

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
)  
SOUTH CAROLINA ELECTRIC AND GAS )  
COMPANY, )  
) Docket Nos. 52-027 and 52-028  
(Virgil C. Summer Nuclear Station )  
Units 2 and 3) )

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NRC STAFF ANSWER TO "PETITION TO INTERVENE AND  
REQUEST FOR HEARING BY SIERRA CLUB AND FRIENDS OF THE EARTH"

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January 5, 2009

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SOUTH CAROLINA ELECTRIC AND GAS )  
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Units 2 and 3) )

NRC STAFF ANSWER TO "PETITION TO INTERVENE AND  
REQUEST FOR HEARING BY SIERRA CLUB AND FRIENDS OF THE EARTH"

Pursuant to 10 C.F.R. § 2.309(h)(1), the staff (Staff) of the Nuclear Regulatory Commission (NRC or Commission) hereby answers the "Petition to Intervene and Request for Hearing by Sierra Club and Friends of the Earth" (Petition), filed in the Virgil C. Summer Nuclear Station, Units 2 and 3 (Summer) combined license (COL) proceeding by Sierra Club and Friends of the Earth (Petitioners). For the reasons set forth below, the Staff does not oppose the standing of Sierra Club, but does oppose the standing of Friends of the Earth. The Staff also opposes the admissibility of any of Petitioners' contentions. For these reasons, Petitioners should not be admitted as a party to this proceeding.

BACKGROUND

By letter dated March 27, 2008, South Carolina Electric and Gas Company (SCE&G or Applicant), acting for itself and as agent for the South Carolina Public Service Authority (also referred to as "Santee Cooper") submitted a COL application (Summer COL application or COLA) for two AP1000 advanced passive pressurized water reactors (PWRs) to be located in Fairfield County, South Carolina. The Federal

Register notice of receipt and availability of the Summer COL application was published on July 9, 2008 (73 Fed. Reg. 39,339), and the Summer COL application was accepted for docketing on July 31, 2008. The Federal Register notice of docketing was published on August 6, 2008 (73 Fed. Reg. 45,792), and the Federal Register notice of hearing (Hearing Notice) was published on October 10, 2008 (73 Fed. Reg. 60,362). The Hearing Notice included an “Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information [SUNSI] and Safeguards Information [SGI] for Contention Preparation” (SUNSI/SGI Access Order).

Two important parts of the Summer COL application that will be discussed extensively below are the Summer COL Final Safety Analysis Report (FSAR) and Environmental Report (ER). The Summer COL application also incorporates by reference 10 C.F.R. Part 52, Appendix D (which includes the AP1000 generic design control document (DCD) through Revision 15 (AP1000 R15)), as amended by AP1000 DCD, Revision 16 (AP1000 R16) “and Westinghouse Technical Report APP-GW-GLR-134, ‘AP1000 DCD Impacts to Support COLA Standardization,’ Revision 4, which was submitted on March 20, 2008.”<sup>1</sup> The AP1000 amendments remain subject to an

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<sup>1</sup> Summer COL Application cover letter (ADAMS Accession No. ML081300460). See also Hearing Notice, 73 Fed. Reg. at 60,362. Technical Report APP-GW-GLR-134 (TR-134) (ADAMS Package Accession No. [ML080850419](#)) has the purpose of identifying impacts to the AP1000 R16. TR-134 describes these impacts as those:

which occurred or were discovered subsequent to the submittal of the DCD in support of the AP1000 design certification amendment, [and] may be in the form of: 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. This report addresses DCD Revision 16 impacts for Tier 1, Tier 2\*, and Tier 2. This document is provided to track the DCD impacts and thereby maintain consistency between the AP1000 Design Certification Amendment Application and the COL applications that reference the AP1000 Design Certification Rulemaking. The impacts included in this document will be

(continued. . .)

ongoing NRC rulemaking under Docket No. 52-006. AP1000 R16 was accepted for docketing in that rulemaking proceeding and a notice to that effect was published in the Federal Register on January 28, 2008 (73 Fed. Reg. 4926). Revision 17 of the AP1000 design certification amendment, dated September 22, 2008, was published on the NRC public website on November 25, 2008.<sup>2</sup>

### DISCUSSION

In their Petition, both Sierra Club and Friends of the Earth assert that they have standing based upon their representation of several of their members and propose three contentions. Petition at 5. As explained below, only Sierra Club has established standing and neither of the Petitioners submits an admissible contention.

#### I. Legal Standards:

##### A. Standing to Intervene

In accordance with the Commission's Rules of Practice:<sup>3</sup>

[a]ny person whose interest may be affected by a proceeding and who desires to participate as a party must file a written request for hearing or petition for leave to intervene and a specification of the contentions that the person seeks to have litigated in the hearing.

10 C.F.R. § 2.309(a). The regulations further provide that the Licensing Board:

will grant the [petition] if it determines that the [petitioner] has standing under the provisions of [10 C.F.R. § 2.309(d)] and has

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(. . .continued)

incorporated into the AP1000 DCD in a forthcoming revision. TR-134 at 1 (non-proprietary version). To some extent, TR-134 represents a bridge between Revisions 16 and 17 of the AP1000 design certification.

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<http://adamswebsearch2.nrc.gov/idmws/ViewDocByAccession.asp?AccessionNumber=ML083230868>.

<sup>3</sup> See "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," 10 C.F.R. Part 2.

proposed at least one admissible contention that meets the requirements of [10 C.F.R. § 2.309(f)].

*Id.*

Under the general standing requirements set forth in 10 C.F.R. § 2.309(d)(1), a request for hearing or petition for leave to intervene must state:

(i) The name, address and telephone number of the requestor or petitioner;

(ii) The nature of the requestor's/petitioner's right under the [Atomic Energy Act of 1954, as amended (Act)] to be made a party to the proceeding;

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

(iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.

10 C.F.R. § 2.309(d)(1).

As the Commission has observed:

[a]t the heart of the standing inquiry is whether the petitioner has "alleged such a personal stake in the outcome of the controversy" as to demonstrate that a concrete adverseness exists which will sharpen the presentation of issues.

*Sequoyah Fuels Corp. and Gen. Atomics (Gore, Oklahoma Site)*, CLI-94-12, 40 NRC 64, 71 (1994) (citing *Duke Power Co. v. Carolina Env'tl. Study Group, Inc.*, 438 U.S. 59, 72 (1978), and quoting *Baker v. Carr*, 369 U.S. 186, 204 (1962)).

To demonstrate such a "personal stake," the Commission applies contemporaneous judicial concepts of standing. Accordingly, petitioner must (1) allege an "injury in fact" that is (2) "fairly traceable to the challenged action" and (3) is "likely" to be "redressed by a favorable decision."

*Sequoyah Fuels*, 40 NRC at 71-72 (quoting *Lujan v. Defenders of Wildlife*, 112 S.Ct. 2130, 2136 (1992) (citations and internal quotations omitted) and citing *Cleveland Elec. Illuminating Co. (Perry Nuclear Power Plant, Unit 1)*, CLI-93-21, 38 NRC 87, 92 (1993)). See also *Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation)*, CLI-99-10, 49 NRC 318, 323 (1999).

In reactor license proceedings, licensing boards have typically applied a “proximity” presumption to persons “who reside in or frequent the area within a 50-mile radius” of the plant in question. See, e.g., *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 148 (2001).<sup>4</sup> The Commission noted this practice with approval, stating that:

We have held that living within a specific distance from the plant is enough to confer standing on an individual or group in proceedings for construction permits, operating licenses, or significant amendments thereto[.] See, e.g. *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-522, 9 NRC 54 (1979). . . . [T]hose cases involved the construction or operation of the reactor itself, with clear implications for the offsite environment[.] See, e.g., *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-183, 8 [sic, 7] AEC 222, 226 (1974).

*Fla. Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989). The proximity presumption establishes standing without the need to establish the elements of injury, causation, or redressability. *Turkey Point*, LBP-01-6, 53 NRC at 150. The NRC staff submits that because a COL application is an application for a construction permit combined with an operating license (see 10 C.F.R. § 52.1(a)), the proximity presumption would appear, in general, to apply to such applications.

An organization may establish its standing to intervene based on organizational standing (showing that its own organizational interests could be adversely affected by the proceeding), or representational standing (based on the standing of its members). Where an organization seeks to establish "representational standing," it must show that at least one of its members may be affected by the proceeding, it must identify that member by name and address and it must show that the member “has authorized the

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<sup>4</sup> The *Turkey Point* decision summarizes the development of this doctrine. See *Turkey Point*, LBP-01-6, 53 NRC at 147-48.

organization to represent him or her and to request a hearing on his or her behalf.” See, e.g., *Entergy Nuclear Operations Inc. and Entergy Nuclear Palisades, LLC* (Palisades Nuclear Plant) et al, CLI-08-19, 68 NRC \_\_\_, \_\_\_ (slip op. at 6-7) (Aug. 22, 2008); *Consumers Energy Co.* (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 409 (2007); *Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-07, 63 NRC 188, 195 (2006) (citing *GPU Nuclear Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000)). Further, for the organization to establish representational standing, the member seeking representation must qualify for standing in his or her own right, the interests that the organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor the requested relief must require an individual member to participate in the organization's legal action. *Palisades*, CLI-07-18, 65 NRC at 409; *Private Fuel Storage*, CLI-99-10, 49 NRC at 323 (citing *Hunt v. Wash. State Apple Advertising Comm'n*, 432 U.S. 333, 343 (1977)).

B. Legal Requirements for Contentions

The legal requirements governing the admissibility of contentions are well established and currently are set forth in 10 C.F.R. § 2.309(f) of the Commission's Rules of Practice (formerly § 2.714(b)).<sup>5</sup>

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<sup>5</sup> The Commission codified the requirements of former § 2.714, together with rules regarding contentions set forth in Commission cases, in § 2.309 in 2004. See “Changes to Adjudicatory Process” (Final Rule), 69 Fed. Reg. 2182 (Jan. 14, 2004), as corrected, 69 Fed. Reg. 25,997 (May 11, 2004). In the Statements of Consideration for the final rule, the Commission cited several Commission and Atomic Safety and Licensing Appeal Board decisions applying former § 2.714 in support of the codified provisions of § 2.309. See 69 Fed. Reg. at 2202. Accordingly, Commission and Appeal Board decisions on former § 2.714 retain their vitality, except to the extent the Commission changed the provisions of § 2.309 as compared to former § 2.714.

The standards in 10 C.F.R. § 2.309(f)(1) may be summarized as follows: An admissible contention must: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at the hearing; and (6) provide sufficient information to show that a genuine dispute with the applicant exists with regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or in the case when the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.<sup>6</sup> See 10 C.F.R. § 2.309(f) (2008).

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<sup>6</sup> Section 2.309(f) states the following requirements for contentions:

(f) Contentions.

(1) A request for hearing or petition for leave to intervene must set forth with particularity the contentions sought to be raised. For each contention, the request or petition must:

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

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

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

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

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

(vi) Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application

(continued. . .)

Sound legal and policy considerations underlie the Commission's contention requirements. The purpose of the contention rule is to, "focus litigation on concrete issues and result in a clearer and more focused record for decision." 69 Fed. Reg. at 2202; *see also Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553-54 (1978); *BPI v. AEC*, 502 F.2d 424, 428 (D.C. Cir. 1974); *Phila. Elec. Co. (Peach Bottom Atomic Power Station, Units 2 and 3)*, ALAB-216, 8 AEC 13, 20 (1974). 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." 69 Fed. Reg. at 2202. The Commission has emphasized that the rules on contention admissibility are "strict by design." *Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3)*, CLI-01-24, 54 NRC 349, 358 (2001), *pet. for reconsideration denied*, CLI-02-01, 55 NRC 1 (2002). Failure to comply with any of these requirements is grounds for the dismissal of a contention. 69 Fed. Reg. at 2221; *see also, Private Fuel Storage, L.L.C.*, CLI-99-10, 49 NRC at 325; *Ariz. Pub. Serv. Co. et al. (Palo Verde Nuclear Generating Station, Units 1, 2, and 3)*,

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(including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.

(2) Contentions must be based on documents or other information available at the time the petition is to be filed, such as the application, supporting safety analysis report, environmental report or other supporting document filed by an applicant or licensee, or otherwise available to a petitioner. On issues arising under the National Environmental Policy Act, the petitioner shall file contentions based on the applicant's environmental report.

10 C.F.R. § 2.309(f)(1)-(2).

CLI-91-12, 34 NRC 149, 155-56 (1991). "Mere 'notice pleading' does not suffice."<sup>7</sup>

*Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 119 (2006).

Finally, it is well established that the purpose for the basis requirements is: (1) to assure that the contention raises a matter appropriate for adjudication in a particular proceeding; (2) to establish a sufficient foundation for the contention to warrant further inquiry into the assertion; and (3) to put other parties sufficiently on notice of the issues so that they will know generally what they will have to defend against or oppose. *Peach Bottom*, ALAB-216, 8 AEC at 20-21; *Ariz. Pub. Serv. Co., et al.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-91-19, 33 NRC 397, 400 (1991). The *Peach Bottom* decision requires that a contention be rejected if:

- (1) it constitutes an attack on applicable statutory requirements;
- (2) it challenges the basic structure of the Commission's regulatory process or is an attack on the regulations;
- (3) it is nothing more than a generalization regarding the petitioner's view of what applicable policies ought to be;
- (4) it seeks to raise an issue which is not proper for adjudication in the proceeding or does not apply to the facility in question; or
- (5) it seeks to raise an issue which is not concrete or litigable.

*Peach Bottom*, *supra*, 8 AEC at 20-21.

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<sup>7</sup> See also *Ariz. Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), CLI-91-12, 34 NRC 149, 155 (1991); *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-35, 34 NRC 163, 167-68 (1991). These requirements are intended, *inter alia*, to ensure that a petitioner reviews the application and supporting documentation prior to filing contentions; that the contention is supported by at least some facts or expert opinion known to the petitioner at the time of filing; and that there exists a genuine dispute between the petitioner and the applicant before a contention is admitted for litigation -- so as to avoid the practice of filing contentions which lack any factual support and seeking to flesh them out later through discovery. See, e.g., *Shoreham*, 34 NRC at 167-68.

These rules focus the hearing process on real disputes susceptible of resolution in an adjudication. See *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999). For example, “a petitioner may not demand an adjudicatory hearing to attack generic NRC requirements or regulations or to express generalized grievances about NRC policies.” *Id.* Specifically, NRC regulations do not allow a contention to attack a regulation unless the proponent requests a waiver from the Commission. 10 C.F.R. § 2.335; *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-07-3, 65 NRC 13, 17-18 and n.15 (2007) (citing *Millstone*, CLI-01-24, 54 NRC at 364).

II. Sierra Club, But Not Friends of the Earth, Has Established Standing.

In the Petition, the Sierra Club and Friends of the Earth seek to establish representational standing to intervene. Petition at 5.<sup>8</sup> However, as explained below, the Sierra Club appears to have demonstrated representational standing, whereas Friends of the Earth has not.

To demonstrate representational standing to intervene, nearly identical affidavits from five individuals were submitted. *Id.* Each affidavit provides the affiant’s home address, describes his or her activities in the area of the proposed reactors, and states

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<sup>8</sup> The two organizations only explicitly assert representational standing. See e.g., Petition at 5. The two organizations also set forth the purposes of their organizations, Petition at 3-4, assert that granting the application would affect them as organizations and their members. See Petition at 6. Neither organization, however, shows some risk of a “discrete institutional injury to itself, other than the general environmental and policy interests of the sort we repeatedly have found insufficient for organizational standing.” See *Palisades*, CLI-08-19, 68 NRC at \_\_\_, (slip op. at 21) (quoting *Consumers Energy Co.* (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 411-12, *reconsid’n denied*, CLI-07-22, 65 NRC 525 (2007)). Thus, to the extent that the Sierra Club and the Friends of the Earth are asserting organizational standing, they have not made the necessary showing.

his or her concerns about the granting of the COL application for the proposed reactors. All affiants claim to live and recreate within 50 miles of the proposed reactors and to have concerns about the effects the proposed reactors may have on the area in which they live and recreate. Therefore, each affiant appears to have standing in his or her own right. Further, the relief request does not appear to require the participation of the individual affiants and the interest of the affiants appear to be germane to the purpose of the “representing” organizations.

All five affiants state that they are current members of the Sierra Club and that they authorize the Sierra Club to represent them in this proceeding. Thus, the Sierra Club appears to have satisfied the requirements for representational standing.

In contrast, none of the affiants authorize Friends of the Earth to represent him or her. Instead, one affiant simply states that he is an employee and member of Friends of the Earth, while another states that she is a current member of Friends of the Earth. Because Commission case law requires a demonstration that the individual has authorized an organization to represent him or her and that that demonstration be part of the petition for leave to intervene, Friends of the Earth has failed to demonstrate representational standing. See *Palisades*, CLI-08-19, 68 NRC at\_\_ (slip op. at 6-7; 9-12) (rejecting an affidavit authorizing an organization to represent an individual submitted with a reply brief because, consistent with Commission case law prohibiting presentation of new legal or factual arguments in reply briefs, consideration of the affidavit would deny parties responding to the petition to intervene an opportunity to challenge the affidavit as a matter of right). However, given that the affidavits to support representational standing for Friends of the Earth appear to be otherwise sufficient, and that the only deficiency can be simply cured without significant prospect for controversy, the Staff believes that the parties have had a fair opportunity to challenge the sufficiency

of the affidavits. The Staff, therefore, would not object to the standing of Friends of the Earth if either or both of the already submitted affidavits from Friends of the Earth members were amended to clearly authorize Friends of the Earth to represent their interests in this proceeding.

