

May 28, 2004

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
EXELON GENERATION COMPANY, LLC.	)	Docket No. 52-007-ESP
	)	
(Early Site Permit for Clinton ESP Site)	)	ASLBP No. 04-821-01-ESP
	)	

NRC STAFF'S RESPONSE TO PETITIONERS' CONTENTIONS  
REGARDING THE EARLY SITE PERMIT APPLICATION FOR THE CLINTON SITE

INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(h)(1) and the Atomic Safety and Licensing Board's March 8, 2004 Memorandum and Order (Initial Prehearing Order), the staff of the Nuclear Regulatory Commission ("Staff") hereby responds to the January 12, 2004 "Hearing Request and Petition to Intervene" submitted by the Blue Ridge Environmental Defense League, Nuclear Information and Resource Service, Nuclear Energy Information Service, Public Citizen and Environmental Law and Policy Center ("Petitioners"), as supplemented on May 3, 2004, by the "Contentions Regarding Early Site Permit Application For Site of Clinton Nuclear Power Plant" ("Contentions") and "Supplemental Request for Hearing and Petition to Intervene" ("Supplemental Petition").

BACKGROUND

On December 12, 2003, the Commission issued a notice announcing the opportunity to petition to intervene in a hearing on an application for an Early Site Permit ("ESP") submitted by Exelon Generation Company, LLC ("Applicant" or "Exelon"). Petitioners timely sought to intervene in the hearings on January 12, 2004. Subsequent to the intervention petitions, Exelon sought to apply the Commission's newly revised Rules of Practice at 10 C.F.R. Part 2 ("New Part 2"). See

69 Fed. Reg. 2182 (January 14, 2004). On March 2, 2004, the Commission issued a Memorandum and Order directing that the proceedings be conducted under the New Part 2. See CLI-04-08, 59 NRC113 (2004).

Subsequently, an Atomic Safety and Licensing Board ("ASLB") was established for the proceedings. See Establishment of Atomic Safety and Licensing Board (March 22, 2004). On May 3, 2004, Petitioners supplemented their initial request for a hearing, as directed by the Commission's March 2, 2004 Order and New Part 2 at 10 C.F.R. § 2.309(a), by submitting a specification of the contentions which Petitioners seek to have litigated in the hearing. Pursuant to 10 C.F.R. § 2.309(h)(1) and the ASLB's March 8, 2004 Memorandum and Order, the Staff hereby responds to the Petitioners' contentions. For the reasons set forth herein, the Staff submits that the Petitioners' contentions should not be admitted for litigation in the proceeding, except to the extent and in the manner described below.

### DISCUSSION

#### I. Legal Standards

The Staff sets forth below the legal standards generally applicable to the admission of contentions in New Part 2. In addition, because analysis of one of Petitioners' proposed contentions, proposed Contention 2.1, involves interpretation of the phrase "radiological consequence evaluation factors" in 10 C.F.R. § 52.17(a)(1), and this is a matter of first impression, the Staff also sets forth the legal standards governing applications for an ESP as they relate to that subject. The Staff also summarizes the legal standards applicable to the environmental review of an ESP. The Staff first turns to the standards governing the admissibility of contentions, which remain unchanged from those that existed before the effective date of New Part 2. See 69 Fed. Reg. at 2220-21.

A. Legal Standards Governing the Admission of Contentions

To gain admission to a proceeding as a party, a petitioner must submit at least one valid contention that meets the requirements of 10 C.F.R. § 2.309(f)(1). This section states that a petitioner must provide:

- (i) a specific statement of the issue of law or fact to be raised or controverted;
- (ii) a brief explanation of the basis for the contention;
- (iii) a demonstration that the issue raised in the contention is within the scope of the proceeding;
- (iv) a demonstration 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) a concise statement of the alleged facts or expert opinions which support the 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 petitioner intends to rely to support its position on the issue; and
- (vi) sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.

