7 of this Answer, *infra*. Conversely, outside the adjudicatory context, a petitioner may file a petition for rulemaking under 10 C.F.R. § 2.802 or request that the NRC Staff take enforcement action under 10 C.F.R. § 2.206.

<sup>76</sup> 10 C.F.R. § 52.63(a)(5); see also 10 C.F.R. § 52.83(a).

<sup>77</sup> 10 C.F.R. Part 52, App. D, § VI.B.

<sup>78</sup> See 10 C.F.R. § 52.63(a)(5).

#### 4. Contentions Must Raise a Material Issue

A petitioner must demonstrate “that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding.”<sup>79</sup> The standards defining the findings that the NRC must make to support issuance of a COL in this proceeding are set forth in 10 C.F.R. §§ 51.107 and 52.97. As the Commission has observed, “[t]he dispute at issue is ‘material’ if its resolution would ‘make a difference in the outcome of the licensing proceeding.’”<sup>80</sup> In this regard, each contention must be one that, if proven, would entitle the petitioner to relief.<sup>81</sup> Additionally, contentions alleging an error or omission in an application must establish some significant link between the claimed deficiency and protection of the health and safety of the public or the environment.<sup>82</sup>

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

A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so requires the Board to reject the contention.<sup>83</sup> The petitioner’s obligation in this regard has been described as follows:

[A]n intervention petitioner has an *ironclad obligation* to examine the *publicly available documentary material pertaining to the facility in question* with sufficient care to enable [the petitioner] to uncover any information that could serve as the foundation for a specific contention. Stated otherwise, neither Section 189a. of the Act nor Section [2.309] of the Rules of Practice permits the filing

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<sup>79</sup> 10 C.F.R. § 2.309(f)(1)(iv).

<sup>80</sup> *Oconee*, CLI-99-11, 49 NRC at 333-34 (*citing* Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172).

<sup>81</sup> *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363 n.10 (2002).

<sup>82</sup> *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), LBP-04-15, 60 NRC 81, 89, *aff’d*, CLI-04-36, 60 NRC 631 (2004).

<sup>83</sup> *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 262 (1996). *See* 10 C.F.R. § 2.309(f)(1)(v).

of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or staff.<sup>84</sup>

Where a petitioner neglects to provide the requisite support for its contentions, the Board may not make assumptions of fact that favor the petitioner or supply information that is lacking.<sup>85</sup> The petitioner must explain the significance of any factual information upon which it relies.<sup>86</sup>

With respect to factual information or expert opinion proffered in support of a contention, “the Board is not to accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention.”<sup>87</sup> Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.”<sup>88</sup> The Board will examine documents to confirm that they support the proposed contentions.<sup>89</sup> A petitioner’s imprecise reading of a document cannot be the basis for a litigable contention.<sup>90</sup> Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.<sup>91</sup> The mere incorporation of massive documents by reference is similarly unacceptable.<sup>92</sup>

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<sup>84</sup> *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983) (emphasis added).

<sup>85</sup> *See Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 155 (1991).

<sup>86</sup> *See Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 204-05 (2003).

<sup>87</sup> *PFS*, LBP-98-7, 47 NRC at 181.

<sup>88</sup> *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev’d in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

<sup>89</sup> *See Vt. Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

<sup>90</sup> *See Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300 (1995).

<sup>91</sup> *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

<sup>92</sup> *Id.*; *see also Tenn. Valley Auth.* (Browns Ferry Nuclear Plant, Units 1 & 2), LBP-76-10, 3 NRC 209, 216 (1976).

In addition, “an expert opinion that merely states a conclusion (e.g., the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion” as it is alleged to provide a basis for the contention.<sup>93</sup> Conclusory statements cannot provide “sufficient” support for a contention, simply because they are made by an expert.<sup>94</sup> In short, a contention “will be ruled inadmissible if the petitioner ‘has offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”<sup>95</sup>

## **6. Contentions Must Raise a Genuine Dispute of Material Law or Fact**

With regard to the requirement that a petitioner “provide sufficient information to show . . . a genuine dispute . . . with the applicant . . . on a material issue of law or fact,”<sup>96</sup> the Commission has stated that the petitioner must “read the pertinent portions of the license application . . . state the applicant’s position and the petitioner’s opposing view,” and explain why it disagrees with the applicant.<sup>97</sup> If a petitioner believes the license application fails to adequately address a relevant issue, then the petitioner is to “explain why the application is deficient.”<sup>98</sup> A contention that does not directly controvert a position taken by the applicant in the application is subject to dismissal.<sup>99</sup>

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<sup>93</sup> *USEC, Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) ( *quoting PFS*, LBP-98-7, 47 NRC at 181).

<sup>94</sup> *See USEC*, CLI-06-10, 63 NRC at 472.

<sup>95</sup> *Fansteel*, CLI-03-13, 58 NRC at 203 ( *quoting Oyster Creek*, CLI-00-6, 51 NRC at 207).

<sup>96</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>97</sup> Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone*, CLI-01-24, 54 NRC at 358.

<sup>98</sup> Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Palo Verde*, CLI-91-12, 34 NRC at 156.

<sup>99</sup> *See Tex. Utils. Elec. Co. (Comanche Peak Steam Electric Station, Unit 2)*, LBP-92-37, 36 NRC 370, 384 (1992).

Similarly, a petitioner’s oversight or mathematical error does not raise a genuine issue. For example, if a petitioner submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine issue.<sup>100</sup> Further, an allegation that some aspect of a license application is “inadequate” or “unacceptable” does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect.<sup>101</sup>

**B. Requirements for Waiver of a Rule Pursuant to 10 C.F.R. § 2.335**

As discussed above, a contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding.”<sup>102</sup> In order to seek waiver of a rule in a particular adjudicatory proceeding, a petitioner must submit a petition pursuant to 10 C.F.R. § 2.335. The requirements for a Section 2.335 petition are as follows:

The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.<sup>103</sup>

Further, such a petition,

*must be accompanied by an affidavit that identifies the specific aspect or aspects of the subject matter of the proceeding as to which the application of the rule or regulation (or provision of it) would not serve the purposes for which the rule or regulation was adopted. The affidavit must state with particularity the special circumstances alleged to justify the waiver or exception requested.*<sup>104</sup>

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<sup>100</sup> See *Millstone*, LBP-04-15, 60 NRC at 95.

<sup>101</sup> See *Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 & 4)*, LBP-90-16, 31 NRC 509, 521, 521 n.12 (1990).

<sup>102</sup> See 10 C.F.R. § 2.335(a).

<sup>103</sup> *Id.* § 2.335(b).

<sup>104</sup> *Id.* (emphasis added).

In accordance with NRC precedent, a Section 2.335 petition “can be granted only in unusual and compelling circumstances.”<sup>105</sup> The Commission decision in the *Millstone* case states the test for Section 2.335 petitions, under which the petitioner must demonstrate that it satisfies each of the following four criteria:

(i) the rule’s strict application “would not serve the purposes for which [it] was adopted”; (ii) the movant has alleged “special circumstances” that were “not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived”; (iii) those circumstances are “unique” to the facility rather than “common to a large class of facilities”; and (iv) a waiver of the regulation is necessary to reach a “significant safety problem.”<sup>106</sup>

If the petitioner makes the required prima facie showing, then the Licensing Board must certify the matter to the Commission.<sup>107</sup> However, if the petitioner fails to satisfy any of the factors of the four-part test required for making a prima facie showing, then the matter may not be litigated, and “the presiding officer may not further consider the matter.”<sup>108</sup>

## V. **PETITIONERS HAVE FAILED TO PROFFER AN ADMISSIBLE CONTENTION**

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

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<sup>105</sup> *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-895, 28 NRC 7, 16 (1988), *aff’d*, CLI-88-10, 28 NRC 573, 597, *recons. denied*, CLI-89-3, 29 NRC 234 (1989) (citation omitted).

<sup>106</sup> *Dominion Nuclear Conn., Inc.*, CLI-05-24, 62 NRC 551, 559-60 (citing *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-20, 30 NRC 231, 235 (1989), and *Seabrook*, CLI-88-10, 28 NRC at 597). *See also Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), Nos. 50-247-LR & 50-286-LR, Licensing Board Order (Denying CRORIP’s 10 C.F.R. § 2.335 Petition) (July 31, 2008) (unpublished), *aff’d*, CLI-08-27, slip op. (Nov. 6, 2008) (denying petition which fails to make a *prima facie* showing of special circumstance warranting a 10 C.F.R. § 2.335 waiver).

<sup>107</sup> *See* 10 C.F.R. § 2.335(c), (d).

<sup>108</sup> *See id.* § 2.335(c); *see also Millstone*, CLI-05-24, 62 NRC at 560 (“The use of ‘and’ in this list of requirements is both intentional and significant. For a waiver request to be granted, *all four* factors must be met.”) (emphasis in the original).

**A. Proposed Contention 1 (AP1000 Deficiencies)**

**1. Overview of Contention and Supporting Bases**

Proposed Contention 1 asserts as follows:

The COLA is incomplete at this time because the major safety components and procedures proposed for the Summer reactors are only conditionally designed at best. In its COLA, SCE&G has adopted the AP1000 DCD Revision 16, which has not been certified by the NRC and with the filing of Revision 17 by Westinghouse, Revision 16 will no longer be reviewed by the NRC Staff. SCE&G is now required to resubmit its COLA as [a] plant-specific design or to adopt Revision 17 by reference and provide a timetable when its safety components will be certified. Either the plant-specific design or adoption of AP1000 Revision 17 would require changes in SCE&G's application, the final design and operational procedures. Regardless of whether the components are certified or not, the COLA cannot be reviewed without the full disclosure of all designs and operational procedures.<sup>109</sup>

With respect to Revision 16, Petitioners, presumably in an effort to provide a basis, first cite the NRC Staff's January 18, 2008 docketing letter, which they claim indicates that the recirculation screen design is incomplete.<sup>110</sup> Without reference to any supporting documents, Petitioners then assert that "[t]he AP1000 reactors also have an "unresolved instrumentation and controls problem," that purportedly will ultimately impact the safety of the facility in some undefined way.<sup>111</sup> Finally, Petitioners claim that the DCD (and thus the COLA) is inadequate because "certified" Tier 1 components (unidentified by Petitioners) interact with "non-certified" Tier 2 "components" (again, not specifically identified by Petitioners).<sup>112</sup> Those "non-certified" Tier 2 items purportedly "run the gamut" of: (1) reactor containment, (2) control room set up,

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<sup>109</sup> Petition at 12-13.

<sup>110</sup> *Id.* at 14.

<sup>111</sup> *Id.*

<sup>112</sup> *Id.* at 14-15.

(3) seismic qualifications, (4) fire areas, (5) heat removal, (6) human factors engineering design, (7) plant personnel requirements, (8) operator decisionmaking, (9) alarms, and (10) piping.<sup>113</sup>

Petitioners similarly assert that Revision 17 of the AP1000 DCD includes additional “uncertified components.”<sup>114</sup> According to Petitioners, these allegedly “uncertified” items include “turbine design changes, physical security, human factors engineering, responses to seismic activities and adverse weather conditions, radiation protection measures, technical specifications for valves and piping, accident analyses, and aircraft impact.”<sup>115</sup>

Petitioners finally contend that the alleged missing components and procedures, which at best are vaguely described in their Petition, make it “impossible to conduct a meaningful technical and safety review of the COLA.”<sup>116</sup> In particular, they claim that it is not possible to conduct probabilistic risk assessment (“PRA”) and severe accident mitigation alternative (“SAMA”)<sup>117</sup> analyses for the proposed reactors “without the current configuration, design and operating procedures in the application.”<sup>118</sup> Petitioners further assert that completion of the AP1000 design certification process, for which there is no “timetable,”<sup>119</sup> may prompt future modifications to SCE&G’s COLA.<sup>120</sup>

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<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 15.

<sup>115</sup> *Id.*

<sup>116</sup> *Id.* at 14.

<sup>117</sup> *Id.* at 15, 17. Insofar as Petitioners appear to raise concerns related to the AP1000 design, their reference to “SAMA” analysis is not accurate. As explained in ER Section 7.3.1, the Westinghouse DCD analysis is a SAMDA (severe accident mitigation design alternative) analysis. ER at 7.3-1. SAMDA analyses focus primarily on design changes and do not consider procedural modification mitigation alternatives. The Westinghouse SAMDA analysis is presented in Appendix 1B of the AP1000 DCD. ER at 7.3-2. For the sake of consistency, SCE&G hereinafter uses the term “SAMDA” as opposed to “SAMA” in responding to the Petitioners’ arguments.

<sup>118</sup> *Id.* at 17.

<sup>119</sup> *Id.* at 16.

<sup>120</sup> *Id.* at 15.

## 2. Proposed Contention 1 Is Not Admissible and Should Be Dismissed

SCE&G opposes the admission of Proposed Contention 1 because it fails to meet the admissibility criteria set forth in 10 C.F.R. § 2.309(f)(1). In particular, the proposed contention should be dismissed because it: (1) impermissibly challenges the NRC’s Part 52 regulations, contrary to 10 C.F.R. § 2.309(f)(1)(iii); (2) is not supported by factual information or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to controvert relevant portions of the COLA, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Furthermore, while the Commission’s New Reactor Policy Statement indicates that a proposed contention relating to an ongoing design certification amendment may be held in abeyance “if it is otherwise admissible,” Petitioners’ proffered contention challenging the AP1000 design certification amendment (*i.e.*, DCD Revisions 16 and 17) is not admissible, and, therefore, should be denied.<sup>121</sup>

### *a. Proposed Contention 1 Raises Issues Beyond the Scope of This Proceeding Because It Challenges the NRC’s Design Certification Amendment Regulations*

As a threshold matter, Proposed Contention 1 simply does not present a litigable challenge to the adequacy of SCE&G’s COLA because it constitutes a direct attack on the NRC’s design certification process. Subpart C of 10 C.F.R. Part 52 sets forth the process for obtaining a COL for a nuclear power facility and allows a COL applicant to reference a standard design certification or an application for a design certification.<sup>122</sup> Consistent with that regulation, SCE&G’s COLA references the AP1000 design certification rule and associated amendment application.<sup>123</sup> Specifically, SCE&G has referenced the AP1000 standard design and

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<sup>121</sup> 73 Fed. Reg. at 20,972.

<sup>122</sup> See 10 C.F.R. §§ 52.55(c), 52.73(a).

<sup>123</sup> SCE&G COL Application, Rev. 0, Pt. 1, Administrative and Financial Information at 1 (Introduction).

Revision 16, in its COLA<sup>124</sup> and, in so doing, has incorporated by reference in its COLA all of the categories of information that Petitioners allege have been omitted from the application.<sup>125</sup> This is fully documented and explained below and in Attachment 2, to this Answer, “VCSNS COLA Sections That Address Proposed Contention 1.”

Petitioners erroneously claim that SCE&G “must resubmit its COLA as plant-specific design or to adopt Revision 17 by reference and provide a timetable when its safety components will be certified.”<sup>126</sup> Petitioners further assert that either of these actions “would require changes in SCE&G’s application,” and that the “COLA cannot be reviewed without the full disclosure of all designs and operational procedures.”<sup>127</sup> Significantly, Petitioners cite no regulations or other legal authorities to support these claims.

Petitioners also provide no legal basis for their claim that review of the COLA cannot continue unless and until SCE&G adopts Revision 17 of the AP1000 DCD.<sup>128</sup> To the extent that Petitioners’ statement that “Revision 16 will no longer be reviewed by the NRC Staff,” *id.*, may be correct in a literal sense, it is substantively of no consequence, inasmuch as Revision 17 is merely an update to the Revision 16 amendment application. And, notwithstanding that SCE&G

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<sup>124</sup> *Id. passim*. Specifically, the COLA references AP1000 DCD, Revision 16, which was submitted to the NRC on May 26, 2007, and Westinghouse Technical Report APP-GW-GLR-134, “AP1000 DCD Impacts to Support COLA Standardization,” Revision 4 (known as “TR 134”), which was submitted on March 20, 2008 (*available at* ADAMS Accession No. ML080850419). As stated therein, the purpose of TR 134 is to identify changes to the AP1000 DCD, Revision 16, that were made or deemed necessary subsequent to the submittal of the DCD in support of the AP1000 design certification amendment. Such changes may be in the form of or may result from: DCD discrepancies; responses to requests for additional information (“RAIs”) issued against prior technical reports, where those responses contain DCD changes, and correction of typographical errors and other minor corrections. TR 134 at 1. Westinghouse submitted Revision 5 to TR 134 on June 27, 2008. It can be found at ADAMS Accession No. ML081850544.

<sup>125</sup> 10 C.F.R. § 52.79 identifies the technical information requirements for a COLA. Section 52.79(d)(1) provides that a COL applicant may reference the DCD and not otherwise repeat information from the DCD in the COLA. The Commission’s New Reactor Policy Statement extends this procedure to docketed applications for design certifications.

<sup>126</sup> Petition at 13.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.*

has not yet incorporated Revision 17 into its COLA, its incorporation of the Revision 16 AP1000 design certification amendment is expressly authorized by 10 C.F.R. § 52.55(c). While SCE&G plans to amend its application to reference Revision 17,<sup>129</sup> there is no legal basis—in statute or NRC regulation—that might provide a reason why review of the application cannot continue. Accordingly, Proposed Contention 1 is simply an impermissible attack on the Part 52 process.

The Commission has observed that “[a] licensing board considering a COL application referencing a design certification application might conclude the proceeding and determine that the COL application is otherwise acceptable before the design certification rule becomes final.”<sup>130</sup> If SCE&G were to revise its COLA in response to the NRC Staff’s review of AP1000 DCD Revision 16 or 17, then Petitioners could submit contentions at that time. Moreover, Petitioners may raise concerns relating specifically to the AP1000 amendment by filing comments on the proposed rule when it is issued.<sup>131</sup> Thus, contrary to Petitioners claim, this COL proceeding need not come to an abrupt halt. Given the ample documentation currently available, Petitioners clearly have not established that the NRC’s pending review of the AP1000 design certification amendment forecloses their participation in this proceeding or otherwise prejudices them.

Furthermore, Petitioners’ assertions regarding Revisions 16 and 17 impermissibly challenge the standard design certification rule for the AP1000 design, which is found in Appendix D to 10 C.F.R. Part 52. Appendix D defines the scope of this COL proceeding by

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<sup>129</sup> SCE&G plans to update its COLA in 2009, among other things, to adopt Revision 17, in keeping with the requirements of 10 C.F.R. § 50.71(e)(3)(iii). There is no NRC regulation that would require SCE&G to submit an amendment application on an accelerated schedule as a result of this DCD revision submittal.