III. Petitioners Have Submitted No Admissible Contentions

Petitioners submit three contentions. The first concerns purported deficiencies in the AP1000 design, the second concerns aircraft impacts, and the third concerns various need for power, costs of the action, and alternatives analysis issues under the National Environmental Policy Act (NEPA). As explained below, none of these contentions are admissible.

- A. Contention 1 (AP1000 Deficiencies): The COLA is incomplete at this time because many of 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.

Petition at 12-13.

Staff Response: A contention that simply alleges that some matter ought to be considered does not provide the basis for an admissible contention. See *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 246 (1993). A contention is inadmissible if it fails to contain sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact and does not include references to the specific portions of the application

that a petitioner may dispute. See *Pacific Gas and Electric Co. (Diablo Canyon ISFSI)*, CLI-08-01, 67 NRC 1, 8 (2008). If a contention alleges an omission, it must identify each omission and give supporting reasons for the Petitioners' belief that the application fails to contain information on a relevant matter required by law. 10 C.F.R. § 2.309(f)(1)(vi). Simply asserting that the application is inadequate or incomplete in some way, therefore, does not make an admissible contention. For the reasons explained below, this contention is inadmissible, either because it fails to meet the requirements of 10 C.F.R. §. 2.309 or because it presents an impermissible attack on the regulations. See § 2.335 (prohibiting challenges to the Commission's regulations in adjudicatory proceedings in the absence of waiver).

1. Petitioners' Challenge to the Commission's Licensing Process

With this contention, Petitioners appear to be challenging the Commission's licensing process, stating that "it is impossible to conduct a meaningful technical and safety review of the COLA without knowing the final design of the reactors as they would be constructed by SCE&G." Petition at 14. Petitioners also point out, as if it is an important defect, that design certification information may change during the AP1000 design certification amendment review, and that the COL application may change as a result. See Petition at 15. Petitioners also complain that there is no timetable for resolution of the AP1000 amendment process, stating that "they have no confidence that several of the fundamental issues can be resolved." Petition at 16. Petitioners' concerns do not provide adequate support for this contention's admissibility.

The regulations, Commission caselaw, and Commission policy clearly give COL applicants the right to reference a design certification application. 10 C.F.R. § 52.55(c); *Progress Energy Carolinas, Inc. (Shearon Harris Nuclear Power Plant)*, CLI-08-15, 68 NRC \_\_ (July 23, 2008); "Conduct of New Reactor Licensing Proceedings; Final Policy

Statement,” 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008) (hereafter “New Reactor Licensing Policy Statement”). Petitioners’ challenge to the NRC’s review of the Summer COL application prior to certification of the proposed AP1000 amendments, therefore, is an impermissible challenge to the regulations. See 10 C.F.R. § 2.335. The others of Petitioners’ concerns outlined above also flow from the decision to allow COL applicants to reference design certification applications and, therefore, cannot support contention admissibility. These concerns also do not otherwise meet the admissibility requirements of § 2.309(f)(1). Petitioners should be aware, however, that although amendments to a license application will occur throughout the licensing process, Petitioners can file late-filed contentions if they dispute these changes. See § 2.309. Petitioners also have no cause for concern with the schedule for the AP1000 amendment review. A COL referencing a design certification application cannot be issued until the design certification rulemaking is completed. New Reactor Licensing Policy Statement, 73 Fed. Reg. at 20,973.

Finally, Petitioners may be under a misimpression because they state that Revision 16 of the AP1000 is no longer being reviewed by the NRC. See Petition at 13. Revision 17 is an update the Westinghouse’s AP1000 amendment application,<sup>9</sup> and amendment information included in Revision 16 will be reviewed to the extent that it has not been changed in Revision 17. Revision 16, likewise, reflected proposed changes to Revision 15.<sup>10</sup>

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<sup>9</sup> See Letter from Robert Sisk, Westinghouse, to NRC, “Update to Westinghouse’s Application to Amend the AP1000 Design Certification Rule” (Sept. 22, 2008).

<sup>10</sup> For a detailed listing of the changes Revision 16 makes to Revision 15, see “Westinghouse AP1000 Design Control Document Rev. 17 – Tier 1 – Change (continued. . .)

2. Petitioners' Challenge to the AP1000 Recirculation Screen Design and Instrumentation and Controls

Petitioners claim that the AP1000, Revision 16, design is deficient with respect to its recirculation screen design and so-called unresolved problems in the AP1000, Revision 16, instrumentation and controls (I&C). Petition at 14. Petitioners cite only the docketing letter for the AP1000, Revision 16, to support their recirculation screen design assertion, stating that the issue “was discuss[ed]” in this letter. *Id.* The NRC’s docketing letter, however, does not support contention admissibility. Petitioners do not explain what specific facts or sources support an asserted inadequacy in Revision 16 other than the Staff’s discussion of recirculation screen design in its letter. To demonstrate that a contention is admissible, a petitioner must do more than simply show that the NRC staff is looking into a particular issue in its review of an application; petitioners must themselves provide reasons or support to explain the significance of the identified concern. See *Oconee*, CLI-99-11, 49 NRC 328, 337 (“Petitioners seeking to litigate contentions must do more than attach a list of RAIs [NRC staff requests for additional information] and declare an application ‘incomplete.’ It is their job to review the application and to identify what deficiencies exist and to explain why the deficiencies raise material safety concerns.”) (emphasis added). In *Oconee*, the Commission also noted that NRC staff’s issuance of RAIs “does not alone establish inadequacies in the application,” and upheld the inadmissibility of a contention where “petitioners themselves

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(. . .continued)

Roadmap” at xxvii-xxx, available at [http://adamswebsearch2.nrc.gov/idmws/doccontent.dll?library=PU\\_ADAMS^PBNTA D01&ID=083250950](http://adamswebsearch2.nrc.gov/idmws/doccontent.dll?library=PU_ADAMS^PBNTA D01&ID=083250950), ADAMS Accession No. ML083230170; “Westinghouse AP1000 Design Control Document Rev. 17 – Tier 2 – Change Roadmap” at cxx-clxi, available at [http://adamswebsearch2.nrc.gov/idmws/doccontent.dll?library=PU\\_ADAMS^PBNTA D01&ID=083250968](http://adamswebsearch2.nrc.gov/idmws/doccontent.dll?library=PU_ADAMS^PBNTA D01&ID=083250968), ADAMS Accession No. ML083230194.

provided no analysis, discussion, or information of their own on any of the issues raised in the RAIs[.]” *Id.* at 337. Docketing letters are like RAIs, in that they communicate with applicants on issues relevant to the NRC’s safety review, and *Oconee* is squarely on point. Petitioners have failed to offer any specific facts or sources or make any independent argument in support of a dispute with the recirculation screen design. Petitioners also do not explain their dispute with any specific portion of the design certification application and, therefore, do not demonstrate a genuine, material dispute with the application as required by 10 C.F.R. § 2.309(f)(1)(vi).

As for their I&C concerns, Petitioners nowhere specifically describe what unresolved I&C problems they have in mind, point to any regulation that such problems might violate, describe what part of the application they dispute, or point to any alleged facts, expert support, or documentation that would support their position on the issue. Petitioners, therefore, fail to meet the requirements in 10 C.F.R. § 2.309(f)(1)(i),(ii), (iv), (v), (vi) to specifically describe the factual and legal issues they raise; support their contention with a basis; demonstrate the materiality of their concerns; provide support for their contention; explain their dispute with specific portions of the application; or otherwise show a genuine, material dispute with the application. Petitioners do not even cite to the I&C portion of the COL application (chapter 7 of the FSAR) or the AP1000, Revision 16 DCD (Chapter 7 of Tier 2), much less meet the requirements for an admissible contention with respect to such information.

### 3. Petitioners’ Challenge to the Structure of the DCD

Petitioners also appear to challenge the two-tier rule structure of design certifications. They state:

Even the so-called “certified” components that have been *approved* depend on the interaction with non-certified components. These non-certified “Tier 2” components are not trivial, but run the gamut of containment, control room set up, seismic qualifications, fire areas, heat

removal, human factors engineering design, plant personnel requirements, operator decision-making, alarms and piping. These non-certified components interact with Tier 1 components and each other to a significant degree. During the certification process, any or all of these may be modified by the Commission, and as a result, require the applicant to modify its application.

Petition at 14-15 (emphasis added). The implication appears to be that Tier 2 components are not approved.

In the design certifications that have been certified thus far, the NRC has adopted a two-tier structure for the DCD. The definitions for the two-tier rule structure are included in the appendix to Part 52 that certifies the design. Appendix D to Part 52 contains the DCD for the AP1000 Design. See 10 C.F.R. Part 52, Appendix D. Tier 1 means:

The portion of the design related information contained in the generic DCD that is approved and certified by this appendix (Tier 1 information). The design descriptions, interface requirements, and site parameters are derived from Tier 2 information. Tier 1 information includes;

1. Definitions and general provisions;
2. Design Descriptions;
3. Inspections, tests, analysis, and acceptance criteria (ITAAC);
4. Significant site parameters; and
5. Significant interface requirements.

See 10 C.F.R. Part 52, App. D, Section II.D.

Tier 2 means:

The portion of the design-related information contained in the generic DCD that is approved but not certified by this appendix (Tier 2 information). Compliance with Tier 2 is required, but generic changes to and plant-specific departures from Tier 2 are governed by Section VIII of this appendix. Compliance with Tier 2 provides a sufficient, but not the only acceptable, method for complying with Tier 1. Compliance methods differing from Tier 2 must satisfy the change process in Section VIII of this appendix. Regardless of these differences, an applicant or licensee must meet the requirement in Section III.B of this appendix to reference Tier 2 when referencing Tier 1. Tier 2 information includes:

1. Information required by §§ 52.47(a) and 52.47(c), with the exception of generic technical specifications and conceptual design information;

2. Supporting information on the inspections, tests, and analyses that will be performed to demonstrate that the acceptance criteria in the ITAAC have been met; and
3. Combined license (COL) action items (COL license information), which identify certain matters that must be addressed in the site-specific portion of the final safety analysis report (FSAR) by an applicant who references this appendix. These items constitute information requirements but are not the only acceptable set of information in the FSAR. An applicant may depart from or omit these items, provided that the departure or omission is identified and justified in the FSAR. After issuance of a construction permit or COL, these items are not requirements for the licensee unless such items are restated in the FSAR.
4. The investment protection short-term availability controls in Section 16.3 of the DCD.

10 C.F.R. Part 52, App. D, Section II.E. As defined above, both Tier 1 and Tier 2 information have been approved by the NRC in Appendix D.

Petitioners are mistaken, therefore, to the extent they believe that Tier 2 information is unapproved. While it is true that Tier 1 components are certified and Tier 2 components are not certified, both Tiers are approved. See 10 C.F.R. Part 52, Appendix D, Sections II, D-E. Any “interaction” between Tier 1 and Tier 2 information that Petitioners allege in no way compromises the approved and certified status of Tier 1 information. Also, since the two-tier structure is fundamental to the already certified AP1000 design, any attack on this structure is an impermissible attack on 10 C.F.R. Part 52, Appendix D. See 10 C.F.R. § 2.335.

Although Petitioners mention certain portions of Tier 2 (“containment, control room set up, seismic qualifications, fire areas, heat removal, human factors engineering design, plant personnel requirements, operator decision-making, alarms and piping,” Petition at 14-15), they appear to do so only to give examples of Tier 2 information and do not take issue with the adequacy of the DCD with respect to this information. To the extent they intended to assert challenges in these areas, however, Petitioners clearly do not meet the § 2.309(f)(1) requirement to specify issues, provide a basis, demonstrate

materiality, provide support for their positions, explain disputes with specific portions of the application, or demonstrate a genuine, material dispute with the application.

Also, to the extent that it is possible to understand what Petitioners mean when they vaguely refer to such issues as “alarms” and “piping,” it appears that the AP1000 DCD addresses these areas. The final design of the reactor containment is discussed in two different portions of the DCD. See AP1000 Design Control Document; §§ 3.8.2, Steel Containment;<sup>11</sup> 6.2, Containment Systems.<sup>12</sup> The control room set up and operator decision-making procedures are discussed in Chapter 18 of the DCD. *Id.* at Chapter 18, Human Factors Engineering.<sup>13</sup> The seismic qualifications for various components of the AP1000 reactors are found in Chapter 3 of the DCD. *Id.* at §§ 3.9.3, ASME Code Classes 1, 2, and 3 Components, Component Supports, and Core Support Structures;<sup>14</sup> 3.10, Seismic and Dynamic Qualification of Seismic Category I Mechanical and Electrical Equipment;<sup>15</sup> Appendix 3D, Methodology for Qualifying AP1000 SAFETY-Related Electrical and Mechanical Equipment.<sup>16</sup> The establishment of fire protection

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<sup>11</sup> ADAMS Accession Nos. ML071580883 (Revision 16); ML083230305 (Revision 17).

<sup>12</sup> ADAMS Accession Nos. ML071580911 (Revision 16); ML083230332 (Revision 17).

<sup>13</sup> ADAMS Accession Nos. ML071580842-ML071580856 (Revision 16); ML083230262, ML083230264-ML083230277 (Revision 17).

<sup>14</sup> ADAMS Accession Nos. ML071580884 (Revision 16); ML083230306 (Revision 17).

<sup>15</sup> ADAMS Accession Nos. ML071580873 (Revision 16); ML083230297 (Revision 17).

<sup>16</sup> ADAMS Accession Nos. ML071580889 (Revision 16); ML083230311 (Revision 17).

areas is discussed in Chapter 9 of the DCD. *Id.* at § 9.5.1, Fire Protection System;<sup>17</sup> Appendix 9A, Fire Protection Analysis.<sup>18</sup>

“Heat removal” is very vague, but systems for safe shutdown are discussed in Chapter 6 of the DCD, and systems for design basis accidents are discussed in Chapter 15 of the DCD. *Id.* at § 6.3, Passive Core Cooling System;<sup>19</sup> Chapter 15, Accident Analyses.<sup>20</sup> *See also id.* at § 14.2.9, Preoperational Test Descriptions.<sup>21</sup> Human factors engineering is discussed in Chapter 18 of the DCD. *Id.* at Chapter 18, Human Factors Engineering.<sup>22</sup>

It is unclear what Petitioners mean by “plant personnel requirements.” They have not provided sufficient detail to point the Staff to relevant application sections. Nevertheless, there are likely relevant discussions in Chapters 13 and 18 of the DCD. *Id.* at §§ 13.2, Training;<sup>23</sup> 18.6, Staffing.<sup>24</sup> It is also unclear what Petitioners mean by “alarms.” They have not provided sufficient detail to point the Staff to specific application

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<sup>17</sup> ADAMS Accession Nos. ML071580935 (Revision 16); ML083230721 (Revision 17).

<sup>18</sup> ADAMS Accession Nos. ML071580937 (Revision 16); ML083230723 (Revision 17).

<sup>19</sup> ADAMS Accession Nos. ML071580912 (Revision 16); ML083230333 (Revision 17).

<sup>20</sup> ADAMS Accession Nos. ML071580821 (Revision 16); ML083230239 (Revision 17).

<sup>21</sup> ADAMS Accession Nos. ML071580817 (Revision 16); ML083230235 (Revision 17).

<sup>22</sup> ADAMS Accession Nos. ML071580842-ML071580856 (Revision 16); ML083230262, ML083230264-ML083230277 (Revision 17).

<sup>23</sup> ADAMS Accession Nos. ML071580815 (Revision 16); ML083230233 (Revision 17).

<sup>24</sup> ADAMS Accession Nos. ML071580852 (Revision 16); ML083230273 (Revision 17).

sections. However, there could be relevant discussions in Chapters 7, 9, 13, and 18 of the DCD. *Id.* at Chapter 7, Instrumentation Controls;<sup>25</sup> Chapter 9, Auxiliary Systems;<sup>26</sup> § 13.6, Security;<sup>27</sup> § 18.6, Staffing.<sup>28</sup> Again, it is unclear what Petitioners mean by “piping.” They have not provided sufficient detail to point the Staff to specific application sections. In any event there is likely relevant discussion in various sections of the DCD. See *id.* at Chapter 3, Design of Structures, Components, Equipment and Systems;<sup>29</sup> Chapter 7, Instrumentation and Controls;<sup>30</sup> § 9.5.1, Fire Protection System.<sup>31</sup> Thus, Petitioners do not challenge the adequacy of the DCD discussion of any of the above technical subjects.

4. Petitioners’ Misplaced Disputes Based on AP1000 Revision 17

Petitioners also attempt to base Contention 1 on information provided in the AP1000, Revision 17. On page 15 of their Petition, Petitioners state that “[o]n its face, Revision 17 demonstrates that the DCD, and as a result, the COLA, is incomplete and that there remain a number of serious safety inadequacies in the AP1000 design that

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<sup>25</sup> ADAMS Accession Nos. ML071580918-ML071580924, ML071580926 (Revision 16); ML083230339-ML083230346 (Revision 17).

<sup>26</sup> ADAMS Accession Nos. ML071580931-ML071580937 (Revision 16); ML083230351-ML083230354, ML083230721-ML083230723 (Revision 17).

<sup>27</sup> ADAMS Accession Nos. ML071580815 (Revision 16); ML083230233 (Revision 17).

<sup>28</sup> ADAMS Accession Nos. ML071580852 (Revision 16); ML083230273 (Revision 17).

<sup>29</sup> ADAMS Accession Nos. ML071580873-ML071580878, ML071580880-ML071580894 (Revision 16); ML083230297-ML083230317 (Revision 17).