10 C.F.R. § 2.309(f)(1). These provisions "incorporate the longstanding contention support requirements of former 10 C.F.R. § 2.714—no contention will be admitted for litigation in a NRC adjudicatory proceeding unless these requirements are met." 69 Fed. Reg. at 2221. The Commission has emphasized that its rules on admission of contentions establish an evidentiary threshold more demanding than a mere pleading requirement and are "strict by design." *Dominion Nuclear Conn., Inc.* (Millstone Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

Under the rule, a petitioner "must do more than submit 'bald or conclusory' allegation[s] of a dispute with the applicant. *Id.* Rather, the petitioner must "read the pertinent portions of the license application, . . . state the applicant's position and the petitioner's opposing view." *Id.* Moreover, a petitioner must provide a "clear statement as to the basis for the contentions and the submission of . . . supporting information and references to specific documents and sources that establish the validity of the contention." *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2 & 3), CLI-91-12, 34 NRC 149, 155-56 (1991).

The contentions are limited by the scope of the proceeding, which is delineated by the Commission in the notice of hearing for the proposed licensing action. *See Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 118 (1995); *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790 (1985). In determining the scope of the proceeding, the Licensing Board should be guided by the regulations governing the substantive matters under consideration in the proceeding. *See Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-00-23, 52 NRC 327, 329 (2000). Although licensing boards are generally to adjudicate contentions rather than bases, the Commission has recently reiterated, "[w]hen an issue arises over the scope of an admitted contention, NRC opinions have long referred back to the bases set forth in support of the contention." *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 379 (2002) (citations omitted).

B. Legal Standards Governing Radiological Consequence Evaluation Factors

Petitioners' proposed contentions assert a safety issue with respect to the application involving the radiological consequence evaluation factors in 10 C.F.R. § 52.17 (*see* Contentions at 2). Since this is a matter of first impression, the Staff describes, as set forth below, the legal

standards relevant to this contention. The Staff first turns to the requirements for ESP applications set forth in 10 C.F.R. Part 52.

The Commission's regulations in 10 C.F.R. Part 52 set the standards for consideration of an application for an ESP. In particular, 10 C.F.R. § 52.17 requires that the application contain:

[A] description and safety assessment of the site on which the facility is to be located. The assessment must contain an analysis and evaluation of the major structures, systems, and components of the facility that bear significantly on the acceptability of the site under the radiological consequence evaluation factors identified in § 50.34(a)(1) of this chapter. Site characteristics must comply with part 100 of this chapter.

10 C.F.R. § 52.17(a)(1) (2004). Neither § 50.34(a)(1) nor Part 100 explicitly defines the "radiological consequence evaluation factors" to which § 52.17(a)(1) refers. Part 100, however, applies to "applications for site approval for the purpose of constructing and operating stationary power and testing reactors pursuant to the provisions of part 50 or part 52." 10 C.F.R. § 100.2 (2004). Part 100, therefore, applies equally to ESPs, construction permits ("CPs"), and combined licenses ("COLs").

In this regard, Part 100 applies as follows: Inasmuch as Exelon filed its application in late 2003, the evaluation factors in 10 C.F.R. Part 100, Subpart B for power reactor site applications filed after January 10, 1997, apply. Pursuant to Part 100, Subpart B, the Commission considers, *inter alia*, the population density and use characteristics of the site environs, including the exclusion area, the population distribution, and site-related characteristics in determining the acceptability of a site for a power reactor. 10 C.F.R. § 100.20(a). Design matters are not subject to Part 100, Subpart B. *See id.* As relevant to an ESP proceeding, the matters identified in § 100.20(a) must be evaluated to determine whether individual as well as societal risk of potential plant accidents is low. *Id.* In addition, Part 100, Subpart B, requires that applications for site approval for commercial power reactors address the following:

(a) Every site must have an exclusion area and a low population zone, as defined in § 100.3;<sup>1</sup>

(c) Site atmospheric dispersion characteristics must be evaluated and dispersion parameters established such that:

(2) Radiological dose consequences of postulated accidents shall meet the criteria set forth in § 50.34(a)(1) of this chapter for the type of facility proposed to be located at the site[.]

10 C.F.R. § 100.21. Similar to § 52.17(a)(1), § 100.21(c)(2) requires dose consequences to meet the “criteria set forth in § 50.34(a)(1).”