<sup>130</sup> 73 Fed. Reg. at 20,973. Absent a request by SCE&G that the entire AP1000 certified design application be treated as a “custom” design, however the COL may not actually issue until the design certification rule is final.

<sup>131</sup> We note, though, that Petitioners apparently did not participate in the initial AP1000 rulemaking.

addressing AP1000 design-related issues, by establishing the requirements for a COL applicant that references the appendix, and by creating a process for making changes and departures to the certified design. Additionally, Section 52.63(a) explicitly provides a process for amending existing design certification rules.<sup>132</sup> Petitioners' suggestion that SCE&G's COLA is incomplete because it references the AP1000 design certification amendment application (Revision 16) ignores these regulations and clearly challenges the basic structure of the NRC's regulatory process, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

The Commission addressed Petitioners' concerns in its New Reactor Policy Statement.<sup>133</sup>

In particular, the Commission explained that:

With respect to a design for which certification has been requested but not yet granted, the Commission intends to follow its longstanding precedent that "licensing boards should not accept in individual license proceedings contentions which are (or are about to become) the subject of general rulemaking by the Commission." In accordance with these decisions, a licensing board should treat the NRC's docketing of a design certification application as the Commission's determination that the design is the subject of a general rulemaking. We believe that *a contention that raises an issue on a design matter addressed in the design certification application should be resolved in the design certification rulemaking proceeding, and not the COL proceeding.* Accordingly, in a COL proceeding in which the application references a docketed design certification application, the licensing board should refer such a contention to the staff for consideration in the design certification rulemaking, and hold that contention in abeyance, *if it is otherwise admissible.* Upon adoption of a final design certification rule, such a contention should be denied.<sup>134</sup>

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<sup>132</sup> See also 10 C.F.R. Part 52, App. D, § VIII.

<sup>133</sup> 73 Fed. Reg. at 20,972. As one Appeal Board noted: "The Commission's policy statements are binding on licensing boards." *Miss. Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 & 2), ALAB-704, 16 NRC 1725, 1732 n.9 (1982).

<sup>134</sup> *Id.* at 20,972 (internal citations omitted; emphasis added) (*quoting Oconee*, CLI-99-11, 49 NRC at 345; *Potomac Elec. Generating Co.* (Douglas Point Nuclear Generating Station, Units 1 & 2), ALAB-218, 8 AEC 79, 85 (1974)).

Moreover, in responding to public comments on a draft of the Policy Statement, the Commission explicitly stated that the discussion of design certification applications also encompasses an application for an amendment to a design certification.<sup>135</sup> Accordingly, Petitioners cannot litigate aspects of the design certification amendment in this COL proceeding, because such matters are outside the scope of the proceeding.<sup>136</sup> Insofar as Petitioners wish to raise concerns relating to the AP1000 amendments, including the determination of what material is included in Tier 1 or Tier 2, they may file comments on the proposed rule as indicated above.<sup>137</sup>

Indeed, these legal arguments are not without legal precedent. In the *Shearon Harris* COL proceeding, the Commission expressly applied the principles set forth in its New Reactor Policy Statement when it rejected a motion (to suspend a notice of hearing in that proceeding) that relied on essentially the same arguments advanced by Petitioners relative to the pendency of a design certification rule.<sup>138</sup> The Commission reiterated that “[a] specific provision of Part 52 . . . allows applicants to reference a certified design that has been docketed but not approved, and Petitioners may not challenge Commission regulations in licensing proceedings.”<sup>139</sup> The Commission—citing its New Reactor Policy Statement—made clear that “issues concerning a design certification application should be resolved in the design certification rulemaking and not in a COL proceeding.”<sup>140</sup>

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<sup>135</sup> New Reactor Policy Statement, 73 Fed. Reg. at 20,966.

<sup>136</sup> *See id.* at 20,972.

<sup>137</sup> *See Duke Energy Carolinas, LLC* (Combined License Application for William States Lee III Nuclear Station Units 1 & 2), LBP-08-17, slip op. at 11 (Sept. 22, 2008) (stating that a petitioner “may raise concerns relating specifically to the AP1000 amendment[s] by filing comments on the proposed rule when it is issued”).

<sup>138</sup> *See Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 & 3), CLI-08-15, slip op. at 3-4 (July 23, 2008).

<sup>139</sup> *Id.* at 3 (citations omitted).

<sup>140</sup> *Id.*

In the *Lee* COL proceeding, the Board applied the foregoing principles in dismissing a proposed contention that is materially indistinguishable from the Petitioners’ Proposed Contention in this proceeding.<sup>141</sup> There, the Licensing Board ruled that “[b]ecause [the petitioner] challenges the Applicant’s reliance on a pending design certification fundamentally on procedural grounds, [the contention] constitutes an impermissible challenge to NRC regulations that allow the procedure [the Applicant] has chosen.”<sup>142</sup> In so ruling, the Board emphasized that the procedure followed by Duke in that proceeding (and SCE&G in this proceeding), *i.e.*; “referencing a reactor design for which a design certification application has been docketed but not yet granted[,] is expressly authorized by the Commission’s regulations.”<sup>143</sup>

Finally, Petitioners’ claim regarding improper reliance on non-certified design documents not only represents a direct attack on Appendix D to 10 C.F.R. Part 52, but also reflects their misunderstanding of the two-tier structure of the AP1000 DCD. Appendix D incorporates by reference the generic AP1000 DCD.<sup>144</sup> Currently, Appendix D incorporates by reference Revision 15 of the DCD; Westinghouse has submitted Revisions 16 and 17 of the DCD as part of its request to amend Appendix D.<sup>145</sup> The AP1000 DCD—like the other three certified designs (*i.e.*, the U.S. ABWR, System 80+, and AP600)—is separated into two major divisions of design-related information: Tier 1 and Tier 2.<sup>146</sup> Tier 1 information is both approved and

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<sup>141</sup> LBP-08-17, slip op. at 10-12.

<sup>142</sup> *Id.* at 11-12.

<sup>143</sup> *Id.* at 10-11.

<sup>144</sup> 10 C.F.R. Part 52, App. D, § III.A.

<sup>145</sup> *See id.* § III.A; Westinghouse Elec. Co., Acceptance for Docketing of a Design Certification Rule Amendment Request for the AP1000 Design, 73 Fed. Reg. at 4926.

<sup>146</sup> The Tier 1 portion of the design-related information contained in the DCD includes definitions and general provisions; design descriptions; inspections, tests, analyses, and acceptance criteria (“ITAAC”); significant site parameters; and significant interface requirements. 10 C.F.R. Part 52, App. D, § II.D. Tier 1 information is derived from Tier 2 information. *Id.* The Tier 2 portion of the design-related information contained in the DCD includes information that generally is required to be included in a final safety analysis report (“FSAR”)

certified by Appendix D.<sup>147</sup> Tier 2 information is approved as a sufficient method for meeting Tier 1 requirements.<sup>148</sup> But as Appendix D recognizes that there may be other acceptable ways of complying with Tier 1, Tier 2 information is approved by Appendix D, but is not certified.<sup>149</sup> Petitioners, therefore, are simply incorrect to suggest that Tier 1 and Tier 2 information are not approved.<sup>150</sup> Moreover, any “interaction” between Tier 1 and Tier 2 “components,” as alleged by Petitioners, in no way alters the approved and certified status of Tier 1 information.

Petitioners, as such, misunderstand the relationship between the design certification rule and this adjudicatory proceeding. When an applicant references a standard design certification, Commission regulations limit the scope of a COL proceeding as follows: “Except as provided in 10 C.F.R. § 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.”<sup>151</sup> Appendix D to 10 C.F.R. Part 52 specifies what matters are considered resolved in a COL proceeding that references the AP1000 standard design certification. For example, all nuclear safety issues associated with Tier 1 and Tier 2 information and “[a]ll environmental issues concerning severe accident mitigation design alternatives associated with the information in the NRC’s EA for the AP1000 design and Appendix 1B of the generic DCD” for the AP1000 are considered to be resolved.<sup>152</sup> Any challenges to the previously-certified AP1000 design are outside the scope of this proceeding. Therefore,

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describing the facility, its design bases, and limits on operation; generic technical specifications (“TS”); conceptual design information; supporting information on the ITAAC; COL action items; and investment protection short-term availability controls. *Id.* § II.E.

<sup>147</sup> *Id.* § II.D.

<sup>148</sup> *Id.* § II.E.

<sup>149</sup> *Id.*

<sup>150</sup> *See* Petition at 14-15.

<sup>151</sup> 10 C.F.R. § 52.63(a)(5). *See also* 10 C.F.R. § 52.83(a).

<sup>152</sup> 10 C.F.R. Part 52, App. D, § VI.B.1, 7.

information contained or referenced in the AP1000 DCD is not subject to challenge in this COL proceeding.<sup>153</sup>

In summary, Proposed Contention 1 must be rejected as an impermissible challenge to the Commission's Part 52 regulations, as construed by the Commission in its recent Policy Statement and applied in recent adjudicatory proceedings. Although Petitioners *ostensibly* challenge the completeness of the COLA, Petitioners really take issue with the provisions of Part 52 discussed above. Stated another way, Petitioners have “not identified a dispute with the Application.”<sup>154</sup> Rather they assert that “requiring [them] to file contentions at this time is unfair.”<sup>155</sup> But Petitioners have not requested a waiver of the applicable Part 52 provisions here (nor would such a waiver appear justified), and this adjudicatory proceeding plainly is not a forum for reviewing or challenging the adequacy of NRC rules.

***b. Proposed Contention 1 is Vague and Conclusory and Must be Dismissed for Lack of Specificity and Adequate Factual or Technical Support***

Proposed Contention 1 also should be dismissed because it fails to comply with 10 C.F.R. § 2.309(f)(1)(v). That provision requires a concise statement of “the alleged facts or expert opinions” and “the specific sources and documents” on which the petitioner intends to rely to support its position on the issue.<sup>156</sup> In particular, Section 2.309(f)(1)(v) requires a petitioner “to provide documents or other factual information or expert opinion that set forth *the necessary technical analysis* to show *why* the proffered bases support its contention.”<sup>157</sup>

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<sup>153</sup> See 10 C.F.R. § 52.63(a)(5). As noted in note 131 above, Petitioners apparently chose not to participate in that rulemaking and should not now be heard to complain regarding matters that they could have addressed in that—the appropriate—forum.

<sup>154</sup> *Lee*, LBP-08-17, slip op. at 10.

<sup>155</sup> *Id.* See also *Gen. Pub. Utils. Nuclear Corp.* (Three Mile Island, Unit 1) LBP-86-10, 23 NRC 283, 285 (1986) (generalized views on what applicable policies ought to be are not proper issues for adjudication).

<sup>156</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>157</sup> *PFS*, LBP-98-7, 47 NRC at 180 (citing *Ga. Tech.*, LBP-95-6, 41 NRC at 305) (emphasis added).

Petitioners fall far short of meeting these requirements. At best, Petitioners' criticisms of SCE&G's COLA and the AP1000 design are vague, conclusory, and unfounded.<sup>158</sup> As explained below, Petitioners allege that there are "serious safety inadequacies" in the AP1000 design but provide no competent facts, references, or expert opinion to particularize or substantiate this cryptic claim.<sup>159</sup>

Petitioners cite an NRC Staff letter docketing the AP1000 DCD amendment application that identifies the need for additional information, also known as a Request for Additional Information ("RAI"), regarding the recirculation screen design.<sup>160</sup> That letter, however, does not support Petitioners' allegation that "serious safety inadequacies" exist in the AP1000 design. Such requests for additional information are routine; without more, simple reference to the Staff's RAI as a basis for this contention also runs afoul of longstanding Commission precedent.<sup>161</sup> In particular, the Commission has held that "petitioners must do more than rest on the mere existence of RAIs as a basis for their contention."<sup>162</sup> Instead, a petitioner must provide an "analysis, discussion, or information of their own on any of the issues raised in the RAIs."<sup>163</sup> Petitioners have not done so here.

Moreover, Petitioners ignore supplemental information submitted by the AP1000 vendor, Westinghouse, on the AP1000 docket that provides additional details concerning the screen

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<sup>158</sup> See Petition at 12-17.

<sup>159</sup> See *id.*

<sup>160</sup> *Id.* at 14; Letter from D. Matthews, NRC, to W. Cummins, Westinghouse, "Acceptance Review of the AP1000 Design Certification Amendment Application for Revision 16" at 2 (Jan. 18, 2008), available at ADAMS Accession No. ML073600742.

<sup>161</sup> *Oconee*, CLI-99-11, 49 NRC at 336 (stating that "the NRC Staff's mere posing of questions does not suggest that the application [is] incomplete," and that [t]o satisfy the Commission's contention rule, then, Petitioners must do more than rest on [the] mere existence of RAIs as a basis for their contention") (internal quotation marks and citations omitted).

<sup>162</sup> *Id.*

<sup>163</sup> *Id.* at 337.

design.<sup>164</sup> Again, Petitioners have presented no analysis or information of their own in response to this supplemental information. As such, Petitioners have not shown that a genuine dispute of fact exists with respect to the safety of the recirculation screen design.

Accordingly, Proposed Contention 1 lacks the requisite specificity and support, including appropriate technical analysis, to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v).

Petitioners have not provided sufficient information to show a dispute regarding the recirculation screen design, much less with the adequacy of AP1000 design as a whole. Nor have they provided sufficient information, including references to specific sources and documents, to support their manifestly incorrect claim that the PRA and SAMDA evaluation are invalid or cannot be completed at this time. Instead, they have ignored the content of the COLA that is directly relevant to this aspect of their proposed contention, something they cannot do and expect that their proposed contention will not suffer the consequences.<sup>165</sup> Moreover, to the extent Proposed Contention 1 raises issues relevant to the design certification amendment process, it also is outside the scope of the proceeding for the reasons discussed above.

***c. Proposed Contention 1 Does Not Directly Controvert the COLA or AP1000 Design Certification Amendment Application, Nor Does It Demonstrate the Omission of Any Material Information***

**(i) Petitioners Fail to Controvert a Position Taken by the Applicant in the VCSNS COLA**

Proposed Contention 1 clearly fails to meet the final admissibility criterion set forth in 10 C.F.R. § 2.309(f)(1)(vi). In addition to Section 2.309(f)(1)(v), which focuses on the need for factual support for the contention, Section 2.309(f)(1)(vi) “requires that there be a concrete and

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<sup>164</sup> See Letter from R. Sisk, Westinghouse, to NRC, “Review Schedule for the AP1000 Design Certification Amendment Application, Revision 16” (May 20, 2008), *available at* ADAMS Accession No. ML081430068. Although the NRC Staff may request additional information, it has begun to review these submittals. See Letter from T. Bergman, NRC, to R. Sisk, Westinghouse, “Review Schedule for AP1000 Revision 16 (Docket 52-006)” (June 27, 2008), *available at* ADAMS Accession No. ML081490403.

<sup>165</sup> See *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 355-56.

genuine dispute appropriate for litigation.” Thus, with respect to an alleged error or deficiency in an application, this criterion requires a petitioner to cite *specific portions* of the application that the petitioner disputes and to provide *supporting reasons for each dispute*.<sup>166</sup> In the case of an alleged failure to include relevant information required by law (*i.e.*, an omission), a petitioner must identify “each failure and the supporting reasons for the petitioner’s belief.”<sup>167</sup>

Furthermore, Petitioners’ vague allegations that SCE&G cannot prepare a proper PRA or perform a SAMDA analysis, *due to alleged deficiencies in the AP1000 design*, do not raise a genuine dispute on a material issue.<sup>168</sup> Apart from the vague, generic nature of their complaint, Petitioners completely ignore and make no attempt to controvert—through credible technical analysis—the applicable sections of the VCSNS COLA (*i.e.*, Section 19.59 of the FSAR (PRA Result and Insights), Section 7.3 of the Environmental Report (“ER”) (Severe Accident Mitigation Alternatives), Chapter 19 (Probabilistic Risk Assessment), and Appendix 1B (Severe Accident Mitigation Design Alternatives) of Tier 2 of the AP1000 DCD). Petitioners simply ignore and thereby fail to dispute any information in these sections of the COLA or explain why they do not meet regulatory requirements. Petitioners also fail to provide any basis or support for their assertion that Amendments 16 and/or 17 to the AP1000 DCD somehow invalidate the existing PRA and SAMDAs analysis.<sup>169</sup>

Here, Petitioners claim that “certified” Tier 1 components may “interact” to “significant degree” with certain Tier 2 components for which sufficient information purportedly is not

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<sup>166</sup> 10 C.F.R. § 2.309(f)(1)(vi); *see also Fansteel*, CLI-03-13, 58 NRC at 205 (noting that to meet its pleading burden, a petitioner must provide “plausible and adequately supported claims that the data [in the application] are either inaccurate or insufficient, *i.e.*, by specifically identifying each failure and explaining why the data are flawed”).

<sup>167</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>168</sup> Petition at 14-17.

<sup>169</sup> Petitioners fail to include references or a single expert opinion in support of its claim that the PRA and SAMDA analysis are incorrect or cannot be performed. *See Fansteel*, CLI-03-13, 58 NRC at 203.

available in the COLA or AP1000 DCD.<sup>170</sup> Specifically, as explained above, Petitioners provide a list of 10 items or information categories that they allege are not addressed in the DCD.<sup>171</sup>

Petitioners do not explain why they believe the specified items are missing from the COLA or DCD.<sup>172</sup> Nor do they point to any specific portion of the COLA or DCD that they believe should contain the purportedly missing information.<sup>173</sup>

The very information that Petitioners claim is missing, however, is in fact addressed both in AP1000 DCD and the COLA, which incorporates the former by reference. Attachment 2 to this Answer, “VCSNS COLA Sections That Address Proposed Contention 1,” demonstrates this fact by listing each of the items identified by Petitioners and identifying the *specific sections* of the COLA (FSAR and Appendices) and the DCD (Tier 1 and 2) that address those items.

Attachment 2 also indicates which DCD sections have been revised by Revisions 16 and 17.

Once again, as fully documented in Attachment 2, Petitioners have relied on bare assertions and

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<sup>170</sup> As discussed above, Petitioners misunderstand, and essentially take issue with, the two-tier rule structure established in 10 C.F.R. Part 52, Appendix D.