<sup>30</sup> ADAMS Accession Nos. ML071580918-ML071580924, ML071580926 (Revision 16); ML083230339-ML083230346 (Revision 17).

<sup>31</sup> ADAMS Accession Nos. ML071580935 (Revision 16); ML083230721 (Revision 17).

have not been satisfactorily addressed.” Petitioners then list a number of “uncertified components” addressed in Revision 17, state that these components may be modified during the certification process, and that the applicant may, thereby, be required to amend its application. See Petition at 15.

Petitioners’ articulation of their dispute is unclear, however, and can give rise to one of two interpretations. Both of these interpretations will be addressed by the Staff, but neither one supports contention admissibility. One possible interpretation is that Petitioners believe that the mere existence of a Revision 17 proves that Revision 16 is somehow inadequate. This is clearly a fallacious argument. A DCD can be amended for any number of reasons, none of which cast doubt on the adequacy of information in prior revisions. Petitioners clearly show no material, genuine, and supported dispute with the application on this score. See 10 C.F.R. § 2.309(f)(1).

A second possible interpretation, however, is that Petitioners are attempting to dispute certain information in Revision 17 to the AP1000 DCD, specifically the list of Tier 2 components in Revision 17 to the AP1000. This appears similar to Petitioners’ challenge to the two-tier structure of the AP1000 DCD and cannot support contention admissibility, as described above. To the extent they intended to challenge the adequacy of any portion of Revision 17 to the AP1000, however, Petitioners clearly do not meet the 10 C.F.R. § 2.309(f)(1) requirements to specify issues, provide a basis, demonstrate materiality, provide support for their positions, explain disputes with specific portions of the application, or demonstrate a genuine, material dispute with the application.

Any challenge to information contained in Revision 17 of the AP1000, but not yet incorporated into the Summer Application, faces a more fundamental threshold issue, however. In order to meet the requirements for issuing a COL, applicants must submit

the information required by 10 C.F.R. §§ 52.77, 52.79, and 52.80. Some of this information may be incorporated from either an already certified design or a design certification application. 10 C.F.R. §§ 52.55(c), 52.73(a). If Petitioners dispute any information found in the COL application, they can submit contentions based on those disputed issues, see 2.309(f)(2), and if Petitioners submit otherwise admissible contentions disputing information in a referenced design certification application, the contention would be admitted, but held in abeyance pending resolution of the design certification rulemaking. See New Reactor Licensing Policy Statement, 73 Fed. Reg. at 20,972. Upon adoption of a final design certification rulemaking, such a contention should be denied. *Id.* A petitioner is foreclosed from filing contentions regarding a previously certified design in a COL proceeding. See 10 C.F.R. § 2.335. Thus, Petitioners are foreclosed from filing contentions regarding the previously certified AP1000 Revision 15 design. See 10 C.F.R. Part 52, App. D, Section.

If a referenced DCD is revised after submission of the COL application, then the COL applicant has a choice between incorporating these revisions in their entirety, or else requesting an exemption from some of the changes or pursuing a custom design. See New Reactor Licensing Policy Statement, 73 Fed. Reg. at 20,972-73. A choice to incorporate some, or all, of the DCD revision would be made through an amendment to the COL application. Although this choice would need to be made at some point in the COL review process, there is no requirement that it be made immediately after a DCD revision is made, and Petitioners point to no such requirement.

The Summer COL application has not been amended in response to Revision 17 of the referenced DCD; it still incorporates Revision 16. Contentions must be based on

the application,<sup>32</sup> as it exists when the petition is filed, see 10 C.F.R. § 2.309(f)(2). Any admissible contentions in this COL proceeding, therefore, must be based on the COL application as it now exists, with the design information currently referenced.

Contentions cannot be based on speculation about how the application might, or might not, be amended in the future. When, and if, the COL application is later amended, late-filed contentions specifically taking issue with the amendment can then be submitted. These contentions can be admitted if they meet all relevant requirements, including the late-filing and admissibility requirements of 10 C.F.R. § 2.309.<sup>33</sup> Any challenge to Revision 17 of the AP1000, therefore, is currently outside the scope of this COL proceeding. 10 C.F.R. § 2.309(f)(1)(iii).

#### 5. Petitioners' Challenges Regarding Accident Analyses

Petitioners assert that it is impossible to conduct the probabilistic risk assessment (PRA) for the proposed Summer reactors without “a final design and operations procedures.” Petition at 15. In the context of a later discussion of the ER’s assessment of design basis accidents (DBAs), severe accidents, and severe accident mitigation alternatives (SAMAs), Petitioners also assert that “[w]ithout having the current

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<sup>32</sup> “The adequacy of the applicant’s license application, not the NRC staff’s safety evaluation, is the safety issue in any licensing proceeding.” Changes to Adjudicatory Process, Final Rule, 69 Fed. Reg. 2182, 2207 (Jan. 14, 2004).

<sup>33</sup> Among these requirements is the need to file contentions based on new information in a “timely fashion” after the new information became available. See § 2.309(f)(2)(iii). The clock for late-filed contentions specifically disputing information contained in the amendment to the application would be triggered with the filing of the amendment, because the application simply did not contain this information before the amendment. A different situation presents itself with respect to new information, regardless of its source, that allegedly calls into question the adequacy of the *existing* application. An example might be the conclusions of a technical report, whether or not the report is connected to the licensing action. Since contentions can always be filed with respect to the existing application, the clock for late filing in this latter situation would run from the availability of the new information—in this case, the technical report.

configuration, design and operating procedures in the application, the risk assessment and the SAMAs cannot be determined.” Petition at 16-17. None of these assertions support contention admissibility.

The Staff first notes that all of the analyses which Petitioners state are impossible are in fact found in the relevant design certification and COL application documents. The PRA is found in chapter 19 of the Summer FSAR, and in Tier 2, Chapter 19 of the certified AP1000 Rev. 15, as well as in Revisions 16 and 17 of the AP1000 design. Likewise, Chapter 7 of the Summer FSAR addresses DBAs, severe accidents, and SAMA. See Summer ER, Section 7.1 (DBAs), Section 7.2 (Severe Accidents) and Section 7.3 (SAMAs). Moreover, the NRC environmental assessment (EA) for the AP1000 Rev. 15, contains an analysis of Severe Accident Mitigating Design Alternatives (SAMDA), which form a part of the SAMA analysis. See AP1000 Rev. 15, EA (ADAMS Accession No. ML053630176). The Westinghouse SAMDA analysis for the AP1000 Revisions 16 and 17, can be found in Tier 2, Appendix 1B, of the respective DCDs. Petitioners nowhere cite to these analyses, much less explain how any portion of these analyses are incorrect or incomplete, contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(vi).<sup>34</sup> Petitioners also do not provide any alleged facts or expert opinion, and no references to documentation, that would support their assertions that various accident analyses are “impossible” to perform, thereby failing to meet § 2.309(f)(1)(v).

Fundamentally, it appears that Petitioners’ grievance is not with the Summer COL application, but with the Commission’s licensing process. Petitioners nowhere

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<sup>34</sup> To the extent that Petitioners believe that any specific deficiencies in the AP1000 DCD or Summer COL application relate to deficiencies in the accident analyses, Petitioners entirely fail to explain this relationship, much less provide any support for their concerns.

particularize their dispute with the Application's accident analyses. Neither do Petitioners allege that such analyses, though possible to perform, have not been performed in this case. Petitioners instead argue that these accident analyses are impossible to perform, see Petition at 15, 16-17, which implicitly attacks the Commission's decision to allow COL applicants to reference design certification applications. See 10 C.F.R. § 52.55(c). Contentions attacking the Commission's licensing process cannot be admitted in NRC proceedings. 10 C.F.R. § 2.335; see also discussion at III.A.1, *supra*.

For the above reasons, Contention 1 is not admissible.

- B. Proposed Contention 2 (Aircraft Impacts): SCE&G's ER, Chapter 7, "Postulated Accidents," fails to satisfy NEPA and the NRC rules because it does not address the 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 capacities that avoid or mitigate, to the extent practicable . . . the effects of the aircraft impact on the key safety functions . . . .

Support for Contention: NRC regulations for the implementation of the AEA provide that a nuclear power plant must be designed against accidents that are "anticipated during the life of the facility" . . . SCE&G's COLA for the proposed Summer reactors does not assess the consequences of an aviation attack and the resulting impact, penetration, explosion and fire. The potential for accidents caused by deliberate malicious actions and the resulting equipment failures is not only reasonably foreseeable, but it is likely enough to qualify as a design-basis threat ("DBT"), i.e., an accident that must be designed against under NRC safety regulations. [Petition at 17-18.]

In this proposed contention, Petitioners assert that SCE&G's ER fails to satisfy NEPA because it does not contemplate the environmental impacts from both the accidental and intentional attack of an airplane into one of the proposed facilities. The Petition then cites to an article that argues that aircraft impacts at nuclear power plants are reasonably foreseeable, and should be considered Design Basis Threats ("DBTs"). Petition at 18. Petitioners also cite to a 1982 study that they claim states that all then

planned and operational nuclear power plants in the United States would not withstand an aircraft impact. Petition at 19. Petitioners then discuss a October 2000 NRC study entitled "Technical Study of Spent Fuel Accident Risk at Decommissioning Nuclear Power Plants," and cite to the NRC's review of Design Basis Threats in 2006. Petition at 20.

Petitioners next discuss a recent decision from the United States Court of Appeals for the Ninth Circuit that required the Commission to analyze the environmental impacts of terrorist attacks in its NEPA review concerning the Diablo Canyon Power Plant Independent Spent Fuel Storage Installation. Petition at 21, *citing San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), *cert. denied*, 127 S.Ct. 1124 (2007). The contention continues on to discuss SECY-08-0152, "Consideration of Aircraft Impacts for New Nuclear Power Reactor Designs," Draft Final Rule (Oct. 15 2008). Petition at 21-22. Petitioners conclude the contention by criticizing SCE&G's ER section on Severe Accident Mitigation Alternatives (SAMA), stating "[t]he Summer ER does not provide information that allows the NRC staff to consider reasonable alternatives for avoiding or reducing the environmental impacts of this class of threats and accidents." Petition at 24.

Staff Response: In Proposed Contention 2, the Petition raises several issues regarding aircraft impacts. For the purposes of addressing these issues, the Staff is dividing its response into four parts. The first part, which will be referred to as Part A, argues that due to the Commission's proposed final rule on this topic, COL applicants are required to assess the effects of an aircraft impact on nuclear reactors. The second part, referred to as Part B, argues that aircraft impacts constitute a DBT, and that the proposed Summer reactors should be hardened against such attacks. The third part, referred to as Part C, concerns NEPA and the incorporation of environmental impacts

from both accidental impacts and malicious terrorist attacks into SCE&G's ER and Environmental Impact Statement (EIS). Finally, the fourth, referred to as Part D, asserts that SCE&G's COL lacks an adequate SAMA analysis. Parts A, B, C and D of this contention are not admissible.

1. Part A of Contention 2 is Inadmissible Because it Concerns Issues the Subject of an Ongoing Rulemaking and Attacks the Current Regulations.

Petitioners assert that SCE&G's COLA is inadequate because it "does not assess the consequences of an aviation attack and the resulting impact, penetration, explosion, and fire." Petition at 18. The Petition asserts that due to the Commission's draft final rule on this topic, COL applicants would be required to assess the effects of an aircraft impact on nuclear reactors if the rule becomes final. See Petition at 22-23 (citing SECY-08-0152, Final Rule—Consideration of Aircraft Impacts for New Nuclear Power Reactors (Oct. 15, 2008)). See also "Consideration of Aircraft Impacts for New Nuclear Power Reactor Designs," Proposed Rule, 72 Fed. Reg. 56,287 (Oct. 3, 2007) (hereinafter "Aircraft Impacts Rule"). Under the proposed Aircraft Impacts Rule, licensees would need to:

perform an aircraft impact assessment of the effects on the designed facility of the impact of a large, commercial aircraft. Based on the insights derived from that assessment, the application would have to include a description and evaluation of the design features, functional capabilities, and strategies to avoid or mitigate the effects of an aircraft impact, addressing core cooling capability, containment integrity and spent fuel pool integrity. The applicant would be required to describe how such design and other features avoid or mitigate, to the extent practicable, the aircraft impact effects with reduced reliance on operator actions.

Aircraft Impacts Rule, Proposed Rule, 72 Fed. Reg. at 56,288 (Oct. 3, 2007).

On this point, Petitioners allege that SCE&G's COLA should have included a plan in its COLA which addressed the effects of an aircraft impact. Petition at 23. However,

this contention is inadmissible as it concerns issues which are the subject of an ongoing rulemaking.

The Commission has stated that “[i]t has long been agency policy that Licensing Boards should not accept in individual license proceedings contentions which are (or are about to become) the subject of general rulemaking by the Commission.” *Oconee*, CLI-99-11, 49 NRC at 345 (quoting *Potomac Elec. Power Co. (Douglas Point Nuclear Generating Station, Units 1 and 2)*, ALAB-218, 8 AEC 79, 85 (1974)) (alteration in original). In *Oconee*, the Commission also stated that “a petitioner may not demand an adjudicatory hearing to attack generic NRC requirements or regulations or to express generalized grievances about NRC policies.” *Id.* at 334. The Petition makes an argument concerning issues which are subject to an ongoing, general rulemaking proceeding. If Petitioners wish to take issue with Commission aircraft impact positions, the proper venue is the rulemaking process. See *Oconee*, CL-99-11, 49 NRC at 345. The Commission has issued a recent policy statement, however, that could possibly be read to suggest that the proposed contention should be held in abeyance (if acceptable under § 2.309(f)(1)), rather than rejected under *Oconee*. See New Reactor Licensing Policy Statement, 73 Fed. Reg. at 20,972. In this policy statement, the Commission decided that contentions falling within the scope of a docketed, but not completed, design certification rulemaking would be held in abeyance pending resolution of the rulemaking if the contentions were “otherwise admissible.” *Id.* If the Commission later issued a final design certification rule, the contention would be denied. *Id.* Notably, the New Reactor Licensing Policy Statement cited *Oconee* in support of the above approach. See *id.* A close examination of relevant case law, however, shows that the rationale supporting the approach used in the New Reactor Licensing Policy Statement does not apply to Proposed Contention 2. The fundamental point is that a proposed

contention based on a failure to comply with a proposed regulation cannot be admissible because COL applicants are not required to comply with proposed regulations; as explained in more detail below, materiality cannot be demonstrated.<sup>35</sup>

In the draft final rule where a COLA references an already certified design, such as the AP1000, the design certification document (“DCD”) must be amended to comply with the Aircraft Impacts Rule. See Aircraft Impacts Rule, Proposed Rule, 72 Fed. Reg at 56,296. However, “the NRC is aware that Westinghouse Electric Company, LLC, which was the applicant for the AP1000 design certification, intends to seek an amendment to the design certification to address the final aircraft impact rule.”

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<sup>35</sup> In *Oconee*, the Commission upheld a board ruling denying a contention that was based, in part, on a failure to comply with former 10 C.F.R. § 51.53(c)(3)(ii)(M). This required that the environmental impacts of high-level waste transportation be reviewed. See § 51.53(c)(3)(ii)(M) (1999). The Commission agreed with the licensing board that “the transportation of spent fuel rods to an offsite repository is not an appropriate subject for a contention because it is the subject of a pending rulemaking.” *Oconee*, 49 NRC at 345. In *Oconee*, the ongoing rulemaking was an action to “categorize the impacts of transporting high-level waste as a generically addressed Category 1 issue,” *id.*, which would have taken the issue outside the realm of the license renewal proceeding, see § 51.53(c)(3)(i) (1999). Moreover, in a 1998 Staff Requirements Memorandum, the Commission had stated that license renewal applicants need not address the transportation issues “unless waiting for the rulemaking to be final would delay the license renewal proceeding.” *Oconee*, 49 NRC at 345. In *Oconee*, the rulemaking was scheduled to become final well before the scheduled conclusion of the licensing proceeding. *Id.*

In *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-12, 53 NRC 459, 474-75 (2001), the Commission explained the application of the *Oconee* principles. The decision makes clear that two important issues are (1) whether an applicable generic rule is already in place and (2) the timing issue discussed in *Oconee*. See *id.* With regard to the timing issue, it bears noting that the New Reactor Licensing Policy Statement explicitly recognizes that a license cannot be issued for a COL application referencing a design certification application until the rule becomes final and that delays to the rule may delay license issuance. See 73 Fed. Reg. at 20,972-73.

Applying the above principles to the instant case, it becomes clear that Proposed Contention 2 should be rejected. In the instant case, unlike the cases in *Oconee* and *PFS*, and the cases in which COL applications reference design certification applications, the current regulations do not require the applicant to take the actions that would be required if the proposed rule were to become final. Also, because there is no current applicable rule on point, the conclusion of this proceeding cannot be delayed by a delay in issuing the Aircraft Impacts Rule. Finally, even if the course outlined in the New Reactor Licensing Policy Statement were applied to Proposed Contention 2, it would have to be denied, rather than held in abeyance, because the contention is not otherwise admissible.