The criteria in § 50.34(a)(1) for evaluating radiological dose consequences of postulated accidents are the following:

(1) An individual located at any point on the boundary of the exclusion area for any 2 hour period following the onset of the postulated fission product release, would not receive a radiation dose in excess of 25 rem total effective dose equivalent (TEDE).

(2) An individual located at any point on the outer boundary of the low population zone, who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage) would not receive a radiation dose in excess of 25 rem total effective dose equivalent (TEDE).

10 C.F.R. § 50.34(a)(1)(ii)(D)(1) and (2) (2004) (footnote omitted). These dose consequence criteria, by their terms, apply only to the determination of the exclusion area and LPZ, given a postulated release of radioactive material to the environment and the site atmospheric dispersion

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<sup>1</sup>As relevant here, § 100.3 states that:

*Exclusion area* means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area[.]

*Low population zone* means the area immediately surrounding the exclusion area which contains residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident.

characteristics.<sup>2</sup> All the other criteria in § 50.34(a)(1) relate to reactor design, which is not mentioned in §§ 100.20 or 100.21.<sup>3</sup> Accordingly, the “dose consequence evaluation factors in § 50.34(a)(1)” in § 52.17(a)(1), read *in pari materia* with Part 100, Subpart B, must refer to the dose consequence criteria for determining the acceptability of the exclusion area and the LPZ in § 50.34(a)(1)(ii)(D)(1) and (2).<sup>4</sup>

C. Legal Standards Governing the Environmental Consideration of ESPs

In addition to a safety review, the Commission conducts an environmental review of each ESP application pursuant to the National Environmental Policy Act (“NEPA”) in accordance with the Commission’s implementing regulations set forth in 10 C.F.R. Part 51. Environmental review requirements specific to ESPs are set forth in 10 C.F.R. Part 52. Specifically, 10 C.F.R. § 52.18 states, in pertinent part:

[T]he Commission shall prepare an environmental impact statement during review of the application, in accordance with the applicable provisions of 10 C.F.R. part

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<sup>2</sup>Part 100, Subpart B, requires evaluation of site atmospheric dispersion characteristics, but does not govern the calculation of a postulated release of radioactive material to the environment. See 10 C.F.R. § 100.21(c) (2004). Such a radioactive release considered in a CP or COL application is governed by 10 C.F.R. § 50.34(a)(1)(D), which requires that “an applicant shall assume a fission product release from the core into the containment assuming that the facility is operated at the ultimate power level contemplated.” In establishing a postulated release of radioactive material to the environment, an applicant for a CP or COL must also perform an analysis and evaluation of the fission product release into the containment, based on the expected demonstrable containment leak rate and a specified category of design features. See 10 C.F.R. § 50.34(a)(1)(D) (2004). For an ESP, § 52.17(a)(1) allows for evaluation of a postulated release of radioactive material to the environment by requiring “an analysis and evaluation of the major structures, systems, and components [“(SSCs)”] of the facility that bear significantly on the acceptability of the site” under the radiological consequence evaluation factors. Whether any SSCs have an effect on such a release and, therefore, “bear significantly on the acceptability of the site” depends on the contents of the application.

<sup>3</sup>These design matters are properly resolved in CP, design certification, or COL proceedings. See 10 C.F.R. §§ 50.34(a), 52.47(a)(1)(i), and 52.79(b), respectively.

<sup>4</sup>While there is no need to examine the regulatory history of § 52.17 in order to interpret it, the rulemaking history for this regulation and Part 100 supports the Staff’s interpretation, as set forth in the Staff’s discussion of Petitioners’ proposed Contention 2.1.

51, provided, however, that the draft and final environmental impact statements prepared by the Commission focus on the environmental effects of construction and operation of a reactor, or reactors, which have characteristics that fall within the postulated site parameters, and provided further that the statements need not include an assessment of the benefits (for example, need for power) of the proposed action, but must include an evaluation of alternative sites to determine whether there is any obviously superior alternative to the site proposed.