<sup>171</sup> As noted above, the 10 items described by Petitioners as: (1) reactor containment, (2) control room set up, (3) seismic qualifications, (4) fire areas, (5) heat removal, (6) human factors engineering design, (7) plant personnel requirements, (8) operator decisionmaking, (9) alarms, and (10) piping.

<sup>172</sup> SCE&G notes that the 10 items identified by Petitioners appear to be loosely derived from descriptions contained in Table 1-1 of the Introduction of the AP1000 DCD. Table 1-1 simply lists each item that requires NRC approval before it can be changed and indicates where in the DCD it is addressed. Table 1-1 is appended to this Answer as Attachment 1.

<sup>173</sup> Petitioners’ failure to include any specific references to the COLA or any supporting reasons for their belief that the COLA is somehow deficient is fatal to the proposed contention. *See Turkey Point*, LBP-90-16, 31 NRC at 521, 521 n.12 (stating that an allegation that some aspect of a license application is inadequate or “unacceptable” does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect). Proposed Contention 1 is a “textbook” example of an inadmissible contention in which “the Petitioner’s assertion that the application[] [is] deficient is simply based upon a failure to read or perform any meaningful analysis of the application[].” *Millstone*, LBP-04-15, 60 NRC at 95. SCE&G has provided substantial, detailed technical information in its COLA, as required by NRC regulations. The Petitioners’ assertion that the COLA is deficient “is simply based upon a failure to read or perform any meaningful analysis of the application.” *See id.* Petitioners simply eschew their “ironclad” obligation to review the COLA and identify specific disputes by averring that “[i]t is impossible to conduct a meaningful technical and safety review of the COLA” given the alleged unavailability of final AP1000 design information. *See* Petition at 14.

failed to read or perform any meaningful analysis of the application, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Petitioners' claim regarding alleged "uncertified components specifically addressed in Revision 17" of the DCD similarly fails to meet 10 C.F.R. § 2.309(f)(1)(vi).<sup>174</sup> Contrary to Petitioners' claim, the listed categories of information are not "uncertified" or otherwise unapproved. Revision 17, which was made available on the NRC website on November 25, 2008, provides updated and supplemental information regarding those items. Petitioners have not challenged the adequacy of the discussion contained in Revision 16 or Revision 17, and thus, have not identified a genuine dispute with the Applicant on a material issue of law or fact.

**(ii) Petitioners Fail to Present an "Otherwise Admissible Contention" Concerning the AP1000 Design Certification Amendment Application**

As explained above, a contention that raises an issue on a design matter addressed in a design certification amendment application may be referred to the NRC Staff and held in abeyance "if it is otherwise admissible."<sup>175</sup> Petitioners, though repeatedly lamenting the current status of the AP1000 design certification review process, present no such contention here. As shown above, Petitioners' claims are both ill-defined and lacking in legal or factual support.

In the *Lee* proceeding, the Licensing Board reached the same conclusion with respect to a substantially similar contention.<sup>176</sup> There, the Board ruled that:

"[I]f [the petitioner] had submitted an *otherwise admissible contention* challenging aspects of the Revision 16 design, the

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<sup>174</sup> See Petition at 15. As noted above, the items cited by Petitioners include turbine design changes, physical security, human factors engineering, responses to seismic activities and adverse weather conditions, radiation protection measures, technical specifications for valves and piping, accident analyses, and aircraft impact. *Id.*

<sup>175</sup> *Shearon Harris*, CLI-08-15, slip op. at 4.

<sup>176</sup> *Lee*, LBP-08-17, slip op. at 10-12. Although in *Lee*, the Petitioners proffered separate contentions addressing revisions 16 and 17, the contentions, in aggregate, were substantively the same as the single contention proffered here.

Board would refer that contention to the NRC Staff for consideration in the design certification rulemaking, and hold the contention in abeyance. *But [the petitioner] does not adequately identify any aspect of the pending amendment to the AP1000 design with which it takes issue.*<sup>177</sup>

Accordingly, the Board in that case dismissed the contention, noting that the petitioner—like the Petitioners here—“challenge[d] the Applicant’s reliance on a pending design certification fundamentally on procedural grounds.”<sup>178</sup> Thus, while a contention that raises an issue on a design matter addressed in a design certification amendment application may be referred to the NRC Staff and held in abeyance, it may referred and held in abeyance *only* “if it is otherwise admissible.”<sup>179</sup> Petitioners present no such contention here. As shown, Petitioners’ claims are ill-defined, lack any basis in law or fact, and must be dismissed in their entirety.

## **B. Proposed Contention 2 (Aircraft Crashes)**

### **1. Overview of Proposed Contention and Supporting Bases**

As framed by Petitioners, Proposed Contention 2 asserts that:

SCE&G’s ER, Chapter 7, “Postulated Accidents,” fails to satisfy NEPA and the NRC rules because it does not address the

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<sup>177</sup> *Id.* at 11 (emphasis added).

<sup>178</sup> *Id.* at 11-12.

<sup>179</sup> *Shearon Harris*, CLI-08-15, slip op. at 4. SCE&G recognizes that the Licensing Board presiding in the *Shearon Harris* COL proceeding reached a different conclusion, when it admitted a contention alleging omission of the same items discussed above, albeit from a different COLA referencing the AP1000 design. *See Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 & 3), LBP-08-21, slip op. at 5-9 (Oct. 30, 2008). In LBP-08-21, the Board, , ruled that:

Petitioner has set forth facts indicating *specific* omissions from the COLA that fall within the scenario contemplated by the Commission [in the New Reactor Policy Statement and CLI-08-15]. *We find both Applicant and Staff to have failed to provide information regarding whether or not the asserted omitted material was indeed omitted in the COLA, nor did either provide information indicating whether such allegedly omitted information indeed is required to be in a COLA.* Thus, we find Petitioner’s asserted omissions to be uncontroverted, and therefore admissible.

*Id.* at 9 (emphasis in original omitted; emphasis added). In contrast to the Applicant in *Shearon Harris*, SCE&G has demonstrated in Attachment 2 that the “asserted omitted material” is, indeed, *included* in the DCD and COLA. Therefore, there is no concrete and genuine dispute regarding the required contents or adequacy of the COLA or DCD amendment application that warrants further inquiry by this Board or referral to the Staff.

environmental impacts of a successful attack by either the accidental or deliberate and malicious crash of a fuel-laden and/or explosive-laden aircraft and resulting severe accidents of the aircraft's impact and penetration on the facility. SCE&G is required to identify and incorporate into the design those design features and functional capabilities that avoid or mitigate, to the extent practicable and with reduced reliance on operator actions, the effects of the aircraft impact on the key safety functions, such as core cooling capability, containment integrity, spent fuel cooling capability and spent fuel pool integrity.<sup>180</sup>

As bases for their contention, Petitioners first claim that SCE&G has failed to address the environmental impacts of an accidental or deliberate aircraft crash and the resulting severe accidents.<sup>181</sup> Petitioners argue that the 2006 decision of the U.S. Court of Appeals for the Ninth Circuit in *San Luis Obispo Mothers for Peace v. NRC* requires the NRC to address the impacts of aircraft attacks on nuclear power plants in its NEPA analyses.<sup>182</sup> Petitioners further claim that the AEA requires that SCE&G design the proposed VCSNS Units 2 and 3 to prevent and mitigate the consequences of a “design-basis” aircraft accident.<sup>183</sup> They assert that SCE&G is required to identify and incorporate design features that would avoid or mitigate the impacts from an aircraft impact on key safety functions.<sup>184</sup> Finally, Petitioners contend that an aircraft attack qualifies as a design basis threat (“DBT”).<sup>185</sup>

In support of this Proposed Contention, Petitioners allude to several documents: a study by Argonne National Laboratory (“ANL”) published in 1982; a letter from Florida Power and Light Company (“FPL”) to the NRC assessing the risk to Turkey Point nuclear plant from operation of Homestead Air Force Base; an NRC study on the accident risk at decommissioned

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<sup>180</sup> Petition at 17-18.

<sup>181</sup> *Id.* at 17.

<sup>182</sup> *Id.* at 21 (citing *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006)).

<sup>183</sup> *Id.* at 18.

<sup>184</sup> *Id.* at 17-18.

<sup>185</sup> *Id.* at 18.

nuclear power plants (NUREG-1738): and, a Union of Concerned Scientists (“UCS”) issue brief on NRC security regulations.<sup>186</sup>

## **2. Proposed Contention 2 Is Not Admissible and Should Be Dismissed**

SCE&G opposes the admission of Proposed Contention 2 for several reasons. As a threshold matter, it directly challenges Commission precedent and regulations, and raises matters that are subject to ongoing rulemakings, contrary to 10 C.F.R. § 2.309(f)(1)(iii). Petitioners also fail to establish a genuine dispute with the Applicant on a material issue of law or fact by failing to controvert relevant portions of the COLA, contrary to 10 C.F.R. § 2.309(f)(1)(vi). In addition, the specific documents upon which Petitioners rely do not support their assertion that an aircraft impact assessment is needed for the proposed VCSNS Units, and thereby lacks adequate factual support, contrary to 10 C.F.R. § 2.309(f)(1)(v).

### ***a. Proposed Contention 2 Raises Issues Outside the Scope of the Proceeding Because the Commission Has Held That NEPA Does Not Require the Analysis of Hypothetical Aircraft Attacks on a Proposed Nuclear Facility***

Since the events of September 11, 2001, the Commission and its licensing boards have consistently held that the NRC does not need to consider, as part of its environmental review, terrorist attacks on nuclear power plants.<sup>187</sup> In *Grand Gulf*, for example, the Commission refused to admit a NEPA-terrorism contention in a 10 C.F.R. Part 52 licensing proceeding.<sup>188</sup> Relying on the reasoning in its *Oyster Creek* decision, the Commission stated:

“The ‘environmental’ effect caused by third-party miscreants  
‘is . . . simply too far removed from the natural or expected

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<sup>186</sup> *Id.* at 19-21.

<sup>187</sup> See, e.g., *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124 (2007); *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-10, 65 NRC 144 (2007); *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), CLI-07-9, 65 NRC 139 (2007); see also *S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 269 & n.16 (2007) (citing cases).

<sup>188</sup> *Grand Gulf*, CLI-07-10, 65 NRC at 146.

consequences of agency action to require a study under NEPA.”  
The claimed impact is too attenuated to find the proposed federal  
action to be the “proximate cause” of that impact.<sup>189</sup>

In *Oyster Creek*, the Commission expressly rejected the assertion that the Ninth Circuit’s decision in *Mothers for Peace* requires the NRC and its licensees to address the environmental costs of a successful terrorist attack on a nuclear plant.<sup>190</sup> The Commission explained that, while it was required to comply with the Ninth Circuit’s remand in the *Diablo Canyon* proceeding, it “is not obliged to adhere, in all of its proceedings, to the first court of appeals decision to address a controversial question.”<sup>191</sup> The Commission’s *Grand Gulf* and *Oyster Creek* decisions thus require that Proposed Contention 2 be rejected. Where a matter has been considered by the Commission, it may not be reconsidered by a Board.<sup>192</sup> In recently denying petitions for rulemaking to amend 10 C.F.R. Part 51 filed by the States of Massachusetts and California, the Commission stated that it “remains of the view that an analysis of the environmental impacts of a hypothetical terrorist attack on an NRC-licensed facility is not required under NEPA.”<sup>193</sup>

Consistent with this Commission precedent, several Licensing Boards in other COL proceedings have denied proposed contentions similarly alleging that the applicants had improperly excluded a NEPA analysis of the environmental impacts of hypothetical aircraft attack on their proposed new reactors.<sup>194</sup> As the *Bellefonte* Board summarized:

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<sup>189</sup> *Id.* at 146-47 (quoting *Oyster Creek*, CLI-07-8, 65 NRC at 129).

<sup>190</sup> *See Oyster Creek*, CLI-07-8, 65 NRC at 128-29.

<sup>191</sup> *Id.*

<sup>192</sup> *See Va. Elec. & Power Co.* (North Anna Nuclear Power Station, Units 1 & 2), ALAB-584, 11 NRC 451, 463-65 (1980); *Vogtle*, LBP-07-3, 65 NRC at 269.

<sup>193</sup> The Attorney General of Commonwealth of Massachusetts, The Attorney General of California; Denial of Petitions for Rulemaking, 73 Fed. Reg. 46,204, 46,211 (Aug. 8, 2008) (“Rulemaking Petition Denial”) (*citing Oyster Creek*, CLI-07-8, 65 NRC at 128-29).

<sup>194</sup> *See Shearon Harris*, LBP-08-21, slip op. at 14; *Bellefonte*, LBP-08-16, slip op. at 30; *Lee*, LBP-08-17, slip op. at 27-28.

In various rulings, the Commission has made clear its position that a NEPA analysis is not the vehicle for exploring questions about the potential for a terrorist attack upon a proposed nuclear facility. The Board is in no position to reconsider these legal rulings by the Commission. In this case being litigated far beyond the boundaries of the Ninth Circuit, we must apply the Commission's case law directives. Consequently, the contention must be dismissed.<sup>195</sup>

Moreover, even if NEPA did require such an analysis, Petitioners' SAMDA claim would not satisfy the pleading requirement for a challenge to SCE&G's COLA. This is because Petitioners are required – but have failed – to discuss, or challenge, specific input to the VCSNS SAMDA analysis.<sup>196</sup> Petitioners do not address how they contend a SAMDA analysis of “aviation attacks” should be conducted, nor do they provide any supporting information to show the existence of a genuine dispute relative to the existing SAMDA analysis discussed in Section 7.3 of the ER. In this regard, Petitioners have failed even to discuss, much less demonstrate, how any of the documents they cite relate to the SAMDA analysis described by SCE&G ER. As the Commission has noted, “[i]t would be unreasonable to trigger full adjudicatory proceedings . . . under circumstances in which the Petitioners have done nothing to indicate the approximate relative cost and benefit of [any proposed SAMDA].”<sup>197</sup>

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<sup>195</sup> *Bellefonte*, LBP-08-16, slip op. at 30 (internal citation omitted).

<sup>196</sup> *See PPL Susquehanna, LLC* (Susquehanna Steam Elec. Station, Units 1 & 2), LBP-07-4, 65 NRC 281, 337 (2007) (rejecting a contention due to the petitioner's failure to challenge “any specific input data for the SAMA analysis”).

<sup>197</sup> *Duke Energy Corp.*, (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-17, 56 NRC 1, 11-12 (quoting *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 551 (1978) (citing *Citizens Against Burlington v. Busey*, 938 F.2d 190, 195 (D.C. Cir.), cert. denied, 502 U.S. 994 (1991))).

***b. Proposed Contention 2 Impermissibly Challenges NRC Regulations and Fails to Establish A Genuine Dispute With the Applicant***

**(i) Current NRC Regulations Do Not Require SCE&G to Defend Against or Design Against an Aircraft Crash**

Outside of the NEPA arena, NRC regulations do not require that SCE&G protect against or design against an intentional or accidental aircraft crash. Rather, a COL applicant is required to submit a physical security plan describing how it will meet the requirements in 10 C.F.R. Part 73.<sup>198</sup> In accordance with this requirement, SCE&G submitted its physical security plan as part of its COLA.<sup>199</sup>

The regulations in 10 C.F.R. Part 73 require that a facility's onsite physical protection system be designed to protect against the design basis threat ("DBT"), as defined in 10 C.F.R. § 73.1(a).<sup>200</sup> In the 2007 amendment to the DBT rule, the Commission specifically considered whether to include an aircraft attack within the DBT rule and declined to do so.<sup>201</sup> Accordingly, there is no requirement that SCE&G's proposed reactors defend against an airborne attack, and to the extent that Petitioners suggest an aircraft attack should be part of the DBT, Proposed Contention 2 constitutes an impermissible challenge to the DBT rule.<sup>202</sup>

Nor is there a requirement that the AP1000 reactors be designed to withstand the impact from an accidental aircraft crash. The NRC has determined that an aircraft event only needs to be taken into consideration in the design of a facility if the event results in radiological

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<sup>198</sup> 10 C.F.R. § 52.79(a)(35).

<sup>199</sup> VCSNS COLA, Rev. 0, Part 8 (non-public).

<sup>200</sup> 10 C.F.R. § 73.55(a). Following the issuance of the recently-approved revision to NRC's security regulations, this requirement will be found at 10 C.F.R. § 73.55(b)(2).

<sup>201</sup> See Design Basis Threat, 72 Fed. Reg. 12,705, 12,710-11, 12,725 (Mar. 19, 2007) (final rule).

<sup>202</sup> Furthermore, 10 C.F.R. § 52.10 specifies that a COL applicant is not "required to provide for design features or other measures for the specific purpose of protection against the effects of . . . [a]ttacks and destructive acts, including sabotage, directed against the facility by an enemy of the United States, whether a foreign government or other person."

consequences greater than the 10 C.F.R. Part 100 exposure guidelines with at least a probability of occurrence on an order of magnitude of one-in-ten-million ( $1 \times 10^{-7}$ ) per year.<sup>203</sup>

Furthermore, where an applicant uses conservative assumptions to estimate the probability of an aircraft event and reasonable qualitative arguments are made that the actual probability is lower than estimated, the event only needs to be considered in designing the facility if the event results in radiological consequences greater than the 10 C.F.R. Part 100 exposure guidelines with a probability that exceeds one-in-a-million ( $1 \times 10^{-6}$ ).<sup>204</sup>

In accordance with these guidelines, the AP1000 DCD requires that a COL applicant referencing the design provide an analysis of aircraft hazards and requires no design changes if the probability of such an accident leading to severe consequences is less than one-in-a-million ( $1 \times 10^{-6}$ ).<sup>205</sup> SCE&G analyzed aircraft hazards in Section 2.2.2.7.6 of the FSAR and conservatively showed that the total probability of an aircraft accident is less than  $3.64 \times 10^{-8}$  per year. Contrary to the Section 2.309(f)(1)(vi) criterion, Petitioners do not dispute that evaluation.

Furthermore, there currently is no requirement that a new reactor be designed to protect against a beyond-design-basis aircraft impact.<sup>206</sup> The Commission considers beyond-design-basis accidents “to be so low in probability as not to require specific additional provisions in the design of a reactor facility.”<sup>207</sup> Petitioners fail to point to any current regulation that requires that

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<sup>203</sup> See NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants §§ 2.2.1-2.2.2, at 2.2.1-2.2.2-3, and 3.5.1.6, at 3.5.1.6-4 (Mar. 2007) (“SRP”). See also *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 260 & n. 14 (2001) (citing with approval the acceptance criteria in SRP §§ 2.2.1-2.2.2 and 3.5.1.6).