SECY-08-0152, Final Rule—Consideration of Aircraft Impacts for New Nuclear Power Reactors, p. 113 (Oct. 15, 2008) (Enclosure 1). See *also* AP1000 DCD, Revision 17, Chapter 19, App. 19F (considering the impacts of a large, commercial aircraft). Moreover, “[i]f 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.” SECY-08-0152, Final Rule—Consideration of Aircraft Impacts for New Nuclear Power Reactors, p. 97 (Oct. 15, 2008) (Enclosure 1) (alteration in original). It appears that for the AP1000, the resolution of any aircraft impacts analysis will occur in a rulemaking proceeding, as opposed to this licensing proceeding.<sup>36</sup>

But, more importantly, current regulations do not require SCE&G to take the actions that would be required if a proposed rule were to become final. There is also no current applicable rule on point. Therefore, as of now, there can be no material dispute with the SCE&G COLA and the 10 C.F.R. § 2.309(f) contention admissibility requirements cannot be satisfied. To the extent that the Petitioners call for analyses and actions not currently required, Part A of Proposed Contention 2 should also be rejected because it “presents an impermissible challenge to the Commission’s regulations by seeking to impose requirements in addition to those set forth in the regulations.” *Turkey*

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<sup>36</sup> To the extent that Contention 2 is also an attack on the AP1000 design as certified in Part 52, Appendix D, the contention would be barred as an attack on that regulation. It is possible to attack Commission regulations, but only if the stringent requirements of 10 C.F.R. § 2.335 are satisfied. The Petition however does not even cite to § 2.335, let alone show that these requirements are met.

To attack a Commission rule, § 2.335, among other things, requires a *prima facie* showing that applying the rule would not serve the purposes of the rule and requires that the *prima facie* showing be based on “special circumstances with respect to the subject matter of the particular proceeding” as outlined in a supporting affidavit. Section 2.335 applies to challenges to design certification rules in COL proceedings. See 10 C.F.R. §§ 52.83(a) and 52.63(a)(5).

*Point*, LBP-01-6, 53 NRC at 159. One of the premises underlying the Aircraft Impacts Rule is that license and design applicants are not currently required by regulation to take the actions that would be required if the proposed rule were to become final. The Commission stated in the proposed rule and draft final rule that the proposed requirements were not “necessary for adequate protection,” 72 Fed. Reg. at 56,288; see also SECY-08-0152, Final Rule—Consideration of Aircraft Impacts for New Nuclear Power Reactors, p. 7 (Oct. 15, 2008) (Enclosure 1). Petitioners have not pointed to any current requirement that would require such actions from SCE&G. Therefore, because Part A of Contention 2 raises issues that attack current regulatory requirements and are outside the scope of the proceeding, the contention is inadmissible under 10 C.F.R. § 2.309(f)(1).

Furthermore, in recent orders in the *Shearon Harris* and *William States Lee III* COL proceedings, Boards have held similar contentions related to the Aircraft Impacts Rule inadmissible. See *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17 (Sept. 22, 2008); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant Units 2 and 3), LBP-08-21 (Oct. 30, 2008).

Thus, as explained above, applicability of the proposed rule’s requirements is being resolved through the rulemaking process. Currently the rule does not impose requirements on SCE&G’s COLA. Petitioners are trying to adjudicate rulemaking issues, which is outside the scope of this COL proceeding. See 10 C.F.R. § 2.309(f)(1)(iii).

2. Part B of Contention 2 Does Not Dispute Specific Portions of SCE&G’s COLA and is Outside the Scope of This Proceeding.

In Proposed Contention 2, Petitioners assert that the threat of an aircraft impact amounts to a design-basis threat (“DBT”).<sup>37</sup> Petition at 18. As part of their criticism, Petitioners argue that NRC regulations require new nuclear power plants be built with safeguards to withstand accidents that are ‘anticipated during the life of the facility.’ Petition at 18. Along this line, the Petition states that the “potential for accidents caused by deliberate malicious actions...is not only reasonably foreseeable, but is likely enough to qualify as a design-basis threat.” Petition at 18.

Part B of Proposed Contention 2 should likewise be rejected because it is outside the scope of this proceeding pursuant to 10 C.F.R. § 2.309(f)(1)(iii). Also, the contention fails to meet the materiality requirement of 10 C.F.R. § 2.309(f)(1)(iv) &(vi). 10 C.F.R. § 73.1(a) requires a facility to establish and maintain a physical protection system to protect against a design-basis threat. Nonetheless, the Commission declined to include an aircraft attack in the DBT rule. See “Final Rule, Design Basis Threat,” 72 Fed. Reg. 12,705 (Mar. 19, 2007). As such, the DBT rule does not direct that a COL applicant build its nuclear reactors to withstand an aircraft attack.<sup>38</sup>

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<sup>37</sup> A DBT is used by the NRC and its licensees to define the capability of a licensee to defend its plant against an adversarial threat. See 10 C.F.R. § 73.1(a).

<sup>38</sup> The Staff also notes that the Application analyzes DBAs, which are “postulated accidents that are used to set design criteria and limits for the design and sizing of safety-related systems and components.” NUREG-0800, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants*, p. 15.0-14 (Mar. 2007). COL applicants are not required to demonstrate that their plant’s design can withstand accidental aircraft impacts if the probability of such an attack is “sufficiently low.” See NUREG-0800 at 3.5.1.6 (Mar. 2007) (stating, “Probabilistic considerations may be used to demonstrate that aircraft hazards need not be a design-basis concern”). The SCE&G COLA analyzes the low probability of an accidental aircraft impact on the Summer facility. See V.C. Summer Nuclear Station, Units 2 and 3 COL Application, Part 2, FSAR, 2.2-5, 2.2-6, and 2.2-7 (2008). However, Petitioners do not specify that these sections or other specific portions of the SCE&G COL application provide inadequate information on this issue.

Thus, Contention 2 is inadmissible pursuant to 10 C.F.R. § 2.309(f)(1).

3. Part C of Contention 2 is Inadmissible Because Petitioners Do Not Identify Proper Bases for Challenging Past Commission Decisions

Petitioners argue that the SCE&G COLA ER is incomplete because it does not contain a discussion of the environmental consequences of a terrorist attack on the proposed reactors. Petition at 17. While the Commission has taken extensive measures to address the safety of nuclear power plants from terrorist attacks, it has maintained the position that it is not necessary to consider the environmental impacts of terrorist attacks under NEPA. See, e.g., *Amergen Energy Co.* (License Renewal for Oyster Creek Generating Station), CLI-07-08, 65 NRC 124, 130-31 (2007); *Private Fuel Storage*, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 343-45, 347-48 (2002); *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-24, 56 NRC 335, 339 (2002). Further, although the Ninth Circuit has held that NEPA requires the NRC to consider the environmental impacts from a terrorist attack, the Commission has limited its adherence to this holding to the Ninth Circuit. See *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), cert. denied, 127 S.Ct. 1124 (2007); see also *Oyster Creek*, CLI-07-8, 65 NRC at 128-34.

Petitioners do not argue why NEPA requires such an analysis. Nor does the Petition cite to any sources or expert opinion that could justify reconsideration of the Commission's position. As the Commission stated, the existence of the risk of terrorism does not mean that NEPA is an appropriate mechanism for analysis of those risks. *Savannah River MOX*, CLI-02-24, 56 NRC at 339. Moreover, environmental impacts from remote or speculative events do not have to be considered under NEPA. See *Vermont Yankee Nuclear Power Corp.*, (Vermont Yankee Nuclear Power Station), CLI-90-04, 31 NRC 333, 334-5 (1990). Likewise, NEPA does not require a worst-case

scenario analysis. See *Robertson v. Methow Valley Citizens Counsel*, 490 U.S. 332 (1989).

The Petition makes the claim that “[t]he potential for accidents caused by deliberate malicious actions and the resulting equipment failures is not only reasonably foreseeable, but is likely enough to qualify as a design-basis threat (‘DBT’).” Petition at 18 (alteration in original). As such, the Petition alleges SCE&G must account for this threat in the COLA. However, Petitioners present no evidence as to how the threat of a malicious terrorist aircraft attack is “reasonably foreseeable.” Nor do Petitioners demonstrate how environmental impacts from such an attack are anything more than speculative. In addition, in response to a similar contention in *Shearon Harris*, the Board recently held that the contention was inadmissible as it was contrary to Commission precedent. See *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant Units 2 and 3), Board Memorandum and Order (Ruling on Standing and Contention Admissibility) LBP-08-21 (October 30, 2008). Thus, in accordance with Commission and Board decisions, the SCE&G ER does not need to consider the environmental consequences of a successful terrorist attack, and Contention 2 is inadmissible on this basis.

4. Part D of Contention 2 is Inadmissible Because Petitioners’ Severe Accident Mitigation Alternative Claim is Not Admissible

Petitioners assert that SCG&E’s COLA does not show that the proposed Summer reactors will be able to survive aircraft attacks. Petition at 23. The Petition then cites 10 C.F.R. § 51.53, which requires that a license renewal applicant consider “alternatives to mitigate severe accidents” (SAMA) if the staff has not done so in a prior

environmental impact statement or in an environmental assessment. *Id.*<sup>39</sup> The NRC staff agrees that SAMAs are required in NRC environmental reviews. The SAMA is by nature an environmental analysis of mitigation measures from impacts. According to the Council on Environmental Quality regulations, NEPA requires “[m]eans to mitigate adverse environmental impacts.” 40 C.F.R. §1502.16(h) (alteration in original). As discussed above, there is no need to consider environmental effects of a terrorist attack under NEPA. See *Oyster Creek*, CLI-07-08, 65 NRC at 130-31. Also, a recent Board decision in *Shearon Harris* considered an aircraft impacts SAMA contention and found it to be inadmissible because of the NRC’s NEPA terrorism case law. See *Shearon Harris*, LBP-08-21, slip op. at 13-14. Thus, a SAMA analysis does not need to address the environmental effects from a terrorist attack.<sup>40</sup>

Even if the Petitioners’ SAMA claims are given further consideration in the context of their aircraft impacts argument, contention admissibility, as further explained below, has not been shown.

The Petition does not point to any specific errors or omissions in SCE&G’s ER SAMA chapter. See Summer ER, Section 7.3, Severe Action Mitigation Alternatives. Rather, Petitioners merely state that the Summer COL application is inadequate and

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<sup>39</sup> However, this is not a license renewal application, but rather is an application for a combined operating license. Petitioners’ statement is, therefore, irrelevant.

<sup>40</sup> The Petitioners do briefly mention the threat of accidental impacts in their contention. This reference, however, is not further explained or supported in the contention, and clearly does not meet the § 2.309(f)(1)(ii),(v), and (vi) requirements of basis, support, or demonstration of a genuine, material dispute with the application. Contention 2 is primarily focused on terrorist attacks. The wording of the first sentence of the contention gives the impression that any accidental impacts language was little more than a last-minute insertion. See Petition at 17 (stating, “SCE&G’s ER, Chapter 7, ‘Postulated Accidents,’ fails to satisfy NEPA and the NRC rules because it does not address the environmental impacts of a successful attack by either the accidental or deliberate and malicious crash . . .”) (emphasis added).

“cannot be approved without...a demonstration that the SAMAs required to prevent or mitigate the impacts from those attacks will be implemented.” Petition at 24. As required by 10 C.F.R. 2.309(f)(1), for a contention to be admissible, Petitioners must reference specific portions of the application which are inadequate and give supporting reasons for their dispute. Here, the Petition does not cite to any specific portions of the COLA which are lacking, nor does it mention the sources or expert opinions which support the assertion that the COLA must include aircrafts impacts in its SAMA analysis.<sup>41</sup>

Further, Chapter 7.3 of the Summer ER directly addresses SAMA and describes the process by which the Summer COLA determines SAMA for the proposed reactors. Chapter 7.3 of the ER concludes that based on the SAMA analysis, “[t]he analysis in this section provides assurance that there are no cost-beneficial design alternatives that would need to be implemented at SCE&G’s site to mitigate these small impacts.” Summer ER, Section 7.3 (alteration in original). The Petitioners take no issue with the

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<sup>41</sup> These aircraft accident mitigation issues may be affected by the Final Rulemaking Power Reactor Security Requirements, albeit on the safety, rather than environmental, side of the ledger. See SECY 08-0099 at 1 (July 9, 2008). With respect to the effect of aircraft impacts, the draft Final Rule, in 10 C.F.R. § 50.54(hh)(1), would:

establish the necessary regulatory framework to facilitate consistent application of Commission requirements for preparatory actions to be taken in the event of a potential aircraft threat to a nuclear power reactor facility. The staff also recommends that § 50.54(hh)(2) require licensees to develop guidance and strategies for addressing the loss of large areas of the plant due to explosions or fires from a beyond-design basis event through the use of readily available resources and identification of potential practicable areas for the use of beyond-readily-available resources. Requirements similar to these were previously imposed under Section B.5 of the February 25, 2002, order; specifically, the “B.5.a” and the “B.5.b” provisions.

*Id.* at 7. SECY-08-0099 was approved, with certain changes, in a Staff Requirements Memorandum dated December 17, 2008, but a final rule has yet to be published.

SAMA analysis in this section. As such, the Petitioners fail to raise an admissible contention pursuant to 10 C.F.R. 2.309(f)(1)(v), (vi).

In addition, for the AP1000, a COL applicant's Severe Accident Mitigation Design Alternatives ("SAMDA") is incorporated by reference from the AP1000 DCD, Revision 15, environmental assessment. "The Commission considers the following matters resolved within the meaning of 10 CFR 52.63(a)(5) in subsequent proceedings for issuance of a COL . . . All environmental issues concerning severe accident mitigation design alternatives associated with the information in the NRC's EA for the AP1000 design." 10 C.F.R Part 52, App. D, Section VI.B.7. To the extent Petitioners take issue with the AP1000, Revision 15, SAMDA analysis,<sup>42</sup> their challenge is foreclosed by the regulations. It appears that this is exactly what Petitioners are doing, at least implicitly, since the AP1000 Revision 15 SAMDA did not consider the effects of aircraft impacts. To the extent that Petitioners believe that any amendment to the AP1000 would materially alter that SAMDA analysis with respect to aircraft crashes, the petitioners fail to cite to such analysis, much less specify and support their concerns in conformity with 10 C.F.R. § 2.309.<sup>43</sup> This contention, therefore, is inadmissible.

Fundamentally, it appears that the Petitioners are attacking the current regulations through criticism of SCE&G's SAMA. Finding fault with the NRC's current safety requirements, and unwilling to await the results of the rulemaking process, Petitioners are attempting to use NEPA to impose safety requirements not currently

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<sup>42</sup> A SAMDA is the design portion of the SAMA.

<sup>43</sup> The AP1000 SAMDA analysis is located in Tier 2 at App. 1B in the various revisions of the DCD.

mandated. This, Petitioners cannot do. Therefore, Part D of Proposed Contention 2 is inadmissible. See 10 C.F.R. § 2.335; *Turkey Point*, LBP-01-6, 53 NRC at 159.

- C. Proposed Contention 3: (Need for power, Cost of Action and Alternatives). Contrary to the requirements of the National Environmental Policy Act and 10 C.F.R. § 51.45 the Applicant's Environmental Report (ER) fails to adequately discuss the impacts of the proposed action and alternatives in proportion to their significance; fails to discuss alternatives with sufficient completeness to aid the Commission in developing and exploring "appropriate alternatives to recommended courses of action" in this "proposal which involves unresolved conflicts concerning alternative uses of available resources;" fails to adequately present the environmental impacts of this proposal and the alternatives in comparative form; fails to adequately discuss the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity with respect to this proposal and alternatives; fails to adequately discuss irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented; fails to include an adequate analysis that considers and balances 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; fails to include analyses which, to the fullest extent practicable, quantify the various factors considered or adequately discuss important qualitative considerations or factors that cannot be quantified; and fails to contain sufficient data to aid the Commission in its development of an independent analysis in the following particulars: [Petition at 24-25.]

Petitioners then provide seven parts (A to G) for their contention,<sup>44</sup> all of which provide more specific concerns regarding need for power, costs of the action, and alternatives in chapters 8-10 of the ER. These parts are then addressed in the discussion, which to some degree is based on an attached declaration from Nancy Brockway (Brockway Declaration). The Staff's response will first consider certain issues that pertain to Contention 3, as a whole, and will then address the seven subparts of

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<sup>44</sup> One could consider these subparts to be proposed bases for the more generally stated part of the proposed contention.

Contention 3.

1. Issues That Pertain to Contention 3 as a Whole

- a. The Brockway Declaration provides little expert support for Contention 3.

Petitioners use the Brockway Declaration in an attempt to meet the 10 C.F.R. § 2.309(f)(1)(v) requirement to provide a “concise statement of the alleged facts or expert opinions which support the requestor’s/petitioner’s position on the issue and on which the petitioner intends to rely at hearing.” The Petition relies upon Ms. Brockway’s Declaration for technical and economic assertions in the following areas: (1) load forecasting based on effects from the current economic downturn, (2) demand-side alternatives to the proposed reactors, (3) alternative generating sources,<sup>45</sup> and (4) the costs of using the AP1000 design. These assertions, to a significant degree, touch upon load forecasting and modeling; economic forecasting and modeling; and the merits and feasibility in economic and technical terms of demand-side alternatives, alternative generating sources, and the AP1000 design. Petitioners, however, bear the burden of demonstrating Ms. Brockway’s expertise; a burden they fail to meet for many of the assertions contained in her declaration.

That Petitioners bear the burden of demonstrating Ms. Brockway’s expertise can be gleaned from a close examination of the text of § 2.309(f)(1)(v) and relevant case law. First, § 2.309(f)(1) makes explicit that petitioners bear the burden of demonstrating contention admissibility. Second, § 2.309(f)(1)(v) requires a statement of supporting

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<sup>45</sup> Although Ms. Brockway’s declaration mentions power purchases as an additional alternative, Petitioners did not choose to address this line of argument in their petition, making it inadmissible as a supporting basis for Contention 3. The Staff does note, however, that power purchases are addressed in the ER in Section 9.2.1.1, and are found to be inadequate.