See generally 10 C.F.R. §§ 51.70, 51.71, 51.73, 51.75, 51.90, 51.91, and 51.94 (setting forth general requirements for the Commission's preparation and consideration of environmental impact statements). In connection with this EIS, 10 C.F.R. § 52.17(a)(2) requires that the applicant include with the ESP application:

A complete environmental report as required by 10 C.F.R. 51.45 and 51.50 . . . provided, however, that such environmental report must focus on the environmental effects of construction and operation of a reactor, or reactors, which have characteristics that fall within the postulated site parameters, and provided further that the report need not include an assessment of the benefits (for example, need for power) of the proposed action, but must include an evaluation of alternative sites to determine whether there is any obviously superior alternative to the proposal.

## II. The Admissibility of Petitioners' Contentions

The Staff respectfully submits that a review of the proposed contentions filed by the Petitioners in this proceeding, in light of the established requirements set forth above, demonstrates that the contentions should not be admitted except to the extent and in the manner set forth below. The Staff discusses the proposed contentions *seriatim* as they appear in Petitioners' filing.

### **Proposed Contention 2.1: Failure to provide adequate safety assessment of reactor interaction**

The ESP application for the Clinton site fails to comply with 10 C.F.R. § 52.17 because its safety assessment does not contain an adequate analysis and evaluation of the major structures, systems, and components of the facility that bear significantly on the acceptability of the site under the radiological consequences evaluation factors identified in 10 C.F.R. § 50.23(a)(1) [*sic*, § 50.34(a)(1)]. In particular, the safety assessment does not

adequately take into account the potential effects on radiological accident consequences of co-locating new reactors with advanced designs next to an older reactor. The safety assessment should contain a comprehensive evaluation and analysis of the ways in which interaction of the old and new plants under accident conditions may exacerbate the consequences of a radiological accident. Without such an evaluation and analysis, the presiding officer cannot make a finding that, taking into consideration the site criteria in Part 100 of the regulations, the proposed reactors can be operated "without undue risk to the health and safety of the public."

Contentions at 3-4 (citation omitted). Petitioners state in the basis to the proposed contention that "new reactors are designed with fewer features to protect station workers from radiation released during accident conditions, including loss-of-coolant accidents. An accident at the existing reactor could, therefore, have significant adverse effects on the operation of the new reactor." *Id.* at 4-5. This is the essence of proposed Contention 2.1.

Staff Response to Proposed Contention 2.1

For the reasons set forth below, proposed Contention 2.1 should be rejected because the proposed contention is not within the scope of this proceeding, Petitioners' claimed basis lacks specificity, and Petitioners do not otherwise raise a genuine dispute with the Applicant on a material issue of law or fact.

A. Proposed Contention 2.1 is not within the scope of this proceeding.

As set forth above, Petitioners must "provide a demonstration that the issue raised in the contention is within the scope of the proceeding." 10 C.F.R. § 2.309(f)(1)(iii). The scope of the proceeding is defined by the Notice of Hearing. *See Georgia Institute of Technology*, CLI-95-12, 42 NRC at 118. The Notice of Hearing, as described above, defines the scope of the safety issues in the proceeding as (1) whether the issuance of an ESP will be inimical to the common defense and security or to the health and safety of the public ("Safety Issue 1"); and, (2) whether, taking into consideration the site criteria contained in 10 C.F.R. Part 100, a reactor, or reactors, having characteristics that fall within the parameters for the site, can be constructed and operated

without undue risk to the health and safety of the public (“Safety Issue 2”). Petitioners specifically invoke Safety Issue 2. See Contentions at 2-3. Safety Issue 2 refers to the “site criteria” of Part 100, and not any design issues. As described below, Petitioners fail to link site criteria issues to the design issues they assert in the basis for proposed Contention 2.1.