<sup>204</sup> SRP at 3.5.1.6-5. See also *Consumers Power Co.* (Big Rock Point Plant), LBP-84-32, 20 NRC 601, 639-52 (1984).

<sup>205</sup> AP1000 DCD, Rev. 16, Tier 2, § 2.2 at 2-2 (Mar. 5, 2006).

<sup>206</sup> See SRP § 3.5.1.6 (stating that if the risk from aircraft hazards is sufficiently low, then a design need not be evaluated to assure that it is protected from the potential effects of aircraft impacts).

<sup>207</sup> See *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-87-12, 26 NRC 383, 393 n. 17 (1987).

new reactors be designed to withstand beyond-design-basis events.<sup>208</sup> To the extent Petitioners are advocating stricter requirements than NRC rules impose, this Proposed Contention is an impermissible challenge to NRC regulations.<sup>209</sup>

**(ii) Beyond-Design-Basis Aircraft Assessments Are the Subject of Rulemakings**

In support of Proposed Contention 2, Petitioners also refer to a *draft* final NRC rule that would require that COL applicants perform an assessment of the impact of a large, commercial aircraft unless the COLA references a design certification that complies with the assessment requirement.<sup>210</sup> The Commission’s review and release of the final rule are still pending.<sup>211</sup> Commission precedent clearly establishes that a contention that is the subject of an ongoing rulemaking is outside the scope of an adjudicatory proceeding.<sup>212</sup> In fact, the Licensing Boards in the *Lee* and *Shearon Harris* COL proceedings have denied similar proposed contentions

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<sup>208</sup> When Petitioners served their Petition on December 9, 2008, they correctly noted that proposed 10 C.F.R. § 50.54(hh) was then under NRC consideration as part of the reactor security rulemaking. *See* Petition at 23. Subsequently, on December 17, 2008, the Commission approved Section 50.54(hh) as part of that rulemaking. *See* Staff Requirements Memorandum M081217B, SECY-08-0099 – Final Rule – Power Reactor Security Requirements (RIN 3150-AG63) (Dec. 17, 2008), *available at* ADAMS Accession No. ML083520252 (“SRM M081217B”) (*approving* SECY-08-0099, Final Rule – Power Reactor Security Requirements (RIN 3150-AG63), Encl. 1, at 155 (July 9, 2008), *available at* <http://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/secy2008-0099/2008-0099scy.pdf>). Section 50.54(hh) addresses *operational* requirements related to potential aircraft threats and *programmatic* mitigative strategies for addressing the loss of large areas of a plant due to explosions or fires from a beyond-design-basis event. *See* SECY-08-0099, Encl. 1, at 112-13. In contrast, Proposed Contention 2 challenges the proposed reactor *design*. While Petitioners mention “mitigation” of aircraft accidents, this discussion is in the context of incorporating design features that would mitigate an aircraft impact. *See, e.g.*, Petition at 23. Therefore, by its own terms, Proposed Contention 2 raises a challenge to the design of the proposed VCSNS Units and does not address operational actions or programmatic mitigative strategies. Nonetheless, even if the Board were to view the Petitioners’ incidental citation to Section 50.54(hh) as a challenge to whether SCE&G will comply with Section 50.54(hh)(2) (which will be made applicable to COL applicants through a new paragraph (d) in 10 C.F.R. § 52.80(d) once the security rules become effective on or after January 23, 2009), Petitioners provide no basis, no facts, and no expert opinion related to SCE&G’s compliance with that provision. *See The Curators of the University of Missouri* (Trump-S Project), Docket Nos. 70-00270, 30-02278-MLA, CLI-95-8, 41 NRC 386, 400 (1995).

<sup>209</sup> *See Lee*, LBP-08-17, slip op. at 28; *Turkey Point*, LBP-01-6, 53 NRC at 159.

<sup>210</sup> *See* Petition at 22-23.

<sup>211</sup> *See* SRM M081217B at 1 (instructing the NRC Staff to incorporate changes and undertake additional reviews of the approved final rule prior to its publication).

<sup>212</sup> *See Oconee*, CLI-99-11, 49 NRC at 345; *Douglas Point*, ALAB-218, 8 AEC at 85.

relating to aircraft assessments for impermissibly raising issues that are the subject of the pending aircraft impact rulemaking.<sup>213</sup> Therefore, consistent with those decisions, Proposed Contention 2 should be rejected because it contravenes 10 C.F.R. § 2.309(f)(1)(iii).<sup>214</sup>

In addition, Petitioners fail to acknowledge that, consistent with the proposed aircraft impact rule, Westinghouse already has voluntarily performed an aircraft impact assessment for the AP1000, and submitted to the NRC a summary of the assessment. The summary describes the design features and functional capabilities identified in the assessment and how these design features and functional capabilities avoid or mitigate the effects of the aircraft impacts.<sup>215</sup> In fact, the Statement of Considerations for the draft final rule explains that COL applicants (such as SCE&G) that reference the AP1000 would not be required to perform an aircraft assessment, if Westinghouse's submission is approved as part of the pending AP1000 design certification amendment.<sup>216</sup> In this respect, the Statement of Considerations further explains:

[T]he adequacy of the impact assessment . . . may not be the subject of a contention submitted as part of a petition to intervene under 10 CFR 2.309 . . . . [Rather, a] person who seeks NRC

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<sup>213</sup> *Shearon Harris*, LBP-08-21, slip op. at 14; *Lee*, LBP-08-17, slip op. at 28.

<sup>214</sup> While Licensing Boards are directed to hold otherwise admissible contentions that relate to a design certification rulemaking in abeyance, as opposed to initially denying such contentions, *see* New Reactor Policy Statement, 73 Fed. Reg. at 20,972, this is not the case with the proposed aircraft impact rule. Absent a final rule, there is no requirement to consider a beyond-design-basis aircraft event in the design of a reactor and, thus, there is no reason to hold this contention in abeyance even if it were otherwise admissible.

<sup>215</sup> *See* Letter from R. Sisk, Westinghouse, to NRC, "AP1000 Standard COL Technical Report Submittal of APP-GW-GLR-126, Revision 0 (TR 126) (Apr. 3, 2008), *available at* ADAMS Accession No. ML080980257; Westinghouse, Technical Report Number 126, APP-GW-GLR-126-NS, Nuclear Island Response to Aircraft Impact (Apr. 3, 2008) (public version), *available at* ADAMS Accession No. ML080980258.

<sup>216</sup> *See* SECY-08-0152, Final Rule—Consideration of Aircraft Impacts for New Nuclear Power Reactors (RIN 3150-A119), Encl. 1, at 120 (Oct. 15, 2008), *available at* <http://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/secy2008-0152/2008-0152scy.pdf> (new 10 C.F.R. § 50.150(b)(1)(iii) would provide that, "[n]otwithstanding other NRC requirements, the NRC may issue a combined license . . . only if the NRC finds that either the applicant has complied with the requirements of this section, or the license references a design certification . . . meeting the requirements of this section, as applicable"). *See also id.* at 97 ("For one of these certified designs, the AP1000, the original applicant has voluntarily submitted to the NRC an amendment that it believes will comply with the requirements of the aircraft impact rule. If the NRC approves the amendment as meeting the aircraft impact rule, then any combined license applicants referencing the recertified design will not be required to perform an aircraft impact assessment.").

rulemaking action with respect to a proposed standard design certification on the basis that the requirements of the rule with respect to the identification and description of design features and functional capabilities has not been met could submit comments in the notice and comment phase of that rulemaking.<sup>217</sup>

Therefore, even if the Commission approves the aircraft impact rule in its current draft final form, the Board should not admit an aircraft assessment-related contention in this proceeding. Rather, the proper venue for Petitioners to raise any concerns regarding the aircraft assessment is by participating in the AP1000 design certification amendment rulemaking.<sup>218</sup>

***c. Proposed Contention 2 Lacks Adequate Factual, Documentary, or Expert Opinion Support***

Proposed Contention 2 also is inadmissible because the referenced documents upon which Petitioners rely do not support their position. As noted above, in support of Petitioners' claim that aircraft accidents and related mitigation must be considered in the design of a reactor, Petitioners point to a 1982 ANL study, an FPL letter, NUREG-1738, and a UCS issue brief.<sup>219</sup> With respect to the ANL document, Petitioners state that, "at least since the Argonne study in 1982, it has been well known that compared to other causes of accidents, aviation attacks are some of the most severe."<sup>220</sup> In regard to the FPL letter, Petitioners claim that "the owner of the plant informed [the NRC] that a number of postulated aircraft impacts would lead to fuel damage, *i.e.*, conditional core damage probability, and core failure."<sup>221</sup> According to Petitioners, NUREG-1738 "determined that the impacts of an aircraft attack were possible and that the

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<sup>217</sup> *Id.* at 29-30.

<sup>218</sup> This Proposed Contention is inadmissible not only because it raised issues that are the subject of the ongoing AP1000 design certification amendment rulemaking, but also because the Board should not hold the Proposed Contention in abeyance, subject to denial on 10 C.F.R. §§ 2.309(f)(1)(iii) and 2.335(a) grounds upon completion of the design certification rulemaking. *See* New Reactor Policy Statement, 73 Fed. Reg. at 20,972.

<sup>219</sup> Petition at 19-21.

<sup>220</sup> *Id.* at 19.

<sup>221</sup> *Id.* at 19-20.

results were potentially devastating.”<sup>222</sup> Finally, Petitioners assert that the UCS issue brief “rebutted” the NRC’s position that nuclear power plants are inherently robust structures capable of providing adequate protection in a hypothetical attack by an airplane.<sup>223</sup>

Close scrutiny of the content and context of the foregoing documents, however, reveals that the information presented therein does not support the alleged need to consider the impacts from an aircraft accident involving AP1000 reactors at the VCSNS site. In fact, none of those documents considers the aircraft hazards risk at the VCSNS site, the design of the AP1000 reactor, or the SAMDA analyses performed by SCE&G and discussed in the ER. Petitioners make no attempt to explain how these documents may be relevant to the analyses presented in the VCSNS COLA. Rather, Petitioners’ ostensible support for Proposed Contention 2, as derived from these documents and presented in their Petition, consists mainly of statements inappropriately taken out of context.

For example, Petitioners claim that the FPL letter shows that an aircraft accident “would lead to fuel damage . . . and core failure.”<sup>224</sup> This simply is not true. The portion of the FPL Letter that Petitioners reference discussed a sensitivity analysis intended to determine whether increasing aircraft crash frequency by a factor of ten would have a significant impact on the probability that 10 C.F.R. Part 100 dose criteria would be exceeded. As part of that calculation, the applicant assumed certain values for conditional core damage probability (“CCDP”) and conditional containment failure probability (“CCFP”). Petitioners fail to set forth any supporting facts or expert opinion that suggests that these values are anything but conservative assumptions

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<sup>222</sup> *Id.* at 20.

<sup>223</sup> *Id.* at 21.

<sup>224</sup> *Id.* (citing Letter from R.J. Hovey, FPL, to NRC, “Response to Request for Information Regarding the Potential Risk of the Proposed Civil and Government Aircraft Operations at Homestead Air Force Base on the Turkey Point Plant (TAC NOS. MA6249 and MA6250)” at 8 (May 1, 2000), available at ADAMS Accession No. ML003712918 (“FPL Letter”).

or that they are in any way relevant to VCSNS or the AP1000.<sup>225</sup> Accordingly, Proposed Contention 2 should be dismissed because it lacks adequate factual support, contrary to 10 C.F.R. § 2.309(f)(1)(v).

**C. Proposed Contention 3 (Need for Power, Cost of Action, and Alternatives)**

**1. Overview of Proposed Contention and Supporting Bases**

Proposed Contention 3, which presents a broad amalgam of NEPA-based claims, alleges purported deficiencies in ER Chapter 8 (Need for Power), Chapter 9 (Proposed Action), and Chapter 10 (Proposed Action Consequences). In Petitioners' own words, Proposed Contention 3 asserts that "SCE&G has overestimated the need for power to be provided by the proposed facility; has underestimated the cost of the proposed Summer reactors; and has failed to value alternatives including energy efficiency and renewable sources of power."<sup>226</sup> Petitioners claim that "the proposal described by [SCE&G] in its ER does not meet the NEPA standards," and that "[u]ntil the costs and risks of the proposed [VCSNS] reactors and the alternatives are fairly and completely presented, the NRC Staff will not be able to complete its EIS."<sup>227</sup> In support of these allegations, Petitioners offer the Declaration of Nancy Brockway, whom they describe as "a utility resource planning expert and former New Hampshire Public Utility Commissioner."<sup>228</sup>

Proposed Contention 3 is supported by seven separate bases (labeled A through G). SCE&G discusses the seven bases in greater detail below. In brief, the seven bases respectively assert that SCE&G has failed to consider, or to evaluate adequately:

- the "current economic crisis" as part of the "need for power" analysis (Basis A);

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<sup>225</sup> Furthermore, even with these assumed values for CCDP and CCFP and a tenfold increase in the probability of an aircraft crash, FPL found that the Part 100 exceedance probability was  $3.82 \times 10^{-7}$ . FPL Letter at 8.

<sup>226</sup> Petition at 2.

<sup>227</sup> *Id.* at 47.

<sup>228</sup> *Id.* at 28; *see* Declaration of Nancy Brockway in Support of Petition for Intervention and Request for Hearing by the Sierra Club and Friends of the Earth (Dec. 9, 2008) ("Brockway Declaration").

- demand-side management opportunities as part of its alternatives analysis (Basis B);
- the potential contribution of renewable energy sources “to an overall sustainable and economic portfolio” (Basis C);
- the risk associated with “choosing a single technology and two extremely large construction projects in lieu of a more modular approach” (Basis D);
- the impact of construction and operation of VCSNS Units 2 and 3 on vulnerable customers via rate increases (Basis E);
- recent “rapid increases in the costs of inputs for construction” (Basis F); and
- alleged schedule-related uncertainties associated with the NRC Staff’s pending review of “changes to the previously-approved [AP1000] design” as a result of Westinghouse’s submittal of Revisions 16 and 17 of the AP1000 DCD (Basis G).<sup>229</sup>

**2. Applicable Legal Framework and Controlling Principles Under NEPA, 10 C.F.R. Part 51, and Relevant Case Law**

Before addressing the admissibility of Proposed Contention 3, it is necessary to place Petitioners’ various claims in their appropriate legal and regulatory contexts. Petitioners seek to challenge the extent to which the Applicant’s ER complies with “the requirements of [NEPA] and 10 C.F.R. § 51.45.”<sup>230</sup> NEPA and the NRC’s Part 51 regulations require the Staff to consider the potential environmental effects of any proposed “major Federal action significantly affecting the quality of the human environment,” as defined by NEPA.<sup>231</sup> The proposed issuance of a COL is such an action. Thus, Part 52 requires a COL applicant to file with its application an ER pursuant to the relevant portions of Part 51. The ER must contain “a description of the proposed action, a statement of its purposes, and a description of the environment affected . . . .”<sup>232</sup>

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<sup>229</sup> Petition at 25-26.

<sup>230</sup> *Id.* at 24.

<sup>231</sup> 10 C.F.R. § 51.20(a)(1); *see* 42 U.S.C. 4321 *et seq.* (2006).

<sup>232</sup> 10 C.F.R. § 51.45(b).

Generally, an ER also must discuss, among other things: (1) the impact of the proposed action on the environment, with impacts “discussed in proportion to their significance;”<sup>233</sup> and (2) alternatives to the proposed action, with that discussion being “sufficiently complete to aid the Commission in developing and exploring, pursuant to section 102(2)(E) of NEPA, ‘appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.’”<sup>234</sup> The analysis in the ER must consider and balance the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and alternatives available for reducing or avoiding adverse environmental effects.<sup>235</sup>

Insofar as the foregoing NEPA and Part 51 requirements are germane to the instant contention, they are discussed in greater detail below. In particular, this section provides an overview of the three major areas of NEPA analysis to which Proposed Contention 3 relates: (1) cost-benefit balancing, (2) “need for power” analysis, and (3) the evaluation of reasonable alternatives to the proposed action.

***a. Cost-Benefit Balancing Under NEPA***

NEPA is generally regarded as requiring a weighing of the *environmental costs* against the *economic, technical, or other public benefits* of a proposal.<sup>236</sup> As the Commission explained in *Clinch River*, “[t]he courts have found an additional requirement for a cost-benefit analysis in which the need for the proposed action, the satisfaction of which is the benefit side of the scale,

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<sup>233</sup> *Id.* § 51.45(b)(1).

<sup>234</sup> *Id.* § 51.45(b)(3).

<sup>235</sup> *Id.* § 51.45(c).

<sup>236</sup> *See, e.g., Idaho v. ICC*, 35 F.3d 585, 595 (D.C. Cir. 1994); *Calvert Cliffs’ Coordinating Comm., Inc. v. AEC*, 449 F.2d 1109, 1113 (D.C. Cir. 1971).

is weighed against its environmental costs.”<sup>237</sup> An agency’s EIS (or, in this case, an applicant’s ER) need not, however, always contain a formal or mathematical cost-benefit analysis.<sup>238</sup>

“NEPA does not demand that every federal decision be verified by reduction to mathematical absolutes for insertion into a precise formula.”<sup>239</sup> NRC regulations direct the 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.”<sup>240</sup> If important factors cannot be quantified, then they may be discussed qualitatively.<sup>241</sup>

With respect to cost-benefit balancing, the Commission has emphasized that NEPA’s “theme . . . is sounded by the adjective ‘environmental’: NEPA does not require the agency to assess every impact or effect of its proposed action, but only the impact or effect on the environment.”<sup>242</sup> Therefore, the “[d]etermination of economic benefits and costs that are tangential to environmental consequences are within [a] wide area of agency discretion.”<sup>243</sup> In the case of economic benefits, “a key consideration . . . [is] whether the economic assumptions of the FEIS [or ER] ‘were so distorted as to impair fair consideration of the’ project’s adverse

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<sup>237</sup> *United States Energy Research and Dev. Admin.* (Clinch River Breeder Reactor Plant), CLI-76-13, 4 NRC 67, 76 (1976).