“expert opinions,” not just a statement of supporting “opinions.” Third, to grant that any opinion labeled “expert” can be used to satisfy § 2.309(f)(1)(v), whether or not that label has any foundation in reality, would eviscerate the § 2.309(f)(1)(v) requirement.

Fourth, Atomic Safety and Licensing Boards (Licensing Boards) have considered the qualifications of proffered experts in making contention admissibility determinations. The Licensing Board in *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 N.R.C. 81, 90 (2004), *aff'd*, CLI-04-36, 60 NRC 631, found that a proposed contention asserting, among other things, various harms to human health from “routine and unplanned releases of radionuclides and toxic chemicals into the air, soil and water,” failed to satisfy § 2.309(f)(1)(v). In doing so, the Licensing Board discounted opinion affidavits from an investigative journalist and author of *Millstone and Me*, “[n]otwithstanding [his] studies into the relationship between low-level radiation and human health,” because “neither he nor CCAM [] provided sufficient information to establish any expertise on his part in this area.” *Id.* at 91 & n.39. Similarly, with respect to a security plan contention in *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-13, 47 NRC 360 (1998), reconsideration granted on another issue, LBP-98-17, 48 NRC 69, the licensing board discounted the affidavit of intervenor’s proffered expert because the intervenor (the State of Utah) “failed to establish he has the requisite knowledge, skill, training, education, or experience to be considered an expert on physical security matters.” *Id.* at 367. The licensing board found the proffered expert’s qualifications lacking even though he was the Director of Utah’s State Division of Radiation Control, was the Governor’s designee for receiving the applicant’s physical security plan, possessed “education, training, and experience in environmental health and hazardous substance,” and had received “NRC health physics training.” *Id.* at 367-68.

Specifically with regard to Ms. Brockway's stated qualifications, the Staff first notes that the Brockway Declaration, on page 2, references an "attached resume" in support of Ms. Brockway's qualifications, when, in fact, no such resume was attached. Petitioners do not demonstrate that Ms. Brockway possesses any education or training specifically related to the economical and technical assertions made in her declaration.

The Staff also notes that, generally speaking, the Brockway Declaration does not explain how Ms. Brockway's positions and experience make her an expert on many of the specific matters addressed in her declaration. The Staff concedes that Petitioners demonstrate Ms. Brockway's general *familiarity* with various issues involved in utilities regulation, much like the proffered expert's familiarity with relevant issues in *Millstone*, but petitioners fail to demonstrate her *expertise* relative to many of the bases of Petitioners' contention.

Ms. Brockway's experience as an attorney and hearing officer, for example, does not demonstrate expert qualifications in the areas of load forecasting and modeling; economic forecasting and modeling; or the merits and feasibility in economic and technical terms of demand-side alternatives, alternative generating sources, and the AP1000 design. Thus, paragraphs 6.c, 6.d., 6.e., and the attorney/hearing officer portions of paragraphs 6.a and 6.b, can be discounted as support for Ms. Brockway's expertise. See Brockway Declaration at 2-3.

Ms. Brockway also recounts her positions as a member of the New Hampshire Public Utilities Commission and various Committees (Brockway Declaration, paragraph 6.a., page 2), but she does not explain how that experience qualifies her as a subject matter expert on the technical and economic matters addressed in her declaration. Ms. Brockway recounts exposure to valuing utility assets and "promoting innovative forms of demand-side management" (Brockway Declaration, paragraphs 6.g. and h., page 4),

without explaining how her involvement demonstrates expertise on any technical and economic aspects of those issues. Certainly, a policymaker can make decisions in an area based upon premises established by the economic and technical expertise of others without possessing that expertise herself. The proffered expert in *PFS* presumably gained familiarity with physical security issues through his position as Director of State Division of Radiation Control and from being the Governor's designee for receiving the applicant's physical security plan. This did not qualify him as an expert, however.

Ms. Brockway also cites her experience offering consulting services and testimony (Brockway Declaration, paragraphs 6.b., f., k., and portions of i., pages 2 and 4), but we are not aware of what standards applied to admitting her testimony. Likewise, being hired as a consultant does not demonstrate particular expertise anymore than being hired as an expert witness.

The Brockway declaration generally states Ms. Brockway's involvement in various subject areas without making clear the extent to which Ms. Brockway's consulting work was founded upon economic and technical expertise underlying the legal and policy issues with which she was involved. The Staff concedes that, for the purposes of contention admissibility, Ms. Brockway's stated experience would allow her to provide an opinion, on a more general level, as to the relative effectiveness of various modes of energy efficiency, for example, or modeling methods for various alternative generating sources. The Staff disputes, however, her expertise with respect to economic forecasting or the technological feasibility of various means of power generation (including wind, solar, and nuclear). The Staff also disputes the probative value of any opinion which merely states that one conservation method, or one method of performing some analysis, is superior to another. As will be explained below, because many of the

issues in Contention 3 deal with inherently uncertain projections concerning economical (as opposed to environmental) costs and benefits, magnitude is a relevant criteria for materiality. Even if an applicant's estimate of need for power is not perfect, for example, a deficiency may not be material for the purposes of NEPA. Finally, the Staff disputes any bare assertion that some effect will be significant or great when it does not appear that Ms. Brockway has performed the type of analysis that would be needed to establish the magnitude of some effect. "[N]either 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." *Vogle ESP*, LBP-07-03, 65 NRC at 253.

- b. Petitioners in many instances fail to provide specific references to supporting documentation.

Throughout contention 3, Petitioners sometimes present assertions with vague references to the sources upon which they rely. These take such forms as attributing an opinion to unidentified persons, or attributing an asserted fact to undated and/or unsourced statements from various entities. It is the Petitioners' duty to "provide references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue." 10 C.F.R. § 2.309(f)(1)(v). The Commission has stated that it "expects parties to bear their burden and to clearly identify the matters on which they intend to rely with reference to a specific point." *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 337 (1999) (quoting *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-03, 29 N.R.C. 234, 241 (1989)). This directive should definitely be applied since Petitioners are represented by an attorney.

2. Contention 3A:

With respect to Chapter 8 of the ER, "Need for Power," the Applicant completely dismisses the current economic crisis and recent reductions in its sales, and has conducted no sensitivities of its load forecast to try to

capture the possible effects of a recession, including the possibility of a long and deep economic downturn. [Petition at 25; see *also* Petition at 29.]

The Petitioners assert in Basis A that the ER's "need for power" analysis is deficient because it fails to reflect the recent economic downturn. Petitioners do not take issue with the methodologies used in the application to forecast need for power, but only the failure to take account of the recent economic downturn.

Staff Response: Contention 3A is not admissible because Petitioners fail to meet their burden under 10 C.F.R. § 2.309(f)(1)(iv), (vi) of showing how their dispute is material to the findings the NRC must make to issue the license and that their dispute is genuine and material. A demonstration of the significance of a dispute is required for the materiality of either a safety or environmental contention. As stated by a licensing board, "[i]n order to be admissible, the regulations require that all contentions assert an issue of law or fact that is material to the outcome of a licensing proceeding; that is, *the subject matter of the contention must impact the grant or denial of a pending license application.*" *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 24 (2007) (emphasis added). With respect to environmental contentions, specifically, the Commission has stated that in "NRC licensing hearings, petitioners may raise contentions seeking correction of significant inaccuracies and omissions in the ER. Our boards do not sit to 'flyspeck' environmental documents or to add details or nuances." *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005) (affirming a licensing board's rejection of a contention).<sup>46</sup>

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<sup>46</sup> For other cases speaking to the materiality issue, see *Nuclear Management Co.* (Monticello Nuclear Generating Plant), LBP-05-31, 62 NRC 735, 748-49 (2005) (continued. . .)

Petitioners also fail to meet the requirements of 10 C.F.R. § 2.309(f)(1)(v) because they do not provide alleged facts or expert opinion in support of a genuine, material dispute with the application. Although Petitioners' discussion of Contention 3A contains many assertions concerning the state of the national and local economy in the last four months, these assertions, as explained below, do not demonstrate a material effect on the need for power analysis of proposed plants that are not scheduled to come on line until 2016 and 2019, see ER at 8.0-1.

The declaration of Ms. Brockway adds little to Petitioners' discussion of Contention 3A because it fundamentally lacks meaningful analysis. With regard to the topics covered in Contention 3A, this declaration consists mostly of factual statements culled from various sources, many unidentified, that could have been made by someone without expert qualifications. Interspersed with these factual assertions are a few vague conclusions about projected power needs without any explanation of how the conclusions follow from the premises. Such conclusory assertions cannot be used to support contention admissibility: "[N]either 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." *Vogtle ESP*, LBP-07-03, 65 NRC at 253.

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(. . .continued)

(stating that "[m]ateriality' requires that the petitioner show why the alleged error or omission is of *possible significance to the result of the proceeding*. This means that there must be some significant link between the claimed deficiency and either the health and safety of the public, or the environment") (emphasis added); and *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 259 (1996) (stating, "[I]t should be evident that not all actual or alleged errors in a decommissioning plan are of equal significance; to be significant enough to be 'material,' within the meaning of the contention rule, there needs to be some indication that an alleged flaw in a plan will result in a shortfall of the funds actually needed for decommissioning").

In any event, Petitioners fails to demonstrate that Ms. Brockway has the requisite economic expertise to make, with sufficient specificity, the sort of economic and power need projections necessary to support contention admissibility. For these reasons, the Brockway Declaration cannot be counted as "expert opinion" support of contention admissibility

The Commission has spoken to the materiality of these sorts of disputes in the past. In *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-79-5, 9 N.R.C. 607 (1979), the Commission stated that the general rule for differences in demand forecasts is not whether the facility is needed, but when it is needed. *Id.* at 609. This rule is based on the following realization:

[E]very prediction has associated uncertainty and [] long-range forecasts of this type are especially uncertain in that they are affected by trends in usage, 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.

*Id.* at 609-10. Applying this rule, the Commission considered a potential one year slip in construction schedules, based upon a difference between 5.2% and 6.7% projected growth rates, to be "clearly within the margin of uncertainty." *Id.* at 610. The Commission quoted with approval the conclusion, in *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347 (1975), that a two year difference in projected power need was not a "statistically meaningful distinction." *Shearon Harris*, CLI-79-5, 9 N.R.C. at 609 (quoting *Nine Mile Point*, ALAB-264, 1 N.R.C. at 365). For petitioners to show a genuine, material dispute with the ER; that is, a dispute that could affect the NRC's licensing decision, they would have to show a dispute over whether the power from two AP1000 reactors was unneeded.

To support admissibility, therefore, the petitioners need to show, not just a

genuine dispute about whether the current economic downturn would have a *noticeable* effect on future power needs, but a genuine dispute about whether the current economic downturn would have a *conclusive* effect, even in light of the inherent uncertainty in power need projections. To do this, Petitioners would have to provide sufficient facts or expert opinion in support of the assertion (1) that the current economic downturn would have significant, lasting economic effects many years into the future, and (2) that these significant, lasting economic effects would so affect the need for power analysis as to effectively erase a need for 2200 MW of baseload generating capacity a decade from now.

Smaller deviations from the applicant's projected need would tend only to increase the applicant's reserve margin or show that the applicant's analysis was conservative. A conservative analysis would be perfectly consistent with Commission precedent since, as the Appeal Board stated in *Duke Power Co. (Catawba Nuclear Station, Units 1 and 2)*, ALAB-355, 4 N.R.C. 397 (1976), reconsideration denied, ALAB-359, 4 NRC 619 (1976):

[I]f 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. This is not an ineluctable result, for oft times the surplus can be profitably marketed to other systems or the new capacity can replace older, less efficient units. But should the opposite occur and demand outstrip capacity, the consequences are far more serious.

*Id.* at 410.

At most, smaller deviations from the applicant's projected need would have the effect of delaying plant construction. But when, and how quickly, to construct a nuclear power plant in light of projected power needs is not a question for the NRC. The NRC does not impose construction schedules on applicants, and the Commission recently modified 10 C.F.R. §§ 50.33(f), 52.77, and 52.79 specifically to exclude combined

license applicants from the requirement to specify the earliest and latest dates for completion of construction. See Licenses, Certifications, and Approvals for Nuclear Power Plants, 72 Fed. Reg. 49,352, 49,397 (Aug. 28, 2007) (hereafter “2007 Part 52 Rule”).<sup>47</sup> Construction schedules are a question for the applicant and its utility regulator, who can revisit this question as information changes throughout the licensing and construction process. It must also be remembered that construction schedules, themselves, contain an element of uncertainty. Moreover, any NRC determination on projected power needs would come years before the completion of construction, and would be subject to the same types of inherent uncertainties as any current projections.

As for the specifics of their dispute, Petitioners essentially believe that need for power forecasting should be dominated by short term considerations. Economic growth, however, is just one of many factors taken into account in the applicant’s need for power analysis, see ER at 8.1-2 to -3, and the projections rely, in part, on long-term trends, not just snapshots of the current economy, see ER at 8.1-3. Also, as the Appeal Board stated in *Duke Power Co. (Catawba Nuclear Station, Units 1 and 2)*, ALAB-355, 4 NRC 397 (1976), “What intervenor attempted in essence is to rest a long term forecast of applicant’s peak load demands on changes which took place in the last two years. But, given the fluctuating nature of the growth of electric power demand, forecasts based on short time periods may be overly influenced by transitory effects and thus not accurately reflect basic long-term trends.” *Id.* at 410 (internal quotation omitted). Petitioners give no basis for thinking otherwise.

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<sup>47</sup> The Commission made this modification because combined licenses are issued under AEA §. 185b., which does not contain the construction completion date requirements of AEA § 185a. 72 Fed. Reg. 49,352, 49,397.

Whether the current economic downturn will have significant, lasting economic effects many years into the future is entirely unknown at this time. If this downturn follows the course of most economic downturns, the economy could be enjoying sustained positive growth well before 2016, much less 2019. Even if the current downturn were to have some negative bottom-line effect on future economic growth, the magnitude of this effect is even more uncertain.

For their part, Petitioners do not even hazard a guess as to the extent to which the current downturn's economic effects will be felt in the 2016-2019 timeframe. The closest that Petitioners come to a potentially supportable and relevant projection of future economic growth is a citation to an undated report from the University of South Carolina Moore School of Business. Petition at 33. Although this citation fails to give a date for the report, or identify its authors and their qualifications, the report at least provides a future economic projection.<sup>48</sup> This projection, however, is limited to 2009, and suggests that the nation will add jobs after the first quarter of 2009 and that South Carolina job losses will continue only into the second quarter of the same year. In addition to this projection, Petitioners also provide an unsupported assertion that certain unidentified economists believe that the current economic downturn will be the gravest since the Great Depression, but Petitioners also concede that "few argue that the downturn will be as long or as deep as that in the 1930's." Petition at 32. Such vague,

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<sup>48</sup> Because the Petitioners' reference is so ambiguous, the NRC Staff cannot further evaluate this projection. This ambiguity also means that the reference cannot be used in support of the contention for failing to satisfy the § 2.309(f)(1)(v) requirement to provide references to "specific sources and documents" supporting the petitioner's position.

unsupported, and undocumented assertions cannot support contention admissibility.<sup>49</sup>

Moreover, the Petitioners effectively concede that forecasting the effects of the current economic downturn is a speculative undertaking. In their Petition, Petitioners call the current downturn a “major source of uncertainty,” (Petition at 29), and concede that “it is too early to tell what such stimulus packages will pass Congress, and how quickly and to what extent they will reverse the recent downward trends in the economy.” (Petition at 32). The Applicant can hardly be faulted for failing to foresee the unforeseeable.

More importantly, however, NEPA does not require the sort of speculation the Petitioners seek. NEPA analyses are subject to a “‘rule of reason,’ which frees the agency from pursuing unnecessary or fruitless inquiries.” *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 N.R.C. 125, 139 (2004). “NEPA also does not call for certainty or precision, but an *estimate* of anticipated (not unduly speculative) impacts.” *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-20, 62 N.R.C. 523, 536 (2005) (emphasis in original). Finally, as a more general matter, arguments based on “mere speculation” are “insufficient to merit further consideration.” *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 267 (1996).

Although Petitioners fail to offer any economic analysis that would meaningfully link the economic facts they recite with need for power projections in the 2016-2019

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<sup>49</sup> Petitioners also assert, solely based on Ms. Brockway’s authority, that the current economic downturn is so structurally different from other economic downturns as to call for a revision in long term load forecasts. Petition at 34. Petitioners, however, offer no real analysis in support of this assertion and do not establish that Ms. Brockway has expertise in economic forecasting. This assertion is also not specific enough to establish materiality.

timeframe, they do provide a few assertions more directly related to power need.

Petition at 33-34. None of these, however, support contention admissibility.

Petitioners point to a national drop in energy sales over a five week period in mid-October and November, and assert, without citing any documentary support as required by § 2.309(f)(1)(v), that Duke Energy Carolinas and SCE&G have announced that energy sales have “slacked off” in the latter half of 2008. Petition at 33. Certainly, national energy sales over a five week period in 2008 cannot be considered a solid predictor of energy need in the Santee Cooper and SCE&G service areas many years from now.

As for the recent “slacking off” in Duke Energy Carolinas and SCE&G energy sales, this assertion, even were it sufficiently documented, would add little to Petitioners’ argument.<sup>50</sup> Although Petitioners put great stock in a few months of economic and energy sales data, Commission precedent cautions against this sort of analysis. See *Catawba*, ALAB-355, 4 NRC at 410. This point is reinforced by an examination of the Applicant’s ER. With respect to SCE&G, energy sales have declined in several of the past ten years (including 2002, 2004, and 2007), but the overall trend is one of unmistakably positive growth. See ER at 8.1-12 (Figure 8.1-2). Petitioners provide no reason to think that any current reduction in energy sales would materially affect the ER’s need for power analysis.