Looking to the basis of a proposed contention to define its scope, *see McGuire*, CLI-02-28, 56 NRC at 379, Petitioners assert, without support, that the application must address the design matters in 10 C.F.R. § 50.34(a)(1)(ii)(B)-(D). Specifically, Petitioners declare that:

[a]n ESP application must consider such “radiological consequence evaluation factors” as whether and to what extent “generally accepted engineering standards” are used to design the new plant, whether and to what extent the new reactor design incorporates “unique, unusual, or enhanced safety features having a significant bearing on the probability or consequences” of an accident[al] release of radiation, and plant design features that are “intended to mitigate the radiological consequences of accidents.”

*Id.* at 3 (footnote omitted). The “radiological consequence evaluation factors” to which § 52.17 refers, however, do not include the regulations that Petitioners cite, which by their terms relate to reactor design, and not site acceptability. Rather, as relevant to the basis of the proposed contention and as described above, § 52.17 requires consideration of whether the boundaries of the exclusion area and the LPZ are determined so as to satisfy the dose criteria in § 50.34(a)(1)(ii)(D)(1) and (2).<sup>5</sup> The regulations cited by Petitioners are simply irrelevant to this determination. The subject of the application is the adequacy of the site to accommodate a reactor with postulated parameters, and not the design of a specific reactor that might be located there. Since proposed Contention 2.1 involves reactor design considerations, and not siting

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<sup>5</sup>As set forth above, § 52.17(a)(1) requires consideration of SSCs only to the extent needed to establish a release of radioactive material to the environment, which is used in evaluating the acceptability of the proposed exclusion area and the proposed LPZ, and, ultimately, the proposed ESP site.

issues, it is outside the scope of this proceeding, and the Board should reject it. This conclusion is supported by the rulemaking history of § 52.17, which is set forth below.

As originally promulgated on April 18, 1989, § 52.17 required, *inter alia*, that an application for an ESP contain the information required by “the first three sentences of § 50.34(a)(1)[.]” Final Rule, Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors, 54 Fed. Reg. 15,372, 15,387 (April 18, 1989) (“Part 52 Final Rule SOC [Statements of Consideration]”). The first three sentences of § 50.34(a)(1) then required, among other things, assessment of the then-existing site evaluation factors in Part 100. See 10 C.F.R. § 50.34(a)(1) (1989).<sup>6</sup> In 1989, Part 100 required consideration of factors “relating both to the proposed reactor design and the characteristics peculiar to the site.” 10 C.F.R. § 100.10 (1989). The regulations then specifically required consideration of characteristics of reactor design and intended operation, including the factors identified by Petitioners. See 10 C.F.R. § 100.10(a)(1)-(4) (1989). Part 100 also then required determination of an exclusion area and an LPZ. See 10 C.F.R. § 100.11 (1989). In sum, as originally promulgated, § 52.17 did require that an application for an ESP contain the information identified by the Petitioners.<sup>7</sup>

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<sup>6</sup>The first three sentences of § 50.34(a)(1) then required an application to contain:

A description and safety assessment of the site on which the facility is to be located, with appropriate attention to features affecting facility design. Special attention should be directed to the site evaluation factors identified in Part 100 of this chapter. Such assessment shall contain an analysis and evaluation of the major structures, systems and components of the facility which bear significantly on the acceptability of the site under the site evaluation factors identified in Part 100 of this chapter, assuming that the facility will be operated at the ultimate power level which is contemplated by the applicant.

10 C.F.R. § 50.34(a)(1) (1989).

<sup>7</sup>The Staff notes that the Commission indicated in the SOC for the Part 52 final rule that design certification would be the vehicle for early resolution of design issues, and an ESP would serve this role for resolving most site issues. See Part 52 Final Rule SOC, 54 Fed. Reg. at (continued...)

In 1996, the Commission amended § 50.34(a), § 52.17, and Part 100 to incorporate the requirements currently reflected in those regulations. See Final Rule, Reactor Site Criteria Including Seismic and Earthquake Engineering Criteria for Nuclear Power Plants, 61 Fed. Reg. 65,157 (Dec. 11, 1996) (“Part 100 Final Rule SOC”).<sup>8</sup> The 1996 Part 100 rule responded to the 1980 directive of Congress to decouple siting from design, and effected a partial decoupling of these matters. See *id.* at 65,157, 65,159. In the Part 100 Final Rule SOC, the Commission indicated that it was retaining source term and dose calculations to verify the adequacy of a site for a specific plant, but was relocating source term and dose calculations to Part 50 since “experience has shown that these calculations have tended to influence plant design aspects such as containment leak rate or filter performance rather than siting.” *Id.* at 65,159.