<sup>238</sup> It warrants mention that the courts and the Council on Environmental Quality (“CEQ”) have distinguished between cost-benefit *balancing* and cost-benefit *analysis*. Cost-benefit analysis is a quantitative analytic technique in which all benefits and costs are monetized and a numerical ratio is obtained. The courts have not construed NEPA to require a cost benefit analysis. See David R. Mandelker, NEPA Law and Litigation §§ 10.24 to 10.25 (2d ed. 1999 & 2008 Supp.). As the Fifth Circuit has observed, NEPA “permits, at most, a narrowly focused, indirect review of the economic assumptions underlying a federal project described in an impact statement.” *S. La. Envtl. Council, Inc. v. Sand*, 629 F.2d 1005, 1011 (5th Cir. 1980).

<sup>239</sup> See, e.g., *Sierra Club v. Lynn*, 502 F.2d 43, 61 (5th Cir. 1974), cert. denied, 422 U.S. 1049 (1975). See also 40 C.F.R. § 1502.23 (CEQ regulation).

<sup>240</sup> 10 C.F.R. § 51.71(d).

<sup>241</sup> *Id.*

<sup>242</sup> *La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), CLI-98-3, 47 NRC 77, 88 (quoting *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 772 (1983)).

<sup>243</sup> *Id.* at 89 (quoting *S. La. Envtl. Council*, 629 F.2d at 1011).

environmental effects.”<sup>244</sup> Accordingly, when it comes to the NEPA cost-benefit balance, the Commission’s primary concern is that misleading information on economic *benefits* of a project—not the financial *costs* of a project—“could skew an agency’s overall assessment of a project’s [environmental] costs and benefits, and potentially ‘result in approval of a project that otherwise would not have been approved because of its adverse environmental effects.’”<sup>245</sup>

***b. Need for Power Analysis Under NEPA***

As the Commission has explained, to assist the NEPA cost-benefit balance, “the NRC ordinarily examines the need a facility will meet and the benefits it will create.”<sup>246</sup> In a 2003 denial of a rulemaking petition, the Commission discussed the need-for-power inquiry at some length. The Commission explained that the NRC historically has “equated the need for power with the benefits of the proposed action.”<sup>247</sup> Specifically, “need for power” is “a shorthand expression for the ‘benefit’ side of the cost-benefit balance, which NEPA mandates for a proceeding considering the licensing of a nuclear plant.”<sup>248</sup> There may be numerous “reasonably foreseeable” benefits associated with a proposed project.<sup>249</sup> For example, the Commission has acknowledged “that the construction and operation of a nuclear power plant could have multiple

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<sup>244</sup> *Id.*

<sup>245</sup> *Id.* (citing *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir. 1996)).

<sup>246</sup> *Claiborne*, CLI-98-3, 47 NRC at 89 (quoting *La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), LBP-96-25, 44 NRC 331, 346-47, 346 n.5 (1996)).

<sup>247</sup> Nuclear Energy Institute; Denial of Petition for Rulemaking, 68 Fed. Reg. 55,905, 55,909 (Sept. 29, 2003) (“2003 Rulemaking Petition Denial”).

<sup>248</sup> *Id.* (quoting *Pub. Serv. Co. of Okla.* (Black Fox Station, Units 1 & 2), ALAB-573, 10 NRC 775, 804 (1979)); see also *Rochester Gas and Elec. Corp.* (Sterling Power Project, Nuclear Unit 1), ALAB-502, 8 NRC 383, 388 n.11 (1978); *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-422, 6 NRC 33, 90 (1977); *Kansas Gas and Elec. Co.* (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 327 (1978).

<sup>249</sup> 2003 Rulemaking Petition Denial, 68 Fed. Reg. at 55,909.

benefits such as reducing greenhouse gases and other air pollutants and increasing energy efficiency by retiring older, less efficient sources of power.”<sup>250</sup>

The Commission also has indicated that, while NEPA requires the agency to perform a “reasonable assessment” of the need for power, “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.”<sup>251</sup> For purposes of NEPA, therefore, the NRC generally need not undertake a rigorous economic analysis of the type performed routinely by cognizant state regulators. Indeed, the Commission has made clear that:

[W]hile a discussion of need for power is required, the Commission is *not* looking for burdensome attempts by the applicant to precisely identify future market conditions and energy demand, or to 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.<sup>252</sup>

Finally, the Commission has stated unequivocally that it adheres to the general premise that the NRC may “accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project.”<sup>253</sup> In this same vein, the NRC “will ordinarily give substantial weight to a properly-supported statement of purpose and need by an applicant and/or sponsor of a project in determining the scope of alternatives to be considered by the NRC.”<sup>254</sup>

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<sup>250</sup> *Id.*

<sup>251</sup> *Id.*

<sup>252</sup> *Id.* at 55,910 (citing *Claiborne*, 47 NRC at 88, 94).

<sup>253</sup> *Id.* (quoting *Hydro Res., Inc.*, CLI-01-4, 53 NRC 31, 55 (2001) (citing *Citizens Against Burlington*, 938 F.2d at 197, *cert. denied*, 502 U.S. 994 (1991))).

<sup>254</sup> *Id.*

*c. Analysis of Alternatives to the Proposed Action Under NEPA*

NEPA requires a federal agency to consider alternatives to a proposed action in addition to its environmental impacts. Section 51.45, the NRC regulation that prescribes the content of an ER, states that the discussion of alternatives should be “sufficiently complete to aid the Commission in developing and exploring, pursuant to Section 101(2)(E) of NEPA, ‘appropriate alternatives to the recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.’”<sup>255</sup> That regulation further provides that, to the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form.<sup>256</sup>

NEPA requires only consideration of alternatives that are “feasible” or “reasonable.”<sup>257</sup> The NRC’s Part 51 regulations codify a standard that federal courts have applied consistently in reviewing agency environmental impact statements.<sup>258</sup> Specifically, “an agency need follow only a ‘rule of reason’ in preparing an EIS,” and “this rule of reason governs both *which* alternatives the agency must discuss, and the *extent* to which it must discuss them.”<sup>259</sup> An agency, in other words, is required to examine only those alternatives that are necessary to permit a “reasoned choice.”<sup>260</sup>

Given that the terms “reasonable” and “alternatives” are not self-defining,<sup>261</sup> the courts have concluded that “project alternatives derive from an [EIS’s or, in the first instance, from an ER’s] Purpose and Need section, which briefly describes ‘the underlying purpose and need to

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<sup>255</sup> 10 C.F.R. § 51.45(b)(3).

<sup>256</sup> *Id.*

<sup>257</sup> *City of Angoon v. Hodel*, 803 F.2d 1016, 1021 (9th Cir. 1986), *cert. denied*, 484 U.S. 870 (1987).

<sup>258</sup> *See, e.g.*, 10 C.F.R. § 51.71(f) (requiring consideration of “reasonable alternatives”).

<sup>259</sup> *Citizens Against Burlington*, 938 F.2d at 195 (citations omitted; emphasis in original).

<sup>260</sup> *Natural Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972).

<sup>261</sup> *Citizens Against Burlington*, 938 F.2d at 194-195.

which an agency is responding in proposing the alternatives [to] the proposed action.”<sup>262</sup> The term “alternatives” thus means “[t]he alternative ways of accomplishing the objectives of the proposed action and the results of not accomplishing the proposed action.”<sup>263</sup> Therefore, “[w]hen the purpose is to accomplish one thing, it makes no sense to consider alternative ways by which another thing might be achieved.”<sup>264</sup>

Importantly, the Commission has followed the approach established by the D.C. Circuit in *Citizens Against Burlington*, holding that “reasonable alternatives” are those that “will bring about the ends” of the proposed action, and that the agency must take into account the “economic goals” of a private applicant.<sup>265</sup> Accordingly, in its 2003 Rulemaking Petition Denial, the Commission noted that, while “the applicant should not set forth an unreasonably narrow objective of its project . . . [t]here may well be circumstances where an entity seeking a CP or COL may be able to . . . justify excluding from the EIS consideration of non-nuclear alternative energy sources.”<sup>266</sup> And, as stated above, the Commission has concluded that when a federal agency acts not as a proprietor but to approve a project sponsored by a private entity, it “should ordinarily accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project.”<sup>267</sup>

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<sup>262</sup> *City of Carmel-by-the-Sea v. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1997) (citing 40 C.F.R. § 1502.13).

<sup>263</sup> *Citizens Against Burlington*, 938 F.2d at 195 n.4.

<sup>264</sup> *Id.* (citing *City of Angoon*, 803 F.2d at 1021).

<sup>265</sup> See *Hydro Res.*, CLI-01-4, 53 NRC at 55-56 (citing *Citizens Against Burlington*, 938 F.2d at 195, 196; *City of Grapevine v. DOT*, 17 F.3d 1502, 1506 (D.C. Cir.), cert. denied, 513 U.S. 1043 (1994)).

<sup>266</sup> 2003 Rulemaking Petition Denial, 68 Fed. Reg. at 55,910-11.

<sup>267</sup> *Id.* at 55,909.

**3. None of Petitioners' Proffered Bases Support Admission of Proposed Contention 3, Which Should Be Accordingly Dismissed**

***a. Basis A Lacks Adequate Factual or Expert Opinion Support and Fails to Establish a Genuine Dispute With the Applicant on a Material Issue***

Basis A of the proposed contention alleges that “the Applicant completely dismisses the current economic crisis and recent reductions in sales, and has conducted no sensitivities [sic] of its load forecast to try to capture the possible effects of a recession, including the possibility of a long and deep economic downturn.”<sup>268</sup> Petitioners contend that “SCE&G’s load forecasts are unreliable in that they fail to take into account the likely impact of the recent economic downturn in the United States and in South Carolina.”<sup>269</sup> Specifically, Petitioners assert that because SCE&G’s Application is based on the company’s 2007 Integrated Resource Plan, its load forecast does not account for the events of September 2008.<sup>270</sup> Petitioners thus claim that SCE&G’s “April 2007 load forecast is out of date and should not be relied upon by any utility or regulator to determine likely future needs for power in the SCE&G service area.”<sup>271</sup>

For many reasons, Basis A fails to provide Proposed Contention 3 with adequate factual or expert opinion support (notwithstanding the Brockway Declaration), and fails to demonstrate the existence of genuine material dispute that warrants “inquiry in depth” by this Board. First, neither Petitioners, nor their proffered expert, provide “the necessary technical analysis” to show why Basis A supports their contention. As described in ER Section 8.1.1 (“Load Forecast”), SCE&G bases its load forecasts on multiple sources of information, including historical data back to 1993 (including “a database of historical energy sales and peak demand values and

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<sup>268</sup> Petition at 25.

<sup>269</sup> *Id.* at 31.

<sup>270</sup> *Id.*

<sup>271</sup> *Id.*

historical data for factors that influence sales and demand”<sup>272</sup>), commercially-generated projections, econometric modeling, and professional judgment. Notably, ER Section 8.1.1 explains that:

SCE&G uses econometric modeling to establish the relationships between variables to be explained or forecasted (e.g., energy sales and peak demand) and other factors (e.g., population and economic growth and industrial development). The modeling enables SCE&G to use those relationships to predict energy sales and peak demand *using projections of the factors that historically influence sales and demand*. The modeling also enables SCE&G to perform *analyses of the sensitivity of results to changes in model inputs* such as fuel prices. SCE&G uses commercially developed software (from SAS Institute, Inc.) that incorporates regression analysis and various statistics to evaluate the success of the regression analyses.<sup>273</sup>

The ER further states that SCE&G also considers, *inter alia*, economic factors, *including the effects of recessions*, and input from SCE&G’s largest industrial customers about potential changes in electricity usage.<sup>274</sup> Significantly, “SCE&G updates this [sic] data annually to incorporate the past year’s information, and reviews previous forecasting accuracy,” and “[o]n average, SCE&G forecasting error has been about 1.3%.”<sup>275</sup>

Notwithstanding their ongoing participation in the proceeding before the South Carolina Public Service Commission (“PSC”),<sup>276</sup> Petitioners provide no meaningful support—factual or

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<sup>272</sup> ER § 8.1.1.1, at 8.1-2.

<sup>273</sup> *Id.* at 8.1-2 (emphasis added).

<sup>274</sup> *Id.* (emphasis added).

<sup>275</sup> *Id.* at 8.1-2.

<sup>276</sup> Friends of the Earth (represented, as here, by Mr. Guild and supported by testimony by Ms. Brockway), Ms. Corbett, Ms. Miner, Ms. Greenlaw, and Ms. Warshauer (as well as another unrelated petitioner in this proceeding, Mr. Joseph Wojcicki) all participated in the still pending proceeding before the South Carolina Public Service Commission, Docket No. 2008-196-e: South Carolina Electric & Gas Company - Combined Application for a Certificate of Environmental Compatibility and Public Convenience and Necessity, and for a Base Load Review Order for the Construction and Operation of a Nuclear Facility in Jenkinsville, South Carolina. Indeed, the Brockway Declaration proffered in this proceeding is largely the same as the testimony she offered in the PSC proceeding. It is clear that overall, Petitioners are seeking simply to rehash issues already being litigated in a more appropriate forum. As observed in the *Susquehanna* power uprate

otherwise—for their assertion that SCE&G’s load forecast is “unreliable.”<sup>277</sup> With respect to SCE&G’s and Santee Cooper’s capacity and demand forecasts in ER Figures 8.1-3 and 8.2-2, Petitioners state only that they “are basic straight-line extensions of the experience of recent years.”<sup>278</sup> No further insights are offered by Petitioners or Ms. Brockway.

Along these same vague lines of attack, Petitioners merely assert that SCE&G’s approach to long-term load forecasting is “naïve” in light of *unexplained* “structural differences between the current economic crisis and ordinary downturns in the business cycle.”<sup>279</sup> They opine, in conclusory fashion, that the prospects for recovery of load growth are “uncertain at best.”<sup>280</sup> The remainder—indeed, the balance—of Petitioners’ discussion (and Ms. Brockway’s Declaration) is devoted to an itemized listing of recent economic woes that have befallen the entire country, if not much of the world, including the State of South Carolina. The upshot of this protracted discussion is the unremarkable proposition that we are in the midst of an “economic downturn.”<sup>281</sup> Such generic observations do not provide an adequate basis for contention admissibility.<sup>282</sup>

Basis A fails in another significant and fatal respect. Nowhere in the Petition or supporting Declaration do Petitioners or their expert explain *why* the purported “structural differences” between current and historical economic conditions *materially* affect the load

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proceeding, “as a matter of policy, Licensing Boards should reject contentions that attempt to litigate an issue that is ‘primarily the responsibility of other federal or state/local regulatory agencies.’” *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 27 (2007).

<sup>277</sup> Petition at 31.

<sup>278</sup> *Id.* at 30.

<sup>279</sup> *Id.* at 34

<sup>280</sup> *Id.*

<sup>281</sup> *Id.* at 31; Brockway Declaration at ¶¶ 15-33.

<sup>282</sup> *See, e.g., Millstone*, CLI-01-24, 54 NRC at 359-60 (stating that “an admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]”).

forecasts presented *in the ER*. On this crucial nexus they are silent. To be material to the findings the NRC must make to support the action that is involved in the proceeding, Petitioners must demonstrate and explain in what manner SCE&G and Santee Cooper load forecasts in the ER are so deficient or unreasonable as to undermine the need for the additional baseload power generation to be produced by proposed VCSNS Units 2 and 3. Petitioners have made no such showing here, offered no explanation, and left unaddressed the critical “materiality” burden they shoulder in this proceeding, pursuant to 10 C.F.R. § 2.309(f)(1)(iv)..

By merely alleging undefined and general “uncertainties” due to current, wide-ranging economic conditions, Petitioners ignore a well-established principle governing review of need-for-power forecasts in NRC adjudicatory proceedings. In the leading case, *Niagara Mohawk Power Corp.*, the Appeal Board held that “inherent in any forecast of future electric power demands is a substantial margin of uncertainty,” and therefore the applicant’s projection of future need should be accepted if it is “reasonable.”<sup>283</sup> As the Appeal Board held in a later case:

[A] forecast that such need exists is not to be discarded as fatally flawed simply because the *future course of events is sufficiently clouded to give rise to the possibility of a significant margin of error*. 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.*<sup>284</sup>

This standard has been endorsed by the Commission itself in *Carolina Power and Light Co.*, where it stated:

The Nine Mile Point rule recognizes that every prediction has associated uncertainty and that long-range forecasts of this type are especially uncertain in that they are affected by trends in usage,

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<sup>283</sup> Nine Mile Point Nuclear Station, Unit 2, ALAB-264, 1 NRC 347, 365-67 (1975).

<sup>284</sup> *Wolf Creek*, ALAB-462, 7 NRC at 328 (emphasis added).

increasing rates, demographic changes, industrial growth or decline, *the general state of the economy*, etc. These factors exist even beyond the uncertainty that inheres to demand forecasts: assumptions on continued use from historical data, range of years considered, the area considered, extrapolations from usage in residential, commercial, and industrial sectors, etc.<sup>285</sup>

Similarly, the Appeal Board in *Duke Power Co.* ruled that an applicant's load forecasts

are [not] automatically suspect because they are inclined to be "conservative," that is to say they tend to project future loads closer to the high than to the low end of the demand spectrum. To be sure, if demand does turn out to be less than predicted it can be argued (as intervenor does) that the cost of the unneeded generating capacity may turn up in the customers' electric bills. . . . But should the opposite occur and demand outstrip capacity, the consequences are far more serious.<sup>286</sup>

And, more recently, the Board in the *Clinton* ESP proceeding stated that:

[W]e are cognizant of the fact that a NEPA analysis often must rely upon imprecise and uncertain data, particularly when attempting to forecast future markets and technologies, and Boards (and parties) must appreciate the fact that such forecasts "provide no absolute answers," and must be "judged on their reasonableness." NEPA analyses are subject to a "rule of reason" which teaches that an environmental impact statement need only discuss "the significant aspects of the probable environmental impact of the proposed agency action."<sup>287</sup>

The *Clinton* Board proceeded to apply the test articulated by the Fifth Circuit in *South Louisiana Environmental Council*, which, as noted above, focuses on whether economic considerations have been "so distorted as to impair fair consideration of [the] environmental

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<sup>285</sup> *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, & 4), CLI-79-5, 9 NRC 607, 609-10 (1979) (emphasis added).

<sup>286</sup> *Catawba Nuclear Station, Units 1 and 2*, ALAB-355, 4 NRC 397, 410 (1976).