Petitioners also base contention 3A on several assertions specific to Duke

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<sup>50</sup> It is not clear whether Petitioners are asserting that energy sales in the second half of 2008 were lower than sales in the first half of 2008 or that sales in the second half of 2008 were lower than sales in the second half of 2007, but the NRC Staff will assume, for the purposes of this discussion, that Petitioners are comparing second half 2008 sales with second half 2007 sales.

Energy Carolinas. In blaming the “worsening economy,” Petitioners assert that “between its 2007 and 2008 Annual Plan (Integrated Resource Plan) filed with the South Carolina Public Service Commission (PSC), Duke had reduced its load forecasts for the 2016 and 2019 years between 3% and 6% (depending on the forecast year and whether the forecast was for energy or peak demand).” Petition at 33.<sup>51</sup>

The NRC Staff has examined the 2008 Duke Integrated Resource Plan (IRP), and it does not appear that the reduction in Duke’s load forecast is due entirely to the recent economic downturn. The 2008 IRP cites not only weakening economic growth, but the “expected ban of incandescent lighting mandated by the Energy Independence and Security Act of 2007” as a reason for reduced forecasts. 2008 Duke IRP, App. B, p. 1 (p. 87 of entire document). The Staff is not aware that the 2008 Duke IRP quantifies how much of the reduction is due to the ban of incandescent lighting, as opposed to reduced economic growth. Thus, even the reduction in Duke’s analysis cannot be entirely tied to economic factors.

Also, Petitioners fail to explain how changes in one company’s load forecast necessarily relate to another company’s load forecasts, or how a small percentage reduction in load forecast would make the ER’s need for power analysis materially incorrect. Petitioners also fail to explain why, if there is some relation between the two load forecasts, Duke’s forecasts should be trusted over SCE&G’s or Santee Cooper’s. Even if Petitioners could demonstrate that a 3-6% reduction should be applied to the

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<sup>51</sup> The two Integrated Resource Plans (IRPs) can be found on the South Carolina PSC website. The 2007 IRP is dated November 15, 2007 and can be found at <http://dms.psc.sc.gov/pdf/matters/49D6620D-D788-81BA-EF7E98B39EBBC65B.pdf>. The 2008 IRP is dated November 3, 2008, and can be found at <http://dms.psc.sc.gov/pdf/matters/6452E1C1-E848-0815-33A6D9E3D37ABA6E.pdf>.

load forecasts of SCE&G and Santee Cooper, they would not have demonstrated a genuine, material dispute with the ER.<sup>52</sup>

Petitioners also assert the following:

Other utilities, such as Duke Energy, have recognized the need to step back and revisit their resource plans (including load forecasts) in light of the recent extreme economic events. Duke recently stated publicly that it has cut back on plans to expand its generation fleet, and has put on hold for up to a year its planned filing with the South Carolina Public Service Commission seeking support for its construction of two nuclear units at the Lee site.

Petition at 34. This assertion is not documented. This assertion is also not stated with sufficient specificity as regards a so-called “cut back” in generating capacity, and is not sufficiently tied to the Applicant’s situation, to demonstrate a genuine, material dispute with the application. Also, a material dispute cannot be found assuming the truth of the assertions made about Duke’s nuclear plans. Even assuming that a one year delay in Duke’s filing with the South Carolina PSC somehow entails a one year delay in nuclear construction, and that this delay is entirely transferable to the Applicant’s situation, a one year delay in construction is of a length found immaterial by the Commission in prior decisions. *Shearon Harris*, CLI-79-5, 9 N.R.C. at 610.

Consequently, Contention 3A inadmissible because Petitioners have failed to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(iv)-(vi).

3. Contention 3B:

With respect to Chapter 9 of the ER, "Proposed Action Alternatives," the Applicant almost completely ignores demand-side management, undervaluing opportunities for cost-effective energy efficiency and demand response or load management. [Petition at 25 and 34.]

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<sup>52</sup> A 4% reduction in SCE&G’s 2016 peak demand, for example, would amount only to 229 MW, which is less than SCE&G’s 244 MW projected growth in peak demand from 2016 to 2018. See ER at 8.1-9.

Staff Response: As explained below, Contention 3B does not meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1)(vi) because it fails to demonstrate that its dispute with the application is material to the NRC's licensing decision. Also, Ms. Brockway's opinions are often nothing more than bare conclusions and do not demonstrate a genuine, material dispute with the application, and many of Petitioners' assertions are devoid of "references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue." See 10 C.F.R. § 2.309(f)(1)(v).

The Staff first notes that Petitioners do not take issue with the demand side management programs of Santee Cooper; Petitioners' dispute is only with SCE&G's programs. This has important implications for the potential materiality of Petitioners' Contention 3B because their arguments can apply only to the needs of customers purchasing 55% of the energy produced by the proposed reactors.<sup>53</sup> Second, the Staff notes that SCE&G's demand side management program is treated in chapter 8 of the ER, as well as chapter 9, on which Petitioners focus.<sup>54</sup> The Staff's response will consider the statements made in both chapters.

With respect to Petitioners' specific attacks on SCE&G's demand side management, Petitioners first offer Ms. Brockway's negative opinion of SCE&G's demand side management program. Ms. Brockway asserts that SCE&G's conservation programs are not "well-designed" and "will not achieve significant efficiency as currently designed." Petition at 33. Ms. Brockway, however, nowhere explains specifically what

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<sup>53</sup> SCE&G will receive 1,218 MW of the reactors' output, while Santee Cooper will receive 996 MW of the reactors' output. Summer ER at 8.0-1.

<sup>54</sup> See *id.* at 8.1-4 to -5, 9.2-3 to -5, and 9.2-6.

these deficiencies are. Even if Petitioners have demonstrated Ms. Brockway's qualifications for generally stating opinions as to the efficacy of certain demand-side strategies, such bare conclusions cannot support the admissibility of a contention: "[N]either 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." *Vogtle ESP*, LBP-07-03, 65 NRC at 253. Also, even if one demand side strategy favored by Petitioners is superior in some way to a strategy favored by SCE&G, such a difference would only become material to the NRC's decisionmaking if it were of such magnitude as to materially affect the NRC's alternatives analysis.

Petitioners do cite certain unidentified "technical potential studies" of the national economy which purportedly concluded that the nation could reduce energy usage by 25% "on average" through cost-effective efficiency. Petition 36 (emphasis added). Petitioners, however, fail to reference the specific sources upon which they rely for this assertion. See § 2.309(f)(1)(v). Also, because this reference is effectively unavailable to the Staff, the Staff is unable to test Petitioners' assertion, understand the reasons supporting it, or evaluate the extent to which the options considered in these studies apply to the applicant's service area and are within the power and authority of the applicant to pursue.

Similarly unavailing is Petitioners' claim that South Carolina "has so far lagged behind the nation in its energy efficiency activities" that it ranks 30th in the nation in commitment to energy efficiency. Petition at 36. Petitioners believe that, "contrary to SCE&G's analysis," South Carolina's energy efficiency activities ranking shows that the Applicant "is likely to have greater than average opportunities to reduce energy usage." Petition at 36. The SCE&G analysis referred to is most likely the ER's reasoning, on

page 9.2-6, that the low cost of electricity in South Carolina significantly limits the possible benefits of demand-side programs. See Petition at 35. Petitioners believe this analysis is “insufficient.” *Id.* The Staff, however, fails to see how South Carolina’s energy efficiency activities ranking rebuts the ER’s assertion that energy efficiency activities have limited effectiveness. In fact, the limited effectiveness of energy efficiency activities might explain their limited use.

Petitioners’ specific attacks on SCE&G’s demand side management programs focus on residential load management programs. Petition at 36. Although recognizing that SCE&G has a load management program for larger customers, Ms. Brockway considers the load management program to be ill-designed because it “ignore[s] the potential for load reduction and shifting from residential and small commercial air conditioning loads.” Petition at 35. In support of this assertion, Petitioners offer the undocumented claim that “[o]ther utilities in the Southeastern region of the United States have had great success involving residential customers in direct load control programs.” Petition at 36. This assertion cannot be considered in determining contention admissibility because it fails to meet the documentation requirements of § 2.309(f)(1)(v). Even if this assertion could be considered, Petitioners nowhere explain how the experience of these other utilities necessarily carries over to South Carolina’s specific situation, or otherwise quantify this “great success” so as to demonstrate that the demand side alternatives analysis would be materially affected.

Demonstrating the materiality of disputes over potential demand side benefits is a key consideration for the admissibility of contention 3B. Fine-tuning the applicant’s demand-side management program is simply not within the NRC’s regulatory purview. Whether a proposed demand side approach is better than an applicant’s approach is inconsequential from the NRC’s perspective unless it could affect the agency’s licensing

decision. The benefit from demand side management is reduced power need, so the materiality issues are the same as those for power need projections. Indeed, when the Commission concluded in *Shearon Harris* that a potential one year slip in construction schedule was clearly within the margin of error, the Commission was dealing with a difference in projected need based on “presumptions about the effectiveness of energy conservation measures and utilities’ load management programs.” See CLI-79-5, 9 N.R.C. at 608. To affect the agency’s licensing decision, therefore, the ER’s estimate of potential demand side efficiencies would have to be off by such a magnitude as to effectively counterbalance the 2200 MW of baseload generating capacity provided by the proposed reactors. As with disputes over load projections, therefore, a smaller difference would likely only temporarily increase the applicant’s reserve margin or, at most, would delay construction by a specified period. Such disputes are not material to the NRC’s licensing decision.

Petitioners do make some attempt to quantify the magnitude of potential demand side management benefits. Petitioners assert that certain utilities have achieved energy efficiency savings of between 1% to 2%. Petition at 37-38. Petitioners nowhere explain how these gains could be transferred to SCE&G’s situation, or how such gains would be material to the NRC’s licensing decision.

Petitioners have documentary support for their assertion that, according to the National Action Plan for Energy Efficiency (NAPEE), “well-designed energy efficiency programs ‘are delivering annual energy savings on the order of 1% of electricity and natural gas sales.’” Petition at 38 (quoting NAPEE (July 2006) (available at

[http://www.epa.gov/cleanenergy/documents/napee/napee\\_report.pdf](http://www.epa.gov/cleanenergy/documents/napee/napee_report.pdf)).<sup>55</sup> Petitioners

also cite to a July 2008 final report, available at

<http://www.scclimatechange.us/plenarygroup.cfm>, by the South Carolina Climate,

Energy and Commerce Committee (CECAC) to the effect that a 1% annual target of energy efficiency improvement was achievable in the short term. Petition at 37.

Petitioners also stated that “CECAC adopted a policy goal of 5% energy efficiency by 2020, for recommendation to the legislature.” *Id.*

Petitioners, however, do not make the asserted 1% efficiency gains a further part of their argument, but, instead, focus on the CECAC Report’s 5% energy efficiency “policy goal.” Petitioners then implicitly assume that the 5% energy efficiency figure should be considered on top of any efficiency gains already made by SCE&G’s existing programs, and use arithmetic to show that a 5% reduction in sales would lower SCE&G’s 2020 energy sales forecast by 1530 gWh, which is about 16% of SCE&G’s share (9600 gWh) of the proposed reactors’ output. See Petition at 37.

The CECAC Report is a large document, about 750 pages and organized into two parts, and presents various policy recommendations designed to reduce greenhouse gas emissions. See CECAC Report, Part 1, p. Ex-1. These policy recommendations, and the attendant projected benefits, are organized into several sectors. The benefits attributed to specific policy recommendations, however, sometimes overlap with the benefits attributed to other policy recommendations, including recommendations in other sectors.

The Petitioners’ five percent energy efficiency figure presumably comes from

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<sup>55</sup> Although Petitioners do not pinpoint the page of the NAPEE report on which this assertion is located, the Staff notes that the quotation can be found on page ES-4 of the report.

policy goal 1a, “Energy Efficiency: 5% of energy met with energy efficiency resources by 2020,” in the Energy Supply sector (ES-1a). See CECAC Report, Part 2, App. H, p. H-1. SCE&G, however, already has demand side programs in three areas: customer information programs, energy conservation programs, and load management programs. ER at 9.2-3 to -4. Petitioners’ calculations essentially assume that these programs do not exist, and it is not clear to the Staff that this is a proper way to apply the number from the CECAC report. Although the ER does not provide figures for energy savings from the consumer information and energy conservation programs, the ER does state that SCE&G’s load management program “reliably reduces the system’s peak demand by approximately 250 MW of capacity.” ER at 8.1-5.<sup>56</sup> The ER also states that the principal contributors to the success of the load management programs comprise 206 MW in reduced demand and that additional contracts in these programs are expected in the future. Petitioners do not rebut these numbers. Even if no additional savings are found, therefore, 250 MW represents 4.4% of peak demand in 2016 and 4.1% of peak demand in 2019. See ER at 8.1-9 (Table 8.1-1).<sup>57</sup>

Furthermore, even if Petitioners can properly support a claim that SCE&G could achieve a 5% reduction in energy sales by 2020, Petitioners still would not establish a material dispute with the application. Energy sales savings of 1530 gWh may be 16% of SCE&G’s share of the proposed reactors’ output, but the NRC is assessing the environmental impacts of the project as a whole, not assessing SCE&G’s decision to

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<sup>56</sup> Energy sales and peak demand, however, do represent two different measurements of load.

<sup>57</sup>These percentages are arrived at by dividing 250 MW by the relevant peak demand figures from Table 8.1-1 and multiplying that quantity by 100.

take part in this project.<sup>58</sup> In terms of the whole project, assuming 90% generating capacity as Ms. Brockway did, 1530 gWh is about 9% of the 17455 gWh of annual output from the proposed reactors. This difference does not materially affect the alternatives analysis because the question would then become, where is the other 91% of baseload generating capacity coming from? The principal effect of a 9% difference is to increase the utilities' reserve margins or perhaps allow a brief delay in construction. The nature of this effect can be demonstrated by remembering that two reactors are scheduled to be online by 2019 to meet baseload generating capacity needs. In 2020, the energy sales for SCE&G and Santee Cooper are projected to increase by 1336 gWh from 2019, which is roughly the magnitude of Petitioners' asserted error. See ER at 8.1-9 and 8.2-6 (Tables 8.1-1 and 8.2-1). It is also helpful to bear in mind that these demand projections are just that, projections, and that some conservatism is preferable to underestimating the need for generating capacity. See *Shearon Harris*, CLI-79-5, 9 N.R.C. at 609-610.

Petitioners finally argue that the ER apparently assumes that demand side management need only be considered as an alternative if it can replace the power provided by the proposed reactors, and that a comprehensive approach modeling a mix of alternatives is needed. Petition at 38. The ER, however, concludes that "demand side management will not be sufficient to offset a *significant* portion of future demand." ER at 9.2-6. Given this conclusion, it is no surprise that the demand side alternative was

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<sup>58</sup> Even if SCE&G's situation were considered in isolation, a 16% difference is not sufficiently large to call into question SCE&G's need for over 1200 MW of baseload generating power. The question would then become, where would the other 84% of baseload generation come from? The principal effect of a 16% underestimate of demand side benefits would be either to increase reserve margins or to delay construction for a brief period.

not further considered.

As for Petitioners' assertion that a comprehensive modeling approach be used, the ER does briefly consider a mix of generating alternatives. *Id.* at 9.2-20. Although the ER concedes that a comprehensive modeling approach was not used, *id.*, the Petitioners nowhere demonstrate that such an approach is required for NEPA purposes. NEPA analyses are subject to a rule of reason, and it is acceptable to study a reasonable range of alternatives, rather than every alternative. *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-03-30, 58 NRC 454, 479 (2003) (stating, "[A]n agency's consideration of alternatives is sufficient if it considers an appropriate range of alternatives, even if it does not consider every available alternative") (quoting *Headwaters, Inc. v. BLM*, 914 F.2d 1174, 1181 (9th Cir. 1990), *reh'g en banc denied*, 940 F.2d 435 (1991)) (alteration in original). This especially holds true for alternatives rejected as unreasonable in light of the overall goals of the project. Council on Environmental Quality (CEQ) regulations provide that an EIS need only briefly discuss the reasons why an alternative was rejected as not being a reasonable alternative. See 40 C.F.R. § 1502.14(a). All of the alternatives advanced by Petitioners in Contention 3 were rejected as not being reasonable in the ER. See, *generally*, Summer ER Chapter 9.

Comprehensive modeling would only be needed were it material to the NEPA analysis. There is no reason to think that is the case here. Even if Petitioners are considered to have demonstrated a dispute with the Summer ER over a relatively small discrepancy in demand side potential, such a dispute would not be material because a small discrepancy does not erase the fundamental need for large, baseload generating capacity. Petitioners also do not demonstrate anywhere in Contention 3 that a small discrepancy would make an unreasonable alternative suddenly appear reasonable,

make a reasonable alternative appear environmentally preferable, or make an alternative site appear obviously superior. It is the Petitioners' duty to demonstrate the materiality of their contentions. See 10 C.F.R. § 2.309(f)(1)(iv), (vi).

For the reasons stated above, Contention 3B does not meet the requirements for admissibility. Several of the Petitioners' assertions do not meet the documentation and expert support requirements of § 2.309(f)(1)(v) and Petitioners have not shown that they meet the materiality requirement of § 2.309(f)(1)(iv) or the § 2.309(f)(1)(vi) requirement to provide sufficient information demonstrating a genuine dispute with the application on a material issue. The relatively small errors claimed by Petitioners have little effect on the Chapter 9 alternatives analysis because they are not substantial enough to obviate the need for baseload generating capacity provided by the proposed reactors.