With respect to the individual siting criteria, the Commission stated that it considered “an exclusion area to be an essential feature of a reactor site and is retaining this requirement, in Part 50, to verify that an applicant’s proposed exclusion area distance is adequate to assure that the radiological dose to an individual will be acceptably low in the event of a postulated accident.” *Id.* Similarly, the Commission stated that it was “retaining the requirement that the dose consequences be evaluated at the outer boundary of the LPZ over the course of the postulated

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<sup>7</sup>(...continued)

15,374, 15,378. The SOC for the proposed rule introduced this concept in discussing the Commission’s expectations of how the ESP, design certification, and combined license processes might be used. That SOC stated that “it is possible to describe and evaluate plant designs on a generic basis, . . . and to propose and evaluate plant sites without plant design details.” Proposed Rule, Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors, 53 Fed. Reg. 32,060, 32,065 (Aug. 23, 1988)(emphasis added). The Part 52 final rule, as issued in 1989, did not appear to fully accomplish this goal.

<sup>8</sup>The seismic and earthquake engineering criteria promulgated in this final rule are not relevant to the proposed contention.

accident[.]”<sup>9</sup> *Id.* at 65,161. These are the “radiological consequence evaluation factors” to which § 52.17 refers. They simply do not include those provisions identified by Petitioners. Accordingly, the scope of this proceeding does not reach the criteria in § 50.34(a)(1)(ii)(B)-(D) identified by Petitioners, and the Applicant need not address them.<sup>10</sup> Petitioners make no showing that the requirements they cite apply to an ESP application other than their bare assertion of applicability, and make no effort to relate these requirements to Safety Issue 2, as set forth in the Notice of Hearing. Therefore, Petitioners fail to satisfy the requirements of § 2.309(f)(1)(iii), and proposed Contention 2.1 should be rejected as beyond the scope of the proceeding.<sup>11</sup>

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<sup>9</sup>When Part 52 was promulgated in 1989, Part 100 provided that the applicant was to assume a fission product release from the core into the containment to determine both the exclusion area and the LPZ. 10 C.F.R. § 100.11(a) (1989). A footnote to the regulation stated:

The fission product release assumed for these calculations should be based upon a major accident, hypothesized for purposes of site analysis or postulated from considerations of possible accidental events, that would result in potential hazards not exceeded by those from any accident considered credible. Such accidents have generally been assumed to result in substantial meltdown of the core with subsequent release of appreciable quantities of fission products.

10 C.F.R. § 100.11(a), n.1 (1989). This footnote was moved to § 50.34(a)(1)(ii)(D) in the Part 100 final rule. See Part 100 Final Rule SOC, 61 Fed. Reg. at 65,172.

<sup>10</sup>The Part 100 final rule, as relevant to this proceeding, moved the requirements of former § 100.10 to amended § 50.34(a)(1)(ii)(A)-(D). See 10 C.F.R. § 100.10(a)(1)-(4) (1989); Part 100 Final Rule SOC, 61 Fed. Reg. at 65,163, 65172. In addition, the Part 100 final rule moved the remainder of the “first three sentences of § 50.34(a)(1)” previously invoked by § 52.17 into § 52.17. See Part 100 Final SOC, 61 Fed. Reg. at 65,175. The changes to Parts 50, 52, and 100 in 1996 fully achieved the Commission’s goal of providing for evaluation of “plant sites without plant design details” in the consideration of ESP applications. See Part 52 Proposed Rule SOC, 53 Fed. Reg. at 32,065; *supra*, footnote 7.

<sup>11</sup>Petitioners also rely on GDC 4 and 19, and 10 C.F.R. § 50.49 as requirements somehow applicable to an ESP proceeding. Petitioners make no attempt to show any relationship between these requirements and an ESP application, and, indeed, there is none. Neither § 52.17 nor § 50.34(a)(1) nor Part 100 mentions or refers to any of these design requirements in the context of an ESP application, and the Applicant need not make any showing with respect to them in this proceeding.