<sup>287</sup> *Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 167, *aff'd* CLI-05-29, 62 NRC 801 (2005), *aff'd sub nom. Env'tl. Law & Policy Ctr. v. NRC*, 470 F.3d 676 (7th Cir. 2006) (emphasis omitted).

effects” of a proposed action. The concern is that “[o]verstated benefits could persuade an agency to approve a project despite significant adverse environmental impacts.”<sup>288</sup>

Here, Petitioners have made no demonstration to suggest that the Applicant’s load forecasts are so unreasonable as to preclude proper consideration of environmental impacts by the Applicant and, ultimately, by the NRC. In the Commission’s words: “Quibbling over the details of an economic analysis in this situation is . . . ‘standing NEPA on its head’ by asking that the license be rejected not due to environmental costs, but because the economic benefits [allegedly] are not as great as estimated in the [ER].”<sup>289</sup> Although Petitioners have sought to bolster their claim with the opinion of an expert—that opinion is based on sheer speculation. But “neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention.”<sup>290</sup>

In view of the above, Basis A lacks the requisite specificity and support (factual or expert) and fails to raise a genuine dispute on a material issue of law or fact. Accordingly, as supported by Basis A, Proposed Contention 3 does not meet the admissibility criteria set forth in 10 C.F.R. § 2.309(f)(1)(v), (vi) and must be dismissed.

***b. Basis B Raises Issues That Are Immaterial and/or Beyond the Scope of this Proceeding, Lacks Adequate Factual or Expert Opinion Support, and Fails to Establish a Genuine Dispute With the Applicant on a Material Issue***

Basis B of the proposed contention alleges that “the Applicant almost completely ignores demand-side management [“DSM”], undervaluing opportunities for cost-effective energy

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<sup>288</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 145 (2004) (citing *Hughes River Watershed Conservancy*, 81 F.3d at 446).

<sup>289</sup> *Id.*

<sup>290</sup> *Vogtle*, LBP-07-3, 65 NRC at 253 (citing *Fansteel*, CLI-03-13, 58 NRC at 203).

efficiency and demand response or load management.”<sup>291</sup> Petitioners claim that, as a result, “SCE&G’s resource plan is flawed and does not support its conclusion that [VCSNS] Units 2 and 3 are *the least cost reliable plan to provide resources for its customers.*”<sup>292</sup> Petitioners argue that “[t]here is much greater potential for economic energy efficiency and peak load reduction in South Carolina than [is] reflected in SCE&G’s Environmental Report.”<sup>293</sup> In support of this claim, they cite a report prepared by the South Carolina Climate, Energy and Commerce Committee (“CECAC”), the National Action Plan for Energy Efficiency (“NAPEE”), and DSM-related initiatives undertaken by other energy companies.<sup>294</sup> The core of Petitioners’ complaint, however, is embodied in the following passage from their Petition:

The Applicant appears to argue that the incremental [DSM] amounts reflected in its forecasts need not be considered as an alternative to the proposed plants unless by itself it can replace the resources represented by proposed plants. This approach would not constitute sound resource planning. *Rather, all possible alternatives must be identified, and alternate scenarios, consisting of various mixes of resources and timing of resources, must be modeled to examine their net present value, given a variety of assumptions.* There is no evidence that the [Applicant] has used this basic method of *resource planning.*<sup>295</sup>

First, as to Petitioners’ concern about the adequacy of the Applicant’s resource planning, including whether VCSNS Units 2 and 3 constitute the “least cost reliable” plan—this issue is well beyond the scope of this COL proceeding and is not relevant to the safety and environmental findings that the NRC Staff must make to approve SCE&G’s Application. As noted above, the Commission does not require COL applicants to establish that the construction

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<sup>291</sup> Petition at 25, 34, 46.

<sup>292</sup> *Id.* at 35 (emphasis added).

<sup>293</sup> *Id.* at 36.

<sup>294</sup> *Id.* at 36-37 (citing S.C. Climate, Energy and Climate Committee, Final Report (July 2008), available at <http://www.sccimatechange.us/plenarygroup.cfm>) (“CECAC Report”).

<sup>295</sup> Petition at 38 (emphasis added).

and operation of a nuclear power plant “is the most economical alternative for generation of power.”<sup>296</sup> This determination falls within the purview of the cognizant state agency—the South Carolina PSC in this case. So too does any required assessment of the Applicant’s “resource planning” methods.<sup>297</sup> “The NRC is not in the business of crafting broad energy policy involving other agencies and nonlicensee entities.”<sup>298</sup> Petitioners have established no “link between the claimed error or omission [in the ER] and the NRC’s role in protecting the public health and safety or the environment.”<sup>299</sup>

Second, Basis B lacks any support in fact. Contrary to Petitioners’ claim, the Applicant has not “utterly dismissed” the potential benefits of DSM. The ER shows exactly the opposite. Consistent with NRC guidance seeking information on energy alternatives that do not require new generating capacity, the ER discusses in some detail SCE&G’s and Santee Cooper’s DSM

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<sup>296</sup> 2003 Rulemaking Petition Denial, 68 Fed. Reg. at 55,910.

<sup>297</sup> As stated in ER § 8.1.1, DSM is addressed in the integrated resource plan (“IRP”) SCE&G submits annually to the PSC as required by statute. ER § 8.1.1, at 8.1-1 to 8.1-2. The IRP presents the three components that comprise the SCE&G DSM program: (1) customer information programs, (2) energy conservation programs, and (3) load management programs. ER § 8.1.1.2, at 8.1-4. As a state-owned public utility created by the South Carolina General Assembly, Santee Cooper is required by statute to submit an IRP triennially, with annual updates during intervening years, to the State Energy Office. ER § 8.2, at 8.2-1. The statutorily-required contents of the plan are the same as those imposed by the PSC on SCE&G and include, among other things, discussion of demand-side options. ER § 8.2, at 8.2-1; § 8.2.2, at 8.2-2. Both the SCE&G and Santee Cooper IRPs are public documents.

<sup>298</sup> *Hydro Res.*, CLI-01-4, 53 NRC at 55.

<sup>299</sup> On this point, the Statement of Considerations for the Commission’s 1984 Part 51 rulemaking further states:

The Commission’s general approach to the consideration of alternatives from the standpoint of NEPA is closely tailored to the nature and scope of the Commission’s licensing and related regulatory functions, including the fact that the Commission’s role in protecting the radiological health and safety of the public is a limited one, confined primarily to granting applications with or without conditions or denying applications, *and does not include authority to undertake developmental programs.*

Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments, 49 Fed. Reg. 9352, 9356 (Mar. 12, 1984) (final rule) (emphasis added).

programs and the results of those programs.<sup>300</sup> In fact, it is Petitioners who perfunctorily “dismiss” and ignore the relevant ER discussion.<sup>301</sup>

Specifically, ER Sections 8.1.1.2 and 9.2.1.3.1 discuss SCE&G’s various DSM programs and indicate that one of those programs (load management) “reliably reduces the system’s peak demand by approximately 250 MW of capacity.”<sup>302</sup> Moreover, SCE&G uses this figure to reduce its system peak demand forecasts to produce a firm peak demand for planning purposes.<sup>303</sup> There simply is no factual basis for Petitioners’ claim that the Applicant “undervalues” or “ignores” DSM opportunities.

Third, Basis B does not provide sufficient information to establish a genuine dispute with the Applicant on a material issue of law or fact, as required by Section 2.309(f)(1)(vi).

Petitioners provide no legal basis (as none exists) for their claim that the Applicant must identify and model “all possible alternatives . . . and alternate scenarios, consisting of various mixes of resources and timing of resources.”<sup>304</sup> There is no requirement for an applicant to look at every conceivable alternative to its proposed action.<sup>305</sup> NEPA’s rule of reason governs which alternatives the applicant must discuss in the ER and the extent to which it must discuss them.

In this case, the Applicant (and NRC) need only study in detail those alternatives “reasonably related” to the scope and goals of the proposed action and the “no-action” alternative. As the ER states:

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<sup>300</sup> See ER §§ 8.1.1.2, 8.2.2, 9.2.1.3, and 9.2.1.3.2.

<sup>301</sup> Petition at 34.

<sup>302</sup> ER § 8.1.1.2, at 8.1-5; *see id.* at 8.2-2, 9.2-3 to 9.2-6.

<sup>303</sup> *Id.*

<sup>304</sup> Petition at 38.

<sup>305</sup> See *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 551 (1978) (stating that an EIS need not include “every alternative device and thought conceivable by the mind of man”).

The purpose and need for the proposed action (NRC issuing a COL) is to provide, as an option, authorization for construction and operation of two nuclear power facilities *to meet future generating needs for baseload power* as such needs may be determined by state and owner decision makers.<sup>306</sup>

A “proposed alternative is reasonable only if it will bring about the ends of the federal action.”<sup>307</sup>

Here, that action is authorization to construct and operate two AP1000 reactors for the specific purpose of meeting future baseload generation requirements.

The Applicant reasonably concluded that DSM does not constitute a “primary” alternative to the proposed action; *i.e.*, “a substitute for the agency’s proposed action that accomplishes the proposed action in another manner.”<sup>308</sup> Specifically, the ER explains that, “given the customer growth and the low cost of electricity, the available energy savings from [DSM] will not be sufficient to offset a significant portion of future demand.”<sup>309</sup> Petitioners, who in these circumstances bear the burden “to propose reasonable alternatives by which baseload power could be generated,”<sup>310</sup> have provided absolutely no factual information or expert opinion to conclude otherwise. Even if taken at face value, the various DSM-related reports and initiatives discussed by Petitioners—which generally cite single-digit percentage gains in energy savings or efficiency—are not a substitute for the over 2000 megawatts-electric of baseload generating capacity that SCE&G seeks to install at VCSNS.

In summary, Basis B raises issues that are neither within the scope of this proceeding nor material to the agency’s COL review; lacks adequate factual or expert opinion support; and fails

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<sup>306</sup> ER § 1.1.1, at 1.1-1 (emphasis added).

<sup>307</sup> *Citizens Against Burlington*, 938 F.2d at 195 (citing *City of New York v. DOT*, 715 F.2d 732, 742-43 (2nd Cir. 1983)).

<sup>308</sup> Mandelker, *supra* § 10.31.

<sup>309</sup> ER § 9.2.1.3.3, at 9.2-6.

<sup>310</sup> *Clinton*, LBP-05-19, 62 NRC 15 at 158.

to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(iii)-(vi). Accordingly, as supported by Basis B, Proposed Contention 3 must be dismissed.

***c. Basis C Raises Issues That Are Immaterial and/or Beyond the Scope of this Proceeding, Lacks Adequate Factual or Expert Opinion Support, and Fails to Establish a Genuine Dispute With the Applicant on a Material Issue***

Basis C is cut from the same cloth as Basis B. This basis, though, contends that “the Applicant *ignores* the potential contribution of renewables to an overall sustainable and economic portfolio, and does not take into account significant improvement in unit costs and operations of renewables in recent years and as projected to continue.”<sup>311</sup> Petitioners cite the July 2008 CECAC report, which *recommends* a goal of 500 megawatts of offshore wind power to be added in South Carolina by 2015, and an additional goal of 500 more megawatts of offshore wind power to be added by 2017. According to Petitioners, “[t]his 1000 [megawatts] of offshore wind [power] would replace a significant portion of the power forecast to be obtained from the proposed [VCSNS] Units 2 & 3.”<sup>312</sup>

Petitioners further assert that the Applicant “similarly dismisses any contribution” from “rapidly evolving” solar power alternatives,<sup>313</sup> and also claim that projected decreases in the costs of solar technologies “suggest that solar power will be competitive with conventionally-generated power by 2010.”<sup>314</sup> Finally, Petitioners mention Duke Energy’s “significant

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<sup>311</sup> Petition at 25-26, 39, 46. (Emphasis added.)

<sup>312</sup> *Id.* at 40.

<sup>313</sup> *Id.* at 40-41.

<sup>314</sup> *Id.* at 41.

investment in solar generation” in North Carolina and South Carolina’s recognition of the value of renewables.<sup>315</sup>

Basis C fails to support the admission of Proposed Contention 3 for the same reasons that render Basis B defective. As an initial matter, whether the Applicant has an “overall sustainable and economic portfolio” is not a matter for the Commission, its Staff, or its adjudicatory boards to decide. As the recent hearings on SCE&G’s CPCN application attest, and in which the Petitioners participated (including their submittal of testimony by Ms. Brockway), this is a matter for the South Carolina PSC—not the NRC. Thus, this aspect of Basis C is beyond the scope of this proceeding and not material to the NRC’s NEPA review, contrary to 10 C.F.R. § 2.309(f)(1)(iii),(iv).

In addition, Basis C lacks a sufficient foundation, in the form of fact or expert opinion, to support the admission of Proposed Contention 3, contrary to 10 C.F.R. § 2.309(f)(1)(v). Contrary to Petitioners’ suggestion, the ER does not give short shrift to wind and solar energy alternatives. ER Section 9.2.2.2 provides a detailed discussion of the current state of wind power technology, including its advantages and disadvantages relative to nuclear power.<sup>316</sup> The ER, consistent with Petitioners’ observations, explicitly recognizes that “[w]ind resource studies indicate that the wind resource of South Carolina is relatively good offshore and at exposed points along the coast but declines substantially inland.” *Id.* at 9.2-8.

That said, the ER explains the rationale for rejection of wind power as a reasonable alternative to the proposed action:

Wind energy is not a reasonable alternative because wind energy, because of its intermittent nature, cannot be relied upon for baseload power. Furthermore, there are insufficient onshore wind

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<sup>315</sup> *Id.*

<sup>316</sup> ER at 9.2-8 to 9.2-9.

resources in the relevant service area to offer a comparable generating capacity and offshore wind energy systems have considerable technical challenges, wind energy generating costs exceed nuclear power, and wind energy offers a distinct environmental disadvantage, relative to nuclear energy because of its large land use impacts.<sup>317</sup>

Thus, SCE&G concludes, in the ER that due to “the limited availability of area having suitable wind speeds, daily and seasonal variability of wind in the region, the amount of land needed, and aesthetic impacts, wind generation is not a reasonable alternative for baseload power in South Carolina.”<sup>318</sup> Importantly, however, SCE&G did not “ignore” wind power as Petitioners suggest. Nor is there any basis for Petitioners’ claim that SCE&G intends “exclude” wind power from “possible future resource plans.”<sup>319</sup> Rather, it is Petitioners who again ignore the content of the ER.

Section 9.2.2.3 of the ER also provides a comparably-detailed assessment of solar technologies. SCE&G thus did not categorically dismiss potential contributions from solar technologies.<sup>320</sup> For reasons similar to those stated above, however, SCE&G eliminated the solar power alternative from further detailed evaluation in the ER. As the ER explains:

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<sup>317</sup> *Id.* at 9.2-8. The ER further explains that, although recent advances in technology have improved wind turbine reliability, average annual capacity factors for wind power systems are relatively low (25% to 40%) compared to 90% to 95% industry average for a baseload plant such as a nuclear plant. ER at 9.2-8. Additionally, the ER explains that, even assuming ideal wind conditions and a 35% capacity factor, a wind farm with a net output of 2,214 MWe would require about 316,000 acres (494 square miles), of which at least 9,490 acres (15 square miles) would be occupied by turbines and support facilities. *Id.* at 9.2-8 to 9.2-9. Given the amount of land needed, the wind alternative would require a large green field site, thus resulting in a large environmental impact. *Id.*

<sup>318</sup> *Id.* at 9.2-9 to 9.2-10.

<sup>319</sup> Petition at 40.

<sup>320</sup> Petitioners also mention Duke Energy’s “significant investment” in solar power generation in North Carolina. The relevance of this statement to SCE&G’s baseload generation needs and alternatives analysis (which is defined by those needs) is not entirely clear. In any case, it warrants mention that SCE&G currently purchases solar power from three customers under its net metering rate. Additionally, SCE&G, in cooperation with Duke Energy, Progress Energy, the South Carolina Energy Office, and the South Carolina Office of Regulatory Staff (ORS) has created the Palmetto Clean Energy (“PaCE”) organization. PaCE is a non-profit entity that subsidizes renewable power, such as solar panels installed by individuals.

SCE&G has concluded that solar energy is not a reasonable alternative because solar energy, because of its intermittent nature, cannot be relied on for baseload power. Furthermore, SCE&G finds that there are insufficient solar resources in the relevant service area to offer a comparable generating capacity, solar energy generating costs exceed nuclear power, and solar energy offers a distinct environmental disadvantage, relative to nuclear energy because of its large land use impacts.<sup>321</sup>

In view of the above, there is absolutely no basis for Petitioners' assertion that the Applicant failed to give due consideration to the wind and solar energy alternatives in its ER. It is, however, further evidence that Petitioners consistently ignore the full content of the ER.

Finally, as the foregoing discussion suggests, the information presented by Petitioners does not establish a genuine dispute with the Applicant, contrary to 10 C.F.R. § 2.309(f)(1)(vi). As explained above, it is entirely reasonable for SCE&G to confine its more detailed comparative alternatives analysis in the ER to potential sources of *baseload* generation power.<sup>322</sup> As presented in ER Section 9.2.3 (Assessment of Reasonable Alternative Energy Sources and Systems), SCE&G compared the environmental impacts of the proposed action to those of two reasonable baseload generation power alternatives—pulverized coal-fired generation and gas-fired generation.<sup>323</sup> SCE&G demonstrated that neither alternative would be environmentally preferable to the proposed action; *i.e.*, construction and operation of VCSNS Units 2 and 3.<sup>324</sup>

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<sup>321</sup> ER § 9.2.23, at 9.2-11. Like wind, capacity factors are too low to meet baseload requirements. Average annual capacity factors for solar power systems are relatively low (24% for photovoltaics and 25.2% to 48% for solar thermal power) compared to 90% to 95% for a baseload plant such as a nuclear plant. *Id.* at 9.2-10.

<sup>322</sup> *See Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, slip op. at 59 & n. 282 (July 31, 2008); *Nuclear Mgmt. Co. LLC* (Monticello Nuclear Generating Plant), LBP-05-31, 62 NRC 735, 753 (2005); *Exelon Generating Co.* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 808 (2005), *aff'g* LBP-05-19, 62 NRC 134 (2005).

<sup>323</sup> ER §§ 9.2.2.10.1 and 9.2.2.11.