4. Contention 3C:

With respect to Chapter 9 of the ER. "Proposed Action Alternatives," 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. [Petition at 25-26; see *also* Petition at 39.]

Staff Response: As explained below, contention 3C does not meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1)(vi) because it fails to demonstrate genuine dispute with the application on an issue material to the NRC's licensing decision. Also, the opinions of Ms. Brockway on the technological feasibility of various alternatives are not expert opinions that can be considered in support of contention 3C, and several of Petitioners' assertions are devoid of "references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue." 10 C.F.R. § 2.309(f)(1)(v).

The Staff first notes that although the contention wording does not specify any particular renewable alternatives, the contention discussion speaks specifically only to

solar, wind, and biomass. Furthermore, biomass is only briefly mentioned in one sentence, and Petitioners do not anywhere assert, much less provide support for an assertion, that the ER's discussion of the biomass alternative in Summer ER Section 9.2.2.6 is in anyway deficient. Therefore, to the extent Petitioners dispute the ER's dismissal of the biomass alternative, Petitioners fail to meet the § 2.309(f)(1)(iv) materiality requirement, the § 2.309(f)(1)(v) documentation or expert support requirement, and the § 2.309(f)(1)(vi) requirement to provide sufficient information showing a genuine, material dispute with the application, along with specific references (with explanation) to disputed portions of the application.

Petitioners begin their discussion of Contention 3C by repeating the criteria that the Summer ER applies in assessing each alternative generating technology considered. Petition at 39. These criteria are as follows:

- The alternative energy conversion technology is developed, proven, and available in the relevant region within the life of the proposed project.
- The alternative energy source provides baseload generating capacity equivalent to the capacity needed, and to the same level as the proposed Units 2 and 3
- The alternative energy source does not result in environmental impacts in excess of a nuclear plant, and the costs of an alternative energy source do not exceed the costs that make it economically impractical.

Summer ER at 9.2-7.

With respect to wind power, Petitioners concede that on-shore wind sources might not be significant and take no issue with the ER's conclusion that on-shore wind is not a reasonable alternative. Petition at 40. Petitioners, however, assert that the Summer ER wrongly dismisses offshore wind as a reasonable alternative. *Id.*

The Summer ER dismisses off-shore wind as a reasonable alternative for several reasons. The Applicant states that annual capacity factors for wind are around 25-40%, as opposed to 90-95% for baseload plants such as nuclear plants. Summer ER at 9.2-8. For this reason, the Applicant concludes that "wind energy, because of its intermittent

nature, cannot be relied upon for baseload power.” Summer ER at 9.2-9.

The Applicant also rejects offshore wind because it presents several technological challenges. *Id.* The Summer ER states that offshore wind development to date has been limited to very shallow waters, while most offshore wind resources in this country are in areas with much greater water depth. *Id.* The Summer ER states that new substructure technologies need to be developed to support offshore wind at greater depths. *Id.* The Summer ER also states that because environmental conditions are more severe at sea, new turbine designs will be needed to withstand these harsh conditions. *Id.*

The Summer ER rejects wind for aesthetic reasons, as well. *Id.* Specifically with respect to offshore wind, the ER states that public resistance to the use of coastal areas for wind farms is likely, ER at 9.2-8, but the ER does concede that visual intrusion from wind turbines is minimized “[a]t a sufficient distance from the coast,” and that noise emissions are less troublesome for offshore wind. *Id.* at 9.2-9. It would seem that for offshore wind there is somewhat of an inverse relationship, with respect to distance from the coast, between aesthetic impacts and technological barriers.

The Summer ER also rejects wind for reasons of cost, stating that wind energy generating costs exceed nuclear power. *Id.* The Applicant also states that investment costs are higher for offshore wind and that increased difficulties in accessibility cause higher capital and maintenance costs. *Id.*

Petitioners dispute the Applicant’s analysis of offshore wind. They state that the CECAC Report recommended that 1000 MW of offshore wind be added by 2017 and that this amount of generation would replace a significant portion of the output of the proposed reactors. Petition at 40. Petitioners concede that wind power is intermittent and that “its capacity cannot substitute mW for mW with baseload thermal generation,”

but assert that “this is not a reason to ignore wind, nor a reason to exclude wind from scenarios of possible future resource plans.” Petition at 40. Other than Ms. Brockway’s mere say-so, however, Petitioners never give a basis or explanation for their belief that offshore wind’s failure to provide anywhere near baseload power<sup>59</sup> should not lead to its rejection as a reasonable alternative. This bare assertion by Ms. Brockway does not “suffice to allow the admission of a proffered contention.” *Vogtle ESP*, LBP-07-03, 65 NRC at 253. Petitioners’ failure to effectively rebut the Applicant’s stated preference for baseload power, by itself, calls for the rejection of the offshore wind portion of Petitioners’ contention.

“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.” Summer ER at 1.1-1. With regard to SCE&G, “[t]he integrated resource plan identifies a need for an addition of 1,200 MW of SCE&G baseload capacity by 2020.” *Id.* at 8.1-7.<sup>60</sup> With regard to Santee Cooper’s need for power analysis, the ER states the following:

There is a lack of excess baseload capacity within the region. For example, Santee Cooper issued an RFP during the generation planning process in 2005 and there were no bids. Duke, Progress, and SCE&G are also in need of capacity in this timeframe. Many utilities in the region are also tight on capacity and are attempting to build/permit new units.

*Id.* at 8.2-4. As stated above, one of the criteria for assessing a power generation alternative is whether the alternative provides “baseload generating capacity equivalent

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<sup>59</sup> According to the ER, “[b]aseload capacity typically operates in excess of 70% of the time.” ER at 8.1-7.

<sup>60</sup> 1,200 MW is approximately equal to SCE&G’s share of the proposed reactors’ output. See ER at 8.0-1.

to the capacity needed, and to the same level as the proposed Units 2 and 3.” *Id.* at 9.2-7.

Consistent with NEPA, the NRC defers to an applicant’s stated objectives: “[A]n agency cannot redefine the goals of the proposal that arouses the call for action; it must evaluate the alternative ways of achieving its goals, shaped by the application at issue and by the function that the agency plays in the decisional process.” *Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 806 (2005) (quoting *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 199 (D.C. Cir. 1991)), *aff’d Environmental Law and Policy Center v. U.S. Nuclear Regulatory Com’n*, 470 F.3d 676 (7th Cir. 2006). *See also Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho NM 87174), CLI-01-4, 53 NRC 31, 55-56 (2001) (stating, “[T]he agency should take into account the needs and goals of the parties involved in the application”) (quoting *Citizens Against Burlington*, 938 F.2d at 196). Furthermore, “[w]hen the purpose is to accomplish one thing’ . . . ‘it makes no sense to consider the alternative ways by which another thing might be achieved.” *Clinton ESP*, CLI-05-29, 62 NRC at 806 (quoting *Citizens Against Burlington*, 938 F.2d at 194).

In *Clinton ESP*, the NRC specifically faced a challenge alleging that the EIS inappropriately rejected non-baseload generating alternatives. Basing its decision on the principles outlined in the preceding paragraph, both the Commission and Licensing Board rejected this challenge. *See* LBP-05-19, 62 NRC 134, *and* CLI-05-29. It is true that the argument for rejecting non-baseload alternatives was stronger in *Clinton ESP* because the Applicant’s sole business purpose was the generation of baseload power.

See LBP-05-19, 62 NRC at 152.<sup>61</sup>

However, Petitioners in this case simply do not effectively rebut the stated need of SCE&G and Santee Cooper for baseload generating capacity. Petitioners nowhere cite to, much less dispute, the ER's claim that the relevant service region lacks excess baseload capacity, that many utilities are tight on capacity, and that power generators in the relevant region are in need of capacity "in this timeframe." See *Summer ER* at 9.2-7. To the extent that Petitioners dispute the need for baseload capacity, therefore, Petitioners fail to meet the 10 C.F.R. § 2.309(f)(1)(vi) requirement to "include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute." Petitioners do not even express a dispute with the fundamental premise that SCE&G and Santee Cooper need baseload power. Petitioners simply state that an inability to provide baseload power "is not a reason to ignore wind." Petition at 40. Petitioners, therefore, also fail to meet the requirement to provide sufficient information demonstrating a genuine, material dispute with the application. See 10 C.F.R. § 2.309(f)(1)(vi).

Also, aside from the baseload generation issue and even assuming the technical

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<sup>61</sup> Speaking somewhat more generally to the question of baseload generating capacity in alternatives analysis, a July 2007 draft revision to Section 9.2.2 of NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants" ("Standard Review Plan" or "SRP") states the following:

A competitive alternative is one that is feasible and compares favorably with the proposed project in terms of environmental and health impacts. If the proposed project is intended to supply baseload power, a competitive alternative would also need to be capable of supplying baseload power.

Draft SRP at 9.2.2-3. This draft section is available through <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1555/>, which also explains that "sections of the environmental standard review plan are being revised, as appropriate, to reflect new information and experience."

feasibility of creating 1000 MW of offshore wind generation in the next decade, 1000 MW of low capacity generation simply does not put a significant dent into 2214 MW of baseload generating capacity. Petitioners, therefore, fail to demonstrate a material dispute about whether offshore wind is a reasonable alternative.

Petitioners' other offshore wind arguments also fail to support contention admissibility. Petitioners do not effectively rebut the Summer ER's concerns with the technical challenges to effective offshore wind generation. The Staff is not aware that the CECAC Report anywhere directly addresses the technical feasibility of offshore wind. Also, the mere fact that operational objections do not deter other states from planning to use offshore wind does not demonstrate a genuine dispute on a material issue.

Petitioners' arguments concerning solar power face problems similar to those faced by their offshore wind arguments. The Summer ER concludes that solar power is not a reasonable alternative because of its "high cost, low capacity factors, lack of sufficient incident solar radiation, and the substantial amount of land needed to produce the desired output." ER at 9.2-11. Petitioners do not demonstrate a genuine, material dispute with these conclusions.

Petitioners attempt to rebut the ER's conclusions on cost by claiming that per-kW installed costs for solar will be cut in half by 2015, which they suggest would make solar power competitive with conventional power by 2010. Petition at 41. Petitioners only support for this assertion, however, is an undated, unidentified projection from the U.S. Department of Energy Solar Energies Technology Program. This reference and related conclusion fails to satisfy the support and specificity requirements of § 2.309(f)(1)(v).

Petitioners also assert that Duke Energy is investing in solar generation in North Carolina and that the "[a]pplicant acknowledges that South Carolina is suitable for

distributed solar behind the customer's meter, yet makes no serious attempt to model this resource as part of its resource planning." Petition at 41. These undocumented assertions do not provide sufficient information to demonstrate a genuine, material dispute with the application as required by 10 C.F.R. § 2.309(f)(1)(vi). Whether Duke Energy is investing in solar generation, or whether solar can be used behind the customer's meter, is irrelevant to the Applicant's argument that solar does not provide baseload generating capacity, that there is a lack of sufficient sunlight in South Carolina, and that solar power has large land-use impacts. The inability to provide baseload generating power, standing alone, makes solar an unreasonable alternative to nuclear power in light of the purpose and need of the project.

Petitioners finally assert that alternatives, generally, are endorsed by the CECAC Report, which recommends that South Carolina obtain 5% of its energy from such alternatives by 2020. Petition at 41. Petitioners, however, nowhere tie this assertion to the ER's discussion of renewable alternatives, or explain how the ER's discussion of these alternatives is in any way deficient. The CECAC Report, in fact, endorses nuclear power. CECAC Report, Part 1, p. 5-7. Petitioners assertion, therefore, does not meet the § 2.309(f)(1)(vi) requirement to provide sufficient information showing a genuine, material dispute with the application, along with specific references (with explanation) to disputed portions of the application.

For the reasons stated above, Contention 3C does not meet the requirements for admissibility.

Petitioners treat Contentions 3D to 3G as a whole, without identifying which parts of the discussion are relevant to which contention 3 part (3D to 3G). The Staff, however, will treat these parts individually, making its best effort to treat Petitioners

arguments under the appropriate part.

5. Contention 3D:

With respect to Chapter 9 of the ER. "Proposed Action Alternatives." the Applicant falls 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 opportunity to change course during implementation of the plan, in the event that risks, known to be potential and those that are not now foreseeable, develop into real difficulties during implementation, and in the event that other superior opportunities become realistic. [Petition at 26; see also Petition at 42.]

Contention 3D is inadmissible. The only assertion related to Contention 3D that the Staff was able to identify in Petitioners' discussion was a claim that SCE&G's total capitalization is \$4.9 billion, and that building plants at \$5 billion per unit amounts to betting the company. Petition at 45-46. The Petitioners' apparent point is that the Applicant would make a superior business decision by incrementally meeting demand based on a greater variety of resource options. Petitioners' argument, however, relates to the Applicant's business decisions, which is clearly outside the NRC's regulatory jurisdiction. Contention 3D, therefore, fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iii), (iv). Petitioners also fail to properly support their argument, contrary to § 2.309(f)(1)(v), providing no documentation or expert support for their opinion that an incremental approach is superior. Petitioners do not even attempt to show how their proposed incremental approach would meet the purpose and need for the project, the generation of baseload power. By neglecting to do so, Petitioners fail to show a genuine, material dispute with the Summer ER's rejection of non-baseload generating alternatives. § 2.309(f)(1)(vi). Petitioners also fail to cite to specific portions of the alternatives analysis in Chapter 9 of the ER and give supporting reasons for their dispute. *Id.*

6. Contention 3F:

With respect to Chapter 10 of the ER. "Proposed Action Consequences," the Applicant's cost estimate for construction and operation fails to take into account recent rapid increases in the cost of inputs for construction. [Petition at 26; see also Petition at 42.]

Staff Response: Contention 3F is not admissible because it does not demonstrate a genuine, material dispute with the application. See 10 C.F.R. § 2.309(f)(1)(vi). This contention is similar to a contention recently rejected by the *Shearon Harris* board. See LBP-08-21, 68 NRC \_\_\_. In *Shearon Harris*, the petitioner asserted that the cost estimate for construction of the proposed AP1000 reactors was unreasonably low compared to the cost estimate for other similar reactors. See LBP-08-21, slip op. at 23. The *Shearon Harris* Board rejected this contention because:

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.

LBP-08-21, slip op. at 25. The Licensing Board based its decision on the following language from *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155 (1978):

[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.

*Shearon Harris*, LBP-08-21, slip op. at 25 (quoting *Midland*, ALAB-458, 7 NRC at 162) (emphases added). Finding that an analysis of construction costs was not absolutely required, *Shearon Harris* rejected the proposed contention because the *Shearon Harris* ER did not identify an environmentally preferable alternative. LBP-08-21, slip op. at 26. With respect to the *Midland's* holding, the Board in *Clinton ESP* clarified that

construction cost estimates are material only when a *reasonable alternative* is found to be environmentally preferable. See *Clinton ESP*, LBP-05-19, 62 NRC at 179 (emphasis added). See also *Clinton ESP*, CLI-05-29, 62 NRC at 806 (stating, “When the purpose is to accomplish one thing’ . . . ‘it makes no sense to consider the alternative ways by which another thing might be achieved.” (quoting *Citizens Against Burlington*, 938 F.2d at 194)).

The Staff agrees with *Shearon Harris* that the *Midland* decision is controlling with respect to the materiality of nuclear plant construction cost estimates. The Staff also agrees with *Shearon Harris* that *Midland* applies to the need for construction cost estimates in costs-benefits analyses. One Licensing Board decision coming soon after *Midland* did conclude that the holding in *Midland* was limited to costs comparisons in the alternatives analysis, and went on to consider costs in the costs-benefits analysis, see *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), LBP-78-26, 8 NRC 102, 162-63, *aff’d in pertinent part*, ALAB-573, 10 NRC 775 (1979). On review, however, the Appeal Board considered doubtful, albeit in dicta, whether such considerations were “appropriate where there is a need for power from the plant and no preferable alternative from an environmental standpoint.” ALAB-573, 10 NRC 775, 805 n.128. The Appeal Board’s position makes the most sense because the costs and benefits of the proposed action are only really material to the extent they are material to the alternatives analysis. If it were known that no alternative, including the no-action alternative, could be found superior to the proposed action, it would be illogical to reject the proposed action (i.e., choose the no-action alternative) based on an analysis of the

costs and benefits independent of the assessment of alternatives.<sup>62</sup> This position on the materiality of costs and benefits as they relate to the alternatives analysis also finds support in CEQ regulations.<sup>63</sup>

Applying *Shearon Harris* and *Midland* to the facts of this case, Petitioners have not demonstrated that construction cost estimates are material to this proceeding. Petitioners' Contention 3F concerns the cost estimate for the AP1000 reactors in Chapter 10 of the ER. Among the reasonable alternatives identified by the ER, no environmentally preferable alternative was found. See Summer ER at 9.2-27. The specific alternatives advanced by Petitioners were found not to be reasonable alternatives, see ER, Section 9.2, and were eliminated from further discussion. See 40 C.F.R. § 1502.14(a) (CEQ regulation stating that reasonable alternatives must be vigorously explored while only a brief discussion is needed to explain the elimination of alternatives from detailed study). Petitioners have not submitted an admissible contention arguing either that one of the reasonable alternatives identified in the Summer ER is environmentally preferable or that one of the rejected alternatives is, in fact, reasonable. For this reason, Petitioners have not shown the materiality of their cost

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<sup>62</sup> See also *Cincinnati Gas and Electric Company* (William H. Zimmer Nuclear Station), LBP-80-24, 12 NRC 231, 233 (1980) (stating, "It is well settled that NRC's regulatory authority over purely economic matters of this sort is strictly limited. Once need for power has been established, economic cost may be considered, aside from antitrust questions, only in terms of the Applicants' financial qualifications and as an element in the evaluation of alternatives which must be undertaken during the environmental review of the facility"). In *Zimmer*, the Licensing Board used this basis to reject the economic reasonableness aspects of two contentions, including concerns expressed in Contention 2 that the capital costs were significantly understated in the costs-benefits analysis. See *Zimmer* at 233-35 & 233 n.2.