B. The basis asserted for proposed Contention 2.1 lacks specificity.

Petitioners' basis for proposed Contention 2.1 lacks the requisite specificity. Petitioners' proposed contention asserts that "the safety assessment does not adequately take into account the potential effects on radiological accident consequences of co-locating new reactors with advanced designs next to an older reactor." Further, Petitioners assert that "[t]he safety assessment should contain a comprehensive evaluation and analysis of the ways in which interaction of the old and new plants under accident conditions may exacerbate the consequences of a radiological accident." Contentions at 2. As a basis for these assertions, Petitioners state that "new designs already certified by NRC and those currently under review by NRC are allegedly 'safer' and less likely to have an accident involving significant core damage. . . . Consequently, the new reactors are designed with fewer features to protect station workers from radiation released during accident conditions, including [LOCAs]. An accident at the existing reactor could, therefore, have significant adverse effects on the operation of the new reactor." *Id.* at 4-5.

Petitioners provide an example, involving control room design, in which the asserted lack of design features "may not adequately protect workers from postulated accidents at nearby reactors of different design." *Id.* at 5. Petitioners, however, do not provide any indication of how the site characteristics in the application (see Site Safety Analysis Report ("SSAR"), Chapter 2) might somehow be affected by the lack of such features, or how a reactor or reactors whose design parameters fall within the plant parameters envelope ("PPE") identified in SSAR § 1.4.2 or ESP site characteristics might be so affected. Moreover, even for this example, Petitioners describe the design of current plants in some detail (*id.* at 6), but give no description of the design features they deem lacking from the reactor or reactors that might be constructed at the site. Rather, Petitioners make the bare assertion that "[b]ecause new reactor designs are allegedly safer, the protection for control room operators is less." *Id.* Not only do Petitioners fail to identify

any asserted missing features, they also do not identify a source term at the existing reactors, or dispersion or transport characteristics between the existing and new reactors, and do not give any indication as to the dose the control room operators might receive. Accordingly, the proposed contention lacks the specificity required by 10 C.F.R. § 2.309(f)(1)(v).

As for Petitioners' bare assertion that "[e]nvironmental qualification of electrical equipment provides another example of the potentially adverse interaction between old and new plant designs" (*id.* at 6-7), Petitioners' basis again lacks specificity. Petitioners suggest that "accidents at nuclear plants of relatively new design are not expected to be as severe as accidents than [*sic*] for older plants" and, therefore, "electrical equipment in the new plants at the Clinton site may not be qualified to withstand levels of heat or radiation that may be generated by an accident at the existing plant." *Id.* at 7. Petitioners assert that this should be of concern because of the "relatively close proximity of the new and existing plants." *Id.* Petitioners, however, do not link their assertions regarding environmental qualification of electrical equipment to the PPE or site characteristics. Further, Petitioners fail to explain how heat and radiation generated in an existing reactor during an accident might somehow be transported to a new reactor that might be built on the proposed ESP site, and how such a new reactor might be affected. Moreover, Petitioners' assertions in this regard are mere speculation, which does not provide an adequate basis for a contention. *See Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 180 (1998), citing *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 267 (1996).

Neither of the Petitioners' examples has a specific basis, as set forth above. Accordingly, the basis for proposed Contention 2.1 does not provide a concise statement of the alleged facts

which support the Petitioners' position on these issues, as required by 10 C.F.R. § 2.309(f)(1)(v), and proposed Contention 2.1 should be rejected.<sup>12</sup>

C. Petitioners do not identify any dispute with the Applicant other than out-of-scope design issues.

In support of proposed Contention 2.1, Petitioners point to § 1.3 of the SSAR in Exelon's application, but do so only to identify three reactor designs that are listed in that section and that might be built on the proposed ESP site. Contentions at 4. That portion of the SSAR, however, identifies the designs on which the Applicant bases its PPE bounding values. See SSAR, § 1.4.2. Petitioners do not identify any dispute with the PPE bounding values.<sup>13</sup> Further, Petitioners refer to the application only once more in a footnote (Contentions at 7, n.2), in the basis to proposed Contention 2.1, but do not take issue with it.<sup>14</sup> Petitioners' complaint that the Applicant omitted information from the application is founded on bases clearly outside the scope of this proceeding, as discussed above; Petitioners do not assert any error in the application in proposed Contention