<sup>324</sup> *Id.*

As noted above, “the burden is upon the [Petitioners] to propose reasonable alternatives by which baseload power could be generated,”<sup>325</sup> and Petitioners have not carried that burden here. In particular, Petitioners fail to show how wind or solar energy—or even a combination of the two—could realistically replace the baseload generation needs identified by SCE&G in the ER. At most, Petitioners suggest that the 1,000 megawatts of offshore wind power that the CECAC report “recommends” be developed—if feasible—could replace a “portion” of the baseload generation needs to be met by proposed VCSNS Units 2 and 3.<sup>326</sup>

At this juncture, however, the development of 1,000 of offshore wind power in South Carolina by 2017 is speculative at best. Petitioners present no information to suggest that SCE&G’s conclusion in the ER that “wind generation is not a reasonable alternative for baseload power in South Carolina” is unreasonable.<sup>327</sup> Nor do they present any information to controvert SCE&G’s conclusions concerning the environmental, technical, and cost issues associated with wind power. It is telling that there currently are no offshore wind farms operating in U.S. coastal waters, as such projects are currently in the incipient stages of development.

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<sup>325</sup> *Clinton*, LBP-05-19, 62 NRC 15 at 158.

<sup>326</sup> The CECAC Report states: “The CECAC *recommends* that South Carolina *promote the development of these resources* through a number of policies designed to address the various barriers to realizing the *potential* for renewable resources.” CECAC Report at 5-2. The CECAC Report was commissioned by the Governor of South Carolina as a first step in addressing the issue of greenhouse gas emissions in South Carolina. It represents a preliminary stage in the state planning process. The report, which is essentially a policy document, has been submitted to the South Carolina state legislature and will be considered, along with other sources of information, as the state considers ways to reduce greenhouse gas emissions in South Carolina. Significantly, with respect to estimated costs and savings associated with specific policy actions recommended by the CECAC, the Executive Summary of the report states:

The CECAC did not break those costs or savings down to the individual, household, or organization levels for each option, and has not fully evaluated the costs or benefits of each policy from a broader macroeconomic, social or environmental standpoint. Further evaluation of both the broader impacts of the policy recommendations and the breakdown of costs and benefits should be considered prior to adoption by the state.

EX-6 to EX-7.

<sup>327</sup> ER § 9.2.2.2, at 9.2-10.

The same can be said for solar-powered technologies, which the ER indicates have low capacity factors and “do not currently compete with conventional technologies in grid-connected applications due to higher capital costs per kilowatt of capacity.”<sup>328</sup> Indeed, it speaks volumes that the CECAC report—the principal source of information on which Petitioners rely—explicitly recommends the deployment of new *nuclear* capacity in South Carolina by 2020.<sup>329</sup> Petitioners thus have failed to present “a concrete and genuine dispute appropriate for litigation.”

As shown above, Basis C raises issues that are neither within the scope of this proceeding nor material to the agency’s COL review; lacks adequate factual or expert opinion support; and fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to in 10 C.F.R. § 2.309(f)(1)(iii)-(vi). Accordingly, as supported by Basis C, Proposed Contention 3 must be dismissed.

***d. Basis D Raises Issues That Are Beyond the Scope of This Proceeding, Lacks Adequate Specificity and Legal or Factual Support, and Fails to Establish a Genuine Dispute on a Material Issue***

Far from the paragon of clarity, Basis D of Proposed Contention 3 alleges:

With respect to Chapter 9 of the ER, “Proposed Action Alternatives,” the Applicant fails to properly evaluate the risk of choosing a single technology and two extremely large construction projects in lieu of a more modular approach made up of a greater variety of resource options allowing a greater variety of resource options allowing a greater opportunity to change course during the implementation of the plan, in the event that risks, known to be potential and those that are not now foreseeable, develop into real

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<sup>328</sup> *Id.* at 9.2-10 to 9.2-11.

<sup>329</sup> Appendix H to the CECAC Report states:

It is the declared policy of South Carolina that the development of new nuclear energy is an important part of the state’s future energy needs due to the reliability of nuclear energy and the substantial reduction of GHG emissions resulting from nuclear energy. Therefore, the state will produce by 2020 at least 6% of the total electricity generated in South Carolina with new nuclear energy put into service after January 1, 2008.

difficulties during implementation, and in the event that other superior opportunities become realistic.<sup>330</sup>

Basis D fails to support the admission of Proposed Contention 3 for several reasons. As a threshold matter, this Basis lacks reasonable specificity. It is not clear what particular aspects of ER Chapter 9 Petitioners seek to challenge. In the accompanying discussion,<sup>331</sup> Petitioners also fail to expound on the precise nature of the concern stated in Basis D. Indeed, most of that discussion concerns project cost-related concerns, not the adequacy of SCE&G's alternatives analysis in Chapter 9. The vagueness and ambiguity of the contention is, in and of itself, reason to dismiss it.<sup>332</sup>

To the extent SCE&G is able to discern, Petitioners' putative claims are twofold. The first is that SCE&G's *commercial* decision to build two new nuclear power plants utilizing the AP1000 standard design is somehow ill-advised.<sup>333</sup> But such a contention falls squarely outside the scope of this NRC licensing proceeding. The Commission has admonished that "the NRC is 'not in the business of regulating the market strategies of licensees or 'determin[ing] whether market conditions warrant commencing' operations, and that [it] leave[s] to licensees the 'ongoing business decisions that relate to cost and profit.'"<sup>334</sup> And it certainly leaves to an applicant the commercial decision as to the nuclear technology it wishes to employ.

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<sup>330</sup> Petition at 42.

<sup>331</sup> See *id.* at 42-47.

<sup>332</sup> See *Millstone*, CLI-01-24, 54 NRC at 359-60.

<sup>333</sup> For example, Petitioners criticize SCE&G for allegedly failing to "evaluate the *risk* of choosing a single technology and two extremely large construction projects." Petition at 26, 42, 46. They opine that "SCE&G is not a good candidate to build a demonstration plant, because it has the lowest market value and asset base compared to the cost of construction of any new nuclear proponent." *Id.* at 45.

<sup>334</sup> *La. Energy Servs., L.P.* (Nat'l Enrichment Facility), CLI-05-28, 62 NRC 721, 726 (2005) (citation omitted).

The NRC’s charge here, at least under NEPA, is to “take a hard look at environmental impacts” of the proposed action.<sup>335</sup> The NRC is not tasked with evaluating whether the Applicant’s business plan or choice of technology is the optimal one. Like other federal agencies, the NRC is not equipped “to canvas . . . business choices” because it has “neither the expertise nor the proper incentive structure to do so.”<sup>336</sup> Furthermore, the Commission has noted as follows:

When reviewing a discrete license application filed by a private applicant, a federal agency may appropriately “accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project.” The agency thus may take into account the “economic goals of the project’s sponsor.”<sup>337</sup>

Accordingly, insofar as Basis D seeks to challenge the Applicant’s commercial decisions, choice of technology, or project scale, it raises issues that are outside the scope of this proceeding.

Basis D arguably also may be construed as challenging the Applicant’s evaluation of combinations of energy sources as alternatives to the construction and operation of proposed VCSNS Units 2 and 3. But such a challenge also is undercut by the content of the ER—which Petitioners ignore. ER Section 9.2.2.12 contains the pertinent evaluation. Taking into account technological maturity, economics, and other factors, SCE&G considered, in particular: (1) a mix of wind energy and natural gas-fired combined cycle gas units and (2) a combination coal-gas-fired facility. It concluded, however, that the environmental impacts associated with these

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<sup>335</sup> *Id.*

<sup>336</sup> *Citizens Against Burlington*, 938 F.2d at 197 n. 6. On this point, the ER correctly notes that “the statutory, regulatory, and administrative requirements that make up the South Carolina and SERC processes comprise methodical state and regional processes for systematically reviewing the need for power that SCE&G and Santee Cooper are responsible for satisfying.” ER § 8.4.1, at 8.4-2. As explained above, an investor-owned, integrated utility like SCE&G cannot build a major utility facility in South Carolina without first obtaining a certificate of environmental compatibility and public convenience and necessity from the PSC for the facility in question.

<sup>337</sup> *Hydro Res.*, CLI-01-4, 53 NRC at 55 (citations omitted).

options would not compare favorably with the proposed action.<sup>338</sup> Basis D does not acknowledge, much less directly controvert through alleged facts or expert opinion, the adequacy of this determination, contrary to 10 C.F.R. § 2.309(f)(1)(v)-(vi).

In summary, Basis D raises issues outside the scope of this proceeding, lacks adequate factual or expert opinion support, and fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (v), and (vi). To the extent Petitioners seek to support this contention by Basis D, Proposed Contention 3 must be dismissed.

*e. Basis E Raises an Issue That Is Outside the Scope of This Proceeding*

Referencing Chapter 10 of the ER (Proposed Action Consequences), Basis E of Proposed Contention 3, states that “the Applicant underestimates the impact of its proposed construction and operation [of VCSNS Units 2 and 3] on vulnerable customers via rate increases.”<sup>339</sup> The gist of Petitioners’ argument appears to be that future increases in project costs would be passed along to ratepayers. In this respect, Petitioners claim that “[t]his level of rate increase will cause shock to SCE&G customers.”<sup>340</sup>

Like its predecessor, Basis E also raises an issue that is beyond the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii). As discussed previously, NEPA dictates a weighing of the *environmental costs* against the economic, technical, or other public *benefits* of a proposal.<sup>341</sup> The impact of SCE&G’s proposed *environmental costs* action on electricity rates in South Carolina is a *purely economic or social concern*—one that is germane to protection of the “public interest” as opposed to public health and safety or the environment. “It is true that NEPA does protect some economic interests; however, it only protects against those injuries that

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<sup>338</sup> ER § 9.2.2.12, at 9.2-20 to 9.2-21.

<sup>339</sup> Petition at 26, 42.

<sup>340</sup> *Id.* at 44.

<sup>341</sup> *See supra* Section C.1.a.

result from *environmental damage*.”<sup>342</sup> The same is true of the AEA. As the Commission has explained:

If NEPA’s “sweeping” list of interests cannot be understood to include purely monetary concerns, neither should the AEA’s interests, which focus not on economics or markets (except in limited areas not pertinent here), but on the public’s radiological health and safety, an area closely akin to NEPA’s environmental concerns.<sup>343</sup>

Furthermore, the Commission has specifically held that matters affecting the “public interest” (*e.g.*, potential effects on electricity rates) are properly dealt with by other agencies:

This issue is too broad and vague to be suitable for adjudication. Moreover, NRC’s mission is solely to protect the public health and safety. It is not to make general judgments as to what is or is not otherwise in the public interest—other agencies, such as the Federal Energy Regulatory Commission and state public service commissions, are charged with that responsibility.<sup>344</sup>

This holding, though made in the license transfer context, is directly on point in this proceeding. In fact, the Commission and its adjudicatory boards have held on numerous occasions that general economic concerns—including concerns about the impact of a facility on utility rates and the local economy are not proper subjects for litigation in NRC proceedings.<sup>345</sup> Contrary to 10 C.F.R. § 2.309(f)(1)(iii), Basis E falls squarely into this category and, accordingly, does not support the admission of Proposed Contention 3.

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<sup>342</sup> *Quivira Mining*, CLI-98-11, 48 NRC at 10 (emphasis added).

<sup>343</sup> *Int’l Uranium (USA) Corp.* (Receipt of Material from Tonawanda, NY,) CLI-98-23, 48 NRC 259, 264 (1998).

<sup>344</sup> *Diablo Canyon*, CLI-02-16, 55 NRC at 342 (citing *Entergy Nuclear Operations, Inc.* (Indian Point, Units 1 & 2) CLI-01-19, 54 NRC 109, 149 (2001)).

<sup>345</sup> See, *e.g.*, *Babcock and Wilcox* (Apollo, Pennsylvania Fuel Fabrication Facility), LBP-93-4, 37 NRC 72, 94 n.64 (1993); *Pub. Serv. Co. of N.H.* (Seabrook Station, Unit 2), CLI-84-6, 19 NRC 975, 978 (1984); *Wash. Pub. Power Supply Sys.* (WPPSS Nuclear Project No. 1), ALAB-771, 19 NRC 1183, 1190 (1984).

*f. Basis F Fails to Establish a Genuine Dispute with the Applicant on a Material Issue of Law or Fact*

Basis F alleges that “the Applicant’s cost estimate for construction and operation” of VCSNS Units 2 and 3, as set forth in ER Chapter 10, “fails to take into account recent rapid increases in the costs of inputs for construction.”<sup>346</sup> Petitioners state that the cost estimates contained in the ER are “out of date and seriously underestimate the likely costs of [the] AP1000 plants.”<sup>347</sup> They further contend that absent “a construction budget . . . based on a settled, final and approved design for the AP1000, it is not possible to compare the Applicant’s proposed construction of two such plants to the combinations of alternative resources that might prove superior.”<sup>348</sup>

Proposed Contention 3, as supported by Basis F, does not present a genuine material dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi), for the reasons set forth in the Licensing Board’s recent ruling in the *Shearon Harris* COL proceeding.<sup>349</sup> There, the Board rejected a substantially similar contention alleging that Progress Energy had grossly underestimated the costs and risks of its proposed new reactors, to the detriment of its “reasonable analysis” of alternative energy sources and strategies.<sup>350</sup> The Board, citing a longstanding Appeal Board decision in the *Midland* proceeding, explained the basis for its ruling as follows:

We find that Commission precedent establishes that NEPA requires an Applicant to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities *only where the Applicant’s alternatives analysis indicates that there is an environmentally preferable alternative.*<sup>351</sup>

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<sup>346</sup> Petition at 26, 42.

<sup>347</sup> *Id.* at 43.

<sup>348</sup> *Id.* at 46.

<sup>349</sup> LBP-08-21, slip op. at 25.

<sup>350</sup> *Id.* at 23.

<sup>351</sup> *Id.* at 25 (emphasis added) (citing *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155,. In *Midland*, the Appeal Board stated as follows:

The Board further concluded that NRC regulations do not require the Applicant to include cost data in the ER, and thus found that “the question of whether or not the cost estimates used in the ER are inaccurate does not rise to the level of a failure to comply with NRC regulations.”<sup>352</sup>

Combining these two precepts, the Board held that:

In this matter, where Applicant did not find any environmentally preferable alternative in its ER analysis, it was under no obligation to provide cost estimates or a comparison of costs, as NEPA only requires a cost-benefit analysis where there exists an environmentally preferable alternative. Therefore, we reject this contention because it relies upon the faulty premise that NEPA, or our Agency’s implementation of NEPA, requires the Applicant to provide cost estimates in its ER.<sup>353</sup>

As supported by Basis F, Proposed Contention must be rejected on precisely the same grounds. As set forth in ER Chapter 9, SCE&G did not find any environmentally preferable alternative. Petitioners have not directly controverted this conclusion or the information and analyses underlying it. Accordingly, their claim in Basis F that SCE&G costs estimates are stale and too low do not give rise to a genuine material dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).<sup>354</sup>

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[NEPA] requires us to consider whether there are environmentally preferable alternatives to the proposal before us. If there are, we must take the steps we can to see that they are implemented if that can be accomplished at a reasonable cost; *i.e.*, one not out of proportion to the environmental advantages to be gained. But if there are no preferable environmental alternatives, such cost-benefit balancing does not take place. *Midland*, 7 NRC at 162 (emphasis omitted).

<sup>352</sup> *Shearon Harris*, LBP-08-21, slip op. at 26.

<sup>353</sup> *Id.*

<sup>354</sup> SCE&G notes that the Licensing Board in the *Bellefonte* COL proceeding did admit a comparable contention. In denying a subsequent motion for reconsideration, however, the *Bellefonte* Board distinguished its ruling from that of the *Shearon Harris* Board based on materially different factual circumstances in the cases. The Board explained that, because the *Shearon Harris* COL application is subject to state regulatory review, “the *Midland* precedent appears controlling in that case.” The Board found that, unlike the *Shearon Harris* applicant, however, TVA (the *Bellefonte* COL applicant) is a federal entity for which there is no state public utility commission or other state regulatory agency that will undertake any cost/benefit analysis regarding the efficacy of the TVA application. The Board also found that TVA’s own comparative analysis of the environmental impacts of nuclear generation and a natural gas/renewable combination generation alternative

***g. Basis G Raises Issues That Are Beyond the Scope of This Proceeding, Lacks Adequate Specificity and Legal or Factual Support, and Fails to Establish a Genuine Dispute on a Material Issue***

Basis G alleges that SCE&G’s “cost estimate for construction and operation is based on an unrealistic schedule,” and improperly “assumes a settled and approved design for its proposed AP1000.”<sup>355</sup> In support, Petitioners state that “the COL and design process for the AP1000 has not yet produced an established, standard design,” and that there is “no scheduled date” for NRC approval of changes to the AP1000 DCD contained in Revisions 16 and 17.<sup>356</sup> Petitioners suggest that, given the alleged potential for great “delay and cost escalation,” the industry should build a demonstration plant, but that SCE&G “is not a good candidate” for such a plant.<sup>357</sup>

Basis G simply rehashes claims made by Petitioners in the context of Proposed Contention 1 relating to the NRC Staff’s pending review of the AP1000 design certification amendment application. Accordingly, it should be dismissed for the same reasons discussed in SCE&G’s response to Proposed Contention 1, *supra*. SCE&G incorporates that response by reference here. In short, Proposed Contention 3, as supported by Basis G, impermissibly challenges the NRC’s Part 52 regulations, insofar as Petitioners challenges SCE&G’s ability to reference the AP1000 standard design. In addition, it is not supported by adequate factual information or expert opinion, given that Petitioners’ claims in Basis G regarding delay and cost escalation are conjectural. Finally, Proposed Contention 3 fails to establish a genuine material

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suggests they could be relatively equal, thereby giving the “cost” factor added significance and suggesting the need for further NRC scrutiny. *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant Unit 3 and 4), Memorandum and Order (ruling Regarding Motion for Reconsideration), (Dec. 19, 2008) (unpublished). SCE&G respectfully submits that the facts of this case are not materially distinguishable from those of *Shearon Harris*, and that the *Midland* decision thus controls here as well.

<sup>355</sup> Petition at 42, 47.

<sup>356</sup> *Id.* at 44.

<sup>357</sup> *Id.* at 45.

dispute, in that Petitioners' schedule and cost-related concerns do not controvert any portion of the Application.

## VI. CONCLUSION

For reasons discussed above, Sierra Club's and FOE's joint request to be admitted as parties to this proceeding should be denied. FOE has not demonstrated standing to intervene in this proceeding, and neither FOE nor Sierra Club has proffered an admissible contention.

Accordingly, the Petition should be denied in its entirety.