<sup>63</sup> See 10 C.F.R. § 1502.23 (stating, "If a cost-benefit analysis *relevant to the choice among environmentally different alternatives* is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences") (emphasis added).

estimate claims, and contention 3F cannot be admitted because it fails to demonstrate a genuine, material dispute with the Application. See 10 C.F.R. § 2.309(f)(1)(vi).

The Staff notes that the *Bellefonte* Licensing Board took up the issue of construction cost materiality in a motion for reconsideration motivated by the *Shearon Harris* Board Decision. *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant Units 3 and 4), Memorandum and Order (Ruling Regarding Motion for Reconsideration) (hereafter “Bellefonte”). The *Bellefonte* Board agreed with the *Shearon Harris* Board that *Midland* was controlling, but only with respect to applicants that were regulated by a utility regulator undertaking a costs-benefits analysis. *Bellefonte*, Slip op. at 7-8. The *Bellefonte* Board based this distinction on the following reading of *Midland*:

In its *Midland* ruling, the Appeal Board concluded that once it has been established there is a need for power and no environmentally preferable alternative to nuclear generation, the question of the weight to be given to cost in the selection of a baseload source “is a question for the utility and the State regulatory agencies, the true experts in this area,” *Midland*, ALAB-458, 7 NRC at 168.

*Bellefonte*, slip op. at 6. *Bellefonte* distinguished *Midland* on the ground that the Tennessee Valley Authority (TVA) “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.” *Id.* at 7. The *Bellefonte* Board went on to state that the *Bellefonte* ER suggested that at least one alternative could potentially be environmentally equivalent, and that the construction cost contention, therefore, could still be material. *Id.* at 8.

The Staff disagrees with the *Bellefonte* Board’s conclusion. Whether a particular applicant is, or is not, a regulated entity does not make a contention on construction cost estimates any more material to the NRC’s NEPA analysis. The focus in *Midland* was on the materiality of construction cost estimates, with materiality being determined by the

presence of *environmental* considerations, rather than economic or regulatory considerations, as can be seen from the following selection:

The passage of the National Environmental Policy Act increased our concern with the economics of nuclear power plants, but only in a limited way. That Act 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. Manifestly, nothing in NEPA calls upon us to sift through environmentally inferior alternatives to find a cheaper (but dirtier) way of handling the matter at hand. In the scheme of things, *we leave such matters to the business judgment of the utility companies* and to the wisdom of the State regulatory agencies responsible for scrutinizing the purely economic aspects of proposals to build new generating facilities. In short, *as far as NEPA is concerned*, cost is important only to the extent it results in an environmentally superior alternative. If the 'cure' is worse than the disease, that it is cheap is hardly impressive.

*Midland*, ALAB-458, 7 NRC at 162-63 (internal footnotes omitted) (emphases added).

Note that according to *Midland*, such economic choices should be left in the hands of the business judgment of the utility companies, as well as state regulators. *Id.*

In this case, however, SCE&G is subject to South Carolina PSC regulation as a traditional utility. See Summer ER at 8.1-1. Santee Cooper is a state-owned public utility created by the South Carolina General Assembly that is overseen by an advisory board. See *id.* at 8.2-1. Although it does not appear that Santee Cooper is regulated by an outside entity, cost estimates for the proposed reactors will receive oversight from the South Carolina PSC through its regulation of SCE&G. Therefore, the Staff believes that even if the regulated utility distinction made in *Bellefonte* is correct, *Midland* still controls.

7. Contention 3E:

With respect to Chapter 10 of the ER, "Proposed Action Consequences," the Applicant underestimates the impact of its proposed construction and operation on vulnerable customers via rate increases. [Petition at 26; see also Petition at 42.]

Contention 3E appears to relate to issues that fall under the heading of

“Environmental Justice.” Environmental Justice refers to the concept that agencies ought to identify and address “disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” “Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions,” 69 Fed. Reg. 52,040, 52,040 (Aug. 24, 2004) (hereafter “Environmental Justice Policy Statement”) (quoting Executive Order 12,898 (Section 1-101), “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” 59 Fed. Reg. 7629 (Feb. 16, 1994)). The NRC is not required to comply with the Executive Order but has chosen to address Environmental Justice issues of its own accord. Environmental Justice Policy Statement, 69 Fed. Reg. at 52,040-41. Executive Order 12898, however, “does not establish new substantive or procedural requirements applicable to NRC regulatory or licensing activities.” Environmental Justice Policy Statement, 69 Fed. Reg. at 52,046. Rather, NEPA is the sole legal basis for analyzing environmental justice issues at the NRC, and environmental justice contentions are litigable at the NRC only if they are made in the NEPA context, focus on compliance with NEPA, and are adequately supported as required by 10 CFR Part 2. Environmental Justice Policy Statement, 69 Fed. Reg. at 52,048.

Contention 3E is inadmissible because it fails to meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1)(v), (vi). Regarding § 2.309(f)(1)(v), the only portion of the discussion relevant to Contention 3E is the assertion that (1) the Applicant estimates that it will have to raise rates by 40% by the time plants are completed to cover the costs of construction, and (2) such a rate increase will cause “shock” to SCE&G customers, “and will produce hardship for many, especially those of lower incomes and marginal profitability.” Petition at 44. Petitioners do not cite any support for

this 40% figure. Petitioners also do not provide any documentary support for their assertion that such an increase would be a “shock” to SCE&G customers, producing hardship for those with lower incomes and marginal profitability. Ms. Brockway has not demonstrated economic expertise, and she presents no data or analysis that would suggest that a 40% rate increase would cause particular hardship. Conclusory assertions, even from experts, do not support contention admissibility. *Vogtle ESP*, LBP-07-03, 65 NRC at 253. None of the assertions in support of Contention 3E, therefore, meet the § 2.309(f)(1)(v) requirements for expert support and none can be credited in support of Contention 3E.

Petitioners also fail to meet the requirements of § 2.309(f)(1)(vi) for Contention 3E. The Staff first notes that Contention 3E takes issue with Chapter 10 of the ER, but the costs-benefits portion of Chapter 10 presents only a summary of costs and benefits which are derived from other sections of the ER. Contention 3E concerns itself with the effects on “vulnerable customers,” but this is only briefly addressed in Chapter 10 of the ER, where the applicant presents its conclusion that “[n]o disproportionately high or adverse impacts on minority or low income populations resulting from” construction and operation of the proposed units were identified. See Summer ER at 10.4-28, 10.4-38 (Table 10.4-4). This conclusion, however, is based on much more lengthy discussions of environmental justice issues in Chapters 4 and 5 of the ER. See *id.* at 4.4-21 to -23 and 5.8-17 to -21. Petitioners do not cite to, much less take issue with the lengthy analysis presented therein. It is not even clear that Petitioners were aware of the treatment of environmental justice issues presented in Chapters 4, 5, and 10 of the ER. Ignoring the ER’s substantive discussion of environmental justice issues hardly demonstrates compliance with the requirement of § 2.309(f)(1)(vi) to “include references to specific portions of the application (including the applicant’s environmental report and

safety report) that the petitioner disputes and the supporting reasons for each dispute.”

Petitioners also do not demonstrate a genuine, material dispute with the application, as required by § 2.309(f)(1)(vi). At a general level, a rate increase for customers is intended to pay for the cost of the plant, and the overall construction cost of the plant is presented in Chapter 10 of the ER, see ER at 10.4-5, which is consistent with the SRP, see NUREG-1555 at 10.4.2-4 (1999). Petitioners point to no regulatory requirement that changes to electricity bills must be reflected in the ER’s costs-benefits analysis, and counting rate increases in addition to overall construction costs would result in double-counting of costs.

As for environmental justice concerns, Petitioners also fail to demonstrate a genuine, material dispute. The concerns Petitioners advance are entirely economic in nature, unrelated to an environmental effect from the proposed facility. In its

Environmental Justice Policy Statement, the Commission stated:

As part of NEPA's mandate, agencies are required to look at the socioeconomic impacts that have a nexus to the physical environment. See 40 CFR 1508.8 and 1508.14. An ‘environmental-justice’-related socioeconomic impact analysis is pertinent when there is a nexus to the human or physical environment or if an evaluation is necessary for an accurate cost-benefits analysis.

Environmental Justice Policy Statement, 69 Fed. Reg. at 52,047. One of the CEQ regulations cited by the Commission, 10 C.F.R. § 1508.14, defines the term “human environment” as follows:

Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. . . . This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of

these effects on the human environment.

10 C.F.R. § 1508.14.<sup>64</sup>

Here, Petitioners have not demonstrated a nexus between the ratepayer concerns they advance and NEPA's concerns with the human or physical environment, nor have Petitioners demonstrated the materiality of their concerns to the costs-benefits analysis. The materiality of their concerns, therefore, have not been demonstrated. This result is entirely consonant with NRC standing doctrine, according to which, ratepayer interests are not within the zone of interests protected by either the AEA or NEPA.

*Tennessee Valley Authority (Watts Bar Nuclear Plant, Units 1 and 2)*, ALAB-413, 5 NRC 1418, 1420-21 (1977) (stating that economic concerns only fall within NEPA's zone of interests if they are environmentally related, i.e., caused by an environmental impact of the proposed action). As explained by the Commission in a case involving standing based on an asserted loss of employment:

It is true that NEPA does protect some economic interests; however, it only protects against those injuries that result from environmental damage. For example, if the licensing action in question destroyed a woodland area, those persons who would be deprived of their livelihood in a local timber industry could assert a protected interest under NEPA.

*Sacramento Municipal Utility Dist. (Rancho Seco Nuclear Generating Station)*, CLI-92-2, 35 NRC 47, 56 (1992). Although these decisions were concerned with standing, rather than contention admissibility, it would seem to follow that an interest not protected by

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<sup>64</sup> See also *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage installation), CLI-04-9, 59 NRC 120, 122 (2004). (stating, "NEPA and President Clinton's Executive Order on "environmental justice" are, at bottom, concerned with environmental impacts. The executive order, for example, calls upon agencies to determine whether a proposed action would have "disproportionately high and adverse *human health or environmental effects*," not disproportionate financial effects among different "subgroups" of a minority population.) (internal footnote omitted) (emphasis added in original) (quoting *Private Fuel Storage*, CLI-02-20, 56 NRC at 153 (quoting Executive Order 12898, § 1-101)).

NEPA would not ordinarily be material to the NRC's NEPA analysis, unless the interest relates to other considerations material to the NEPA process. For example, as explained by the Appeal Board in *Midland*, economic costs and benefits can become material to the NRC's NEPA analysis when they are used to compare the proposed action with an environmentally preferable alternative. See *Midland*, 7 NRC at 162-163; discussion of the materiality of contention 3F, supra.<sup>65</sup> However, as explained above, Petitioners have not demonstrated the materiality of these purely economic costs.

Finally, even if the effect of electric rate increases could potentially be material to the NEPA analysis in this proceeding, Petitioners have not demonstrated a genuine, material dispute with the application. In its Environmental Justice Policy Statement, the Commission stated that:

admissible contentions in this area are those which allege, with the requisite documentary basis and support as required by 10 CFR Part 2, that the proposed action will have significant adverse impacts on the physical or human environment that were not considered because the impacts to the community were not adequately evaluated.

Environmental Justice Policy Statement, 69 Fed. Reg. at 52,047. Petitioners nowhere demonstrate that a 40% increase in electric rates would cause a significant adverse impact.

The Staff notes that Petitioners assert that the increase would come at the end of construction for both plants (plural), Petition at 44, and that the latter plant is not scheduled to come online until 2019. See Summer ER at 8.0-1. It is not clear whether this 40% figure has been adjusted for inflation or not. Clearly, an unadjusted 40%

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<sup>65</sup> This may explain why the Environmental Justice Policy Statement stated that environmental justice analyses were pertinent when necessary for costs-benefits analyses, in addition to socioeconomic impacts having a nexus to the human or physical environment. See 69 Fed. Reg. at 52,047.

increase over a decade represents, at most, a small increase in real terms. Even if the 40% figure has been adjusted for inflation, electricity must come from somewhere, and alternatives to the proposed project necessarily bear some cost. Petitioners make no effort to compare the electricity rate increases from alternatives to the 40% figure they cite, and the Staff sees no reason to believe that such a difference would be significant, much less represent a disproportionately high impact on low-income populations.<sup>66</sup>

For the above reasons, Contention 3E is not admissible.

8. Contention 3G:

With respect to Chapter 10 of the ER, "Proposed Action Consequences," the Applicant's cost estimate for construction and operation is based on an unrealistic schedule, and assumes a settled and approved design for its proposed AP1000, which has not yet been established and for which there is no firm date for Commission determination. [Petition at 26; see *a/so* Petition at 42.]

Staff Response: Petitioners assert that the Applicant's cost estimate for construction is deficient, in part, because it is based on an unrealistic schedule. Petition at 42.

Petitioners base their claim on schedule uncertainties in the AP1000 design certification review, and assert that the care taken by the NRC in ensuring a well-designed plant extends the expected initiation of construction, subjecting the plants to inflation. Petition at 44-45. If Petitioners are referring to cost increases based on a general rate of inflation, that is certainly possible, but it is standard practice to express costs in terms of a particular base year (such as 2008 dollars) to make an apples-to-apples comparison that avoids misleading cost differences based on the general rate of inflation.

If Petitioners are referring to supposed inflation of labor and materials specific to nuclear construction that is significantly above the general rate of inflation, Petitioners do

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<sup>66</sup> The Staff notes that Petitioners give no reason to think that the rate increase would not equally fall on all users of electricity in the relevant service area.

not provide sufficient information to show a genuine, material dispute with the application. First, as shown in the discussion of Contention 3F above, Petitioners have not demonstrated the materiality of cost estimates to this COL proceeding. Second, construction cost estimates are necessarily subject to some degree of uncertainty, and such uncertainty does make them invalid. As the *Clinton ESP* Board recognized:

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.”

LBP-05-19, 62 NRC at 167 (citing *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), LBP-96-25, 44 NRC 331, 355 (1996), *rev'd on other grounds*, CLI-97-15, 46 NRC 294 (1997)). The Clinton ESP board went on to quote the Fifth Circuit test for challenges to the accuracy of economic assumptions, which is “whether the economic considerations . . . were *so distorted as to impair fair consideration of those environmental consequences.*” LBP-05-19, 62 NRC at 167-68 (emphasis added in original) (quoting *South Louisiana Environmental Council, Inc. v. Sand*, 629 F.2d 1005, 1011 (5th Cir. 1980)).

Third, Petitioners do not offer particularized assertions regarding labor and material costs increases and licensing delays that would tend to show that any cost increases from licensing delays would be significant. Petitioners also fail to adequately support assertions regarding labor and materials costs and licensing delays with documentation or expert opinion as required by 10 C.F.R. § 2.309(f)(1)(v). Therefore, no genuine, material dispute with the application has been shown. See 10 C.F.R. § 2.309(f)(1)(vi).

Petitioners next argue that the design of the reactors has not been completely reviewed and approved and that a reasonable construction cost estimate for use in

alternatives analysis cannot be made until Commission review is complete. See Petition at 44-45. Petitioners provide no support for this argument other than the bare conclusions of Ms. Brockway, who has not demonstrated her expertise in estimating the costs of constructing nuclear reactors and has not explained the basis for her conclusions. § 2.309(f)(1)(v).

Commission approval of a design is based on information submitted by the applicant. Westinghouse has already submitted much information related to the AP1000 design, and the Summer construction cost estimate was presumably based on information known at the time the estimate was made. Petitioners do not even make an effort at showing that recent changes made to the AP1000 would change the construction cost estimate by such a magnitude as to make the estimate a distortion impairing a fair consideration of environmental consequences. See *South Louisiana Environmental Council, Inc. v. Sand*, 629 F.2d at 1011. Petitioners, therefore, have not demonstrated a genuine, material dispute with the application. See 10 C.F.R. § 2.309(f)(1)(vi).<sup>67</sup>

For all of the above reasons, Contention 3G and contention 3 as a whole are not admissible.

### CONCLUSION

In view of the foregoing, the Petition of Sierra Club and Friends of the Earth should be denied. Although Sierra Club establishes representational standing, Friends

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<sup>67</sup> Petitioners finally argue that the design review process, which the Petitioners say is needed for a reasonable construction cost estimate, likely cannot be completed without the building of demonstration plants. Petition at 45. This is clearly an impermissible challenge to the Commission's licensing process.

of the Earth has not established standing, and neither of the Petitions has submitted an admissible contention.

Respectfully submitted,

**/Signed (electronically) by/**

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Dated at Rockville, Maryland  
this 5th day of January 2009

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
)  
SOUTH CAROLINA ELECTRIC AND GAS )  
COMPANY, )  
) Docket Nos. 52-027 and 52-028  
(Virgil C. Summer Nuclear Station )  
Units 2 and 3) )

CERTIFICATE OF SERVICE

I hereby certify that copies of NRC STAFF ANSWER TO "PETITION TO INTERVENE AND REQUEST FOR HEARING BY SIERRA CLUB AND FRIENDS OF THE EARTH" has been served upon the following persons by Electronic Information Exchange this 5th day of January, 2009:

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