Respectfully submitted,

/signed (electronically) by/

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Dated in Washington, D.C.  
this 5th day of January 2009

Table 1-1  
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

| Item   | Expiration at First Full Power | Tier 2 Reference   |
|--|--------------------------------|--|
| Dimensions for Nuclear Island Structures   | Yes                            | 3.7.1.4<br>Table 3.7.1-2<br>Figure 3.7.1-14  |
| Nuclear Island Key Structural Dimensions   | Yes                            | 3.7.2<br>Figure 3.7.2-12   |
| Polar Crane Parked Orientation   | Yes                            | 3.7.2.3.2  |
| Containment Vessel Design Characteristics and Spacing Between Each Pair of Ring Supports | Yes                            | 3.8.2.1.1  |
| 2001 Edition of ASME Code, Section III, including 2002 Addenda                           | Yes                            | 3.8.2.2<br>3.8.2.5<br>5.2.1.1  |
| ASME Code Case N-284-1   | Yes                            | 3.8.2.2<br>3.8.2.5   |
| Use of ACI-349-01  | Yes                            | 3.8.3.2<br>3.8.4.2<br>3.8.4.4.1<br>3.8.4.5<br>3.8.4.5.1<br>3.8.5.5<br>Table 3.8.4-2  |
| Use of AISC N690-1994  | Yes                            | 3.8.3.2<br>3.8.4.2<br>3.8.4.4.1<br>3.8.4.5<br>3.8.4.5.2<br>Table 3.8.4-1   |
| Use of AISI  | Yes                            | 3.8.4.4.1<br>3.8.4.5   |
| Design Summary of Critical Sections Inside Containment                                   | Yes                            | 3.8.3.5.8.1<br>3.8.3.5.8.2<br>3.8.3.5.8.3<br>Table 3.8.3-3<br>Table 3.8.3-4<br>Table 3.8.3-5<br>Table 3.8.3-6<br>Table 3.8.4-1<br>Figure 3.8.3-1<br>Figure 3.8.3-2 |

Table 1-1 (Cont.)  
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| Item   | Expiration at First Full Power | Tier 2 Reference   |
|--|--------------------------------|--|
| Design Summary of Critical Sections Inside Containment (Cont.) |                                | Figure 3.8.3-8<br>Figure 3.8.3-14<br>Figure 3.8.3-15<br>Figure 3.8.3-17<br>Figure 3.8.3-18   |
| Design Summary of Critical Sections Outside Containment        | Yes                            | 3.8.4.5.4<br>Figure 3.8.4-2<br>Figure 3.8.4-4<br>Figure 3.8.5-3<br>App 3H.1<br>App 3H.2<br>App 3H.3<br>App 3H.3.1<br>App 3H.3.2<br>App 3H.3.3<br>App 3H.3.4<br>App 3H.4<br>App 3H.4.1<br>App 3H.5<br>App 3H.5.1<br>App 3H.5.1.1<br>App 3H.5.1.2<br>App 3H.5.1.3<br>App 3H.5.1.4<br>App 3H.5.1.5<br>App 3H.5.2<br>App 3H5.2.1<br>App 3H.5.2.2<br>App 3H.5.3<br>App 3H.5.3.1<br>App 3H.5.4<br>App 3H.5.5<br>App 3H.5.5.1<br>App 3H.5.6<br>App 3H.5.6.1<br>App 3H.5.6.3<br>Table 3H.5-1<br>Table 3H.5-3<br>Table 3H.5-5<br>Table 3H.5-7 |

Table 1-1 (Cont.)  
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| Item   | Expiration at First Full Power | Tier 2 Reference   |
|--|--------------------------------|--|
| Design Summary of Critical Sections Outside Containment (Cont.)  |                                | Table 3H.5-8<br>Table 3H.5-9<br>Table 3H.5-10<br>Table 3H.5-11<br>Table 3H.5-12<br>Table 3H.5-13<br>Figure 3H.2-1<br>Figure 3H.5-1<br>Figure 3H.5-2<br>Figure 3H.5-3<br>Figure 3H.5-4<br>Figure 3H.5-5<br>Figure 3H.5-6<br>Figure 3H.5-7<br>Figure 3H.5-8<br>Figure 3H.5-9<br>Figure 3H.5-10<br>Figure 3H.5-12 |
| Design Summary of Critical Sections for Nuclear Island Basemat   | Yes                            | 3.8.5.4.4<br>Table 3.8.5-3   |
| Seismic Qualification Standards  | Yes                            | 3.10.1.1   |
| Methods and Procedures for Qualifying Electrical Equipment, Instrumentation, and Mechanical Components | Yes                            | 3.10.2   |
| Experienced-Based Qualification  | Yes                            | 3.10.6   |
| MOV Design and Qualification   | Yes                            | 5.4.8.1.2  |
| Other Power-Operated Valves Design and Qualification   | Yes                            | 5.4.8.1.3  |
| Motor Operated Valves  | Yes                            | 5.4.8.5.2  |
| Power Operated Valves  | Yes                            | 5.4.8.5.3  |
| N-284-1 Metal Containment Shell Buckling Design Methods, Section III, Division I Class MC              | Yes                            | Table 5.2-3  |
| WCAP-14605, "Westinghouse Setpoint Methodology for Protection Systems, AP600," Rev 0                   | Yes                            | Chapter 7<br>Table 1.6-1   |
| WCAP-16097-P-A, "Common Qualified Platform," Rev 0   | Yes                            | Chapter 7<br>Table 1.6-1   |
| WCAP-16096-NP-A, "Software Program Manual for Common Q Systems," Rev 01A                               | Yes                            | Chapter 7<br>Table 1.6-1   |
| Verification and Validation  | Yes                            | 7.1.2.14   |
|  |                                |  |

Table 1-1 (Cont.)  
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| Item   | Expiration at First Full Power | Tier 2 Reference |
|--|--------------------------------|------------------|
| Hard-wired DAS manual actuation  | No                             | 7.7.1.11         |
| Nuclear Island Fire Areas  | No                             | Figure 9A-1      |
| Turbine Building Fire Areas  | No                             | Figure 9A-2      |
| Annex I & II Building Fire Areas   | No                             | Figure 9A-3      |
| Radwaste Building Fire Areas   | No                             | Figure 9A-4      |
| Diesel Generator Building Fire Areas   | No                             | Figure 9A-5      |
| Natural Circulation Test   | First Plant Only               | 14.2.5           |
| Description of "First Three Plant Tests"   | Third Plant                    | 14.2.5           |
| Verification of proper operation of core makeup tanks in recirculation mode  | Third Plant                    | 14.2.9.1.3       |
| Verification of automatic depressurization during hot functional testing   | Third Plant                    | 14.2.9.1.3       |
| Verification of proper operation of core makeup tanks to transition to draindown mode  | Third Plant                    | 14.2.9.1.3       |
| Passive Residual Heat Removal Heat Exchanger Natural Circulation Test  | First Plant Only               | 14.2.10.3.7      |
| First-Plant-Only and Three-Plant-Only Tests  | As Discussed                   | 14.4.6           |
| 10 CFR 50.46 Criteria for NOTRUMP Homogeneous Sensitivity Model  | No                             | 15.6.5.4B.2.2    |
| 10 CFR 50.46 Criteria for Critical Heat Flux Assessment  | No                             | 15.6.5.4B.2.3    |
| WCAP-14396, "Man-in-the-Loop Test Plan Description," Rev 3   | No                             | Table 1.6-1      |
| WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2                 | No                             | Table 1.6-1      |
| WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2         | No                             | Table 1.6-1      |
| WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0 | No                             | Table 1.6-1      |
| WCAP-15847, "AP1000 Quality Assurance Procedures Supporting NRC review of AP1000 SSAR Sections 18.2 and 18.8," Rev 1             | No                             | Table 1.6-1      |
| Basis for Human Factors Engineering Program  | No                             | 18.1             |

Table 1-1 (Cont.)  
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| Item  | Expiration at First Full Power | Tier 2 Reference |
|---|--------------------------------|------------------|
| NUREG-0711, "Human Factors Engineering Program Review Model," July 1994<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2<br>WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2 | No                             | 18.1.1           |
| NUREG-0711, "Human Factors Engineering Program Review Model," July 1994   | No                             | 18.2.1.2         |
| Applicable Facilities   | No                             | 18.2.1.3         |
| Applicable Human Systems Interfaces   | No                             | 18.2.1.4         |
| Applicable Plant Personnel  | No                             | 18.2.1.5         |
| Technical Basis<br>NUREG-0711, "Human Factors Engineering Program Review Model," July 1994  | No                             | 18.2.1.6         |
| Responsibility of Human System Interface Design Team  | No                             | 18.2.2.1         |
| Composition of HFE Design Team  | No                             | 18.2.2.3         |
| Action Item Tracking  | No                             | 18.2.3.1         |
| Subcontractor Efforts<br>WCAP-15847, "AP1000 Quality Assurance Procedures Supporting NRC review of AP1000 SSAR Sections 18.2 and 18.8," Rev 1   | No                             | 18.2.3.5         |
| General Process and Procedures for Design Review of HFE Products  | No                             | 18.2.4           |
| HFE Technical Program and Milestones<br>NUREG-0711, "Human Factors Engineering Program Review Model," July 1994<br>NUREG-0711, "Human Factors Engineering Program Review Model," Rev 1  | No                             | 18.2.5           |
| NUREG-0711, "Human Factors Engineering Program Review Model," July 1994<br>WCAP-15847, "AP1000 Quality Assurance Procedures Supporting NRC review of AP1000 SSAR Sections 18.2 and 18.8," Rev 1<br>NUREG-0711, "Human Factors Engineering Program Review Model," Rev 1  | No                             | 18.2.7           |

Table 1-1 (Cont.)  
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

| Item  | Expiration at First Full Power | Tier 2 Reference |
|---|--------------------------------|------------------|
| Human System Interface Design Team Process  | No                             | Figure 18.2-1    |
| AP600 Task Analysis Implementation Plan<br>NUREG-0711, "Human Factors Engineering Program Review Model," July 1994  | No                             | 18.5             |
| Task Analysis Scope<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2   | No                             | 18.5.1           |
| Task Analysis Implementation Plan   | No                             | 18.5.2           |
| Function-Based Task Analysis<br>WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0  | No                             | 18.5.2.1         |
| NUREG-0711, "Human Factors Engineering Program Review Model," July 1994<br>WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2 | No                             | 18.5.5           |
| Integration of Human Reliability Analysis with HFE<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2  | No                             | 18.7             |
| WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2  | No                             | 18.7.2           |
| Human System Interface Design<br>WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0<br>WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2   | No                             | 18.8             |

Table 1-1 (Cont.)  
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| Item  | Expiration at First Full Power | Tier 2 Reference |
|---|--------------------------------|------------------|
| Design Guidelines<br>WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2   | No                             | 18.8.1.2         |
| Man-in-the-Loop Test Plan to Obtain Feedback from Prototype Design Products<br>WCAP-14396, "Man-in-the-Loop Test Plan Description," Rev 3   | No                             | 18.8.1.4         |
| HSI Design Provides Necessary Alarms, Displays, and Controls<br>WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2                    | No                             | 18.8.1.7         |
| Operator Decision-Making Model Used by Task Analysis Activities<br>WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0 | No                             | 18.8.1.8         |
| Critical Human Actions and Risk-Important Tasks<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2                         | No                             | 18.8.1.9         |
| Safety Parameter Display System<br>10 CFR 50.34(f)(2)(iv)<br>NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability"   | No                             | 18.8.2           |
| Implementation Plan for Integrating Human Reliability Analysis with HFE<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2 | No                             | 18.8.2.1         |
| Display of Safety Parameters<br>WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0                                    | No                             | 18.8.2.2         |
| Safety Parameter Display System HFE<br>NUREG-0711, "Human Factors Engineering Program Review Model," July 1994  | No                             | 18.8.2.5         |

Table 1-1 (Cont.)  
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| Item   | Expiration at First Full Power | Tier 2 Reference |
|--|--------------------------------|------------------|
| Minimum Information, Safety Parameter Display System Design<br>NUREG-1342, "A Status Report Regarding Industry Implementation of Safety Parameter Display Systems"   | No                             | 18.8.2.6         |
| Main Control Area Mission and Major Tasks<br>Regulatory Guide 1.97   | No                             | 18.8.3.2         |
| Remote Shutdown Workstation Mission and Major Tasks  | No                             | 18.8.3.4         |
| Technical Support Center Mission and Major Tasks<br>Technical Support Center Location<br>NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability"  | No                             | 18.8.3.5         |
| WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2<br>WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2<br>WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0<br>10 CFR 50.34(f)(2)(iv)<br>NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability"<br>NUREG-0711, "Human Factors Engineering Program Review Model," July 1994<br>NUREG-1342, "A Status Report Regarding Industry Implementation of Safety Parameter Display Systems"<br>WCAP-14396, "Man-in-the-Loop Test Plan Description," Rev 3 | No                             | 18.8.6           |
| Human Performance Issues to be Addressed by HSI Design   | No                             | Table 18.8-1     |
| Human Factors Engineering Verification and Validation<br>WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2  | No                             | 18.11.2          |
| Inventory of Displays, Alarms, and Controls  | No                             | 18.12.1          |
| Implementation Process for Identification of Critical PRA Operator Actions<br>WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2   | No                             | 18.12.2          |
| Remote Shutdown Workstation Displays, Alarms, and Controls   | No                             | 18.12.3          |

Table 1-1 (Cont.)  
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

| <b>Item</b>  | <b>Expiration at<br/>First Full Power</b> | <b>Tier 2 Reference</b> |
|--|---|-------------------------|
| WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2 | No  | 18.12.5                 |
| Piping Design Analysis Criteria (DAC)  | Resolved                                  |                         |

## VCSNS COLA SECTIONS THAT ADDRESS PROPOSED CONTENTION 1

| Proposed Contention-1 Allegation               | COLA Sections  | Applicable Tier 1 DCD Sections Incorporated by Reference in the COLA   | Applicable Tier 2 DCD Sections Incorporated by Reference in the COLA  |
|--|--|--|---|
| Containment                                    | FSAR Sect. 1.2*, 3.8 & 6.2*  | Section 2.2.1, "Containment System" and Section 3.3, "Buildings" Rev. 15, as revised by Revs. 16 and 17  | Sections 1.2 "General Plant Design", 3.8 "Design of Category I Structures" and 6.2 "Containment Systems", Rev. 15, as revised by Rev. 16 and Rev. 17.   |
| Control Room Set-up & Operator Decision-making | FSAR 1.2, 3.2 6.4*, 8.2*, 9.3*, 9.5, 13.3*, 13.5*, 13AA & 18.8                                   | Section 2.2.5, "Main Control Room Emergency Habitability System" Rev. 15, as revised by Revs. 16 and 17  | Sections 1.2 "General Plant Description", 3.2 "Classification of Structures, Components, and Systems", 6.4 "Habitability Systems", 8.2 "Offsite Power System", 9.3* "Process Auxiliaries", 9.5 "Other Auxiliary Systems", 13.3* "Emergency Planning", 13.5 "Plant Procedures", and 18.8, "Human System Interface Design", Rev. 15, as revised by Revs. 16 and 17.   |
| Seismic Qualifications                         | FSAR Sect. 2.0, 3.7*, 3.8, 3.9*, 3.10; and App. 3G & 3I  | Section 3.3, "Buildings" Rev. 15, as revised by Revs. 16 and 17  | Sections 3.7 "Seismic Design", 3.8 "Design of Category I Structures", 3.9 "Mechanical Systems and Components" 3.10 "Seismic and Dynamic Qualification of Seismic Category I Mechanical and Electrical Equipment", Appendix 3G "NUCLEAR ISLAND SEISMIC ANALYSES", Appendix 3I "EVALUATION FOR HIGH FREQUENCY SEISMIC INPUT", Rev. 15, as revised by Revs. 16 and 17. |
| Fire Protection Areas                          | FSAR Sec. 9.5* & FSAR App. 9A*   | Section 2.3.4, "Fire Protection System" Rev. 15, as revised by Revs. 16 and 17   | Sections 9.5 "Other Auxiliary Systems" and Appendix 9A, "FIRE PROTECTION ANALYSIS", Rev. 15, as revised by Revs. 16 and 17.   |
| Heat Removal                                   | FSAR Sect. 5.1, 6.3* & 10.4*   | Section 2.2.2, "Passive Containment Cooling System," Section 2.2.3, "Passive Core Cooling System," and Section 2.3.6, "Normal Residual Heat Removal System" Rev. 15, as revised by Revs. 16 and 17                                       | Sections 5.1 "Summary Description", 6.3 "Passive Core Cooling System" and 10.4 "Other Features of Steam and Power Conversion System", Rev. 15, as revised by Revs. 16 and 17.   |
| Human Factors Engineering Design               | FSAR Sect. 13.2*, 18.1, 18.2*, 18.3-18.5, 18.6*, 18.7, 18.8*, 18.9, 18.10*, 18.11-18.13 & 18.14* | Section 3.2, "Human Factors Engineering" Rev. 15, as revised by Revs. 16 and 17  | Section 13.2 "Training" and Chapter 18 "HUMAN FACTORS ENGINEERING", Rev. 15, as revised by Revs. 16 and 17.   |
| Plant Personnel Requirements                   | FSAR Sect. 9.5*, 18.6* and Chapter 13*   | Not applicable   | Sections 9.5 "Other Auxiliary Systems", 18.6 "Staffing" and Chapter 13 "CONDUCT OF OPERATIONS", Rev. 15, as revised by Revs. 16 and 17.   |
| Alarms   | FSAR Chapter 7 and Sect. 9.1*, 11.5* & 18.12   | "Section 2.5.1, Diverse Actuation System," "Section 2.5.2, Protection and Safety Monitoring System," "Section 2.5.4, Data Display and Processing System," and Section "3.5, Radiation Monitoring" Rev. 15, as revised by Revs. 16 and 17 | Chapter 7 "INSTRUMENTATION AND CONTROLS" and Sections 9.1 "Fuel Storage and Handling", 11.5 "Radiation Monitoring System" and 18.12, "Inventory," Rev. 15, as revised by Revs. 16 and 17.   |
| Pipes  | FSAR Sect. 3.2, 3.6*, 3.7, 3.9*, App. 3B, 3C, 3E, 3I, 9.2*, 10.1*, 10.3* & 10.4*                 | Not applicable   | Chapters 3 "DESIGN OF STRUCTURES, COMPONENTS, EQUIPMENT AND SYSTEMS" and 10 "STEAM AND POWER CONVERSION" and Section 9.2 "Water Systems", Rev. 15, as revised by Revs. 16 and 17.   |



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