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<sup>12</sup> The Staff notes that 10 C.F.R. § 52.17(a)(1)(vii) requires that an ESP application describe "[t]he location and description of any nearby industrial . . . facilities," and the Staff believes that the existing Clinton units should be treated as such industrial facilities. Further, 10 C.F.R. § 100.21(e) requires that "[p]otential hazards associated with nearby . . . industrial . . . facilities must be evaluated and site parameters established such that potential hazards from such . . . facilities will pose no undue risk to the type of facility proposed to be located at the site." Although these matters might appear related to proposed Contention 2.1, the Staff's consideration of them will be limited to site suitability issues, and will not extend to the reactor design issues Petitioners seek to litigate. The Petitioners did not include any matter related to the requirements of § 52.17(a)(1)(vii) or § 100.21(e) in proposed Contention 2.1, and that proposed contention is limited to its terms. See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 & 2), ALAB-947, 33 NRC 299, 371-72 n.310 (1991).

<sup>13</sup>To the extent the Petitioners seek to raise any issue with a specific design identified in SSAR § 1.4.2, the appropriate forum for doing so is (or was) the design certification rule making proceeding on that design, or, if the design is not certified, in a COL proceeding in which an applicant seeks to construct and operate such a design. See 10 C.F.R. §§ 52.51, 52.54 and 52.63 (for design certification); 10 C.F.R. §§ 52.85, 52.93, and 52.97 (for COLs).

<sup>14</sup>In the footnote, Petitioners refer to the SSAR as indicating that "the proposed new reactor(s) will be located approximately 700 feet from the existing facility."

2.1. Therefore, Petitioners fail to include “references to specific portions of the application . . . that the petitioner disputes,” as required by 10 C.F.R. § 2.309(f)(1)(v).<sup>15</sup> Accordingly, the Petitioners fail to raise a genuine dispute with the Applicant on a material issue of law or fact, as required by § 2.309(f)(1)(vi), and the Board should reject proposed Contention 2.1.

**Proposed Contention 2.2: Failure to Evaluate Site Suitability for Below-Grade Placement of Reactor Containment**

The Site Safety Analysis Report for the Clinton ESP application is inadequate because it does not evaluate the suitability of the site to locate the reactor containment below grade-level. Below-grade construction is advisable and appropriate, if not necessary, in order to maintain an adequate level of security in the post-9/11 threat environment.

Contentions at 7.

The basis for the proposed contention is offered in three parts: a) legal requirements,<sup>16</sup> b) rationale for requiring below-grade construction of containments, and c) viability of below-grade construction.

**Staff Response to Proposed Contention 2.2:**

The Staff opposes the admission of proposed Contention 2.2. As discussed below, none of the bases on which Petitioner relies provides the support required for admissibility of a contention in this proceeding. See 10 C.F.R. § 2.309(f)(1).

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<sup>15</sup>The Staff construes Petitioners’ statement that the “safety assessment does not contain an adequate analysis and evaluation” in proposed Contention 2.1 to mean that the assertedly necessary analysis and evaluation was omitted. To the extent Petitioners intend to identify any errors in the application in this regard, references to the claimed errors in the application are entirely missing from the basis for the proposed contention.

<sup>16</sup>Basis a) is not discussed herein, as it provides background information and sets forth no legal or factual argument.

A. Rationale for below-grade construction

Petitioners state that the Applicant should be required to evaluate the Clinton site for below-grade construction because, in their opinion, current nuclear plants are vulnerable to terrorist attacks and sabotage. Contentions at 8. However, there is no such statutory or regulatory requirement. A contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue. *Philadelphia Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 n.33 (1974); 10 C.F.R. § 2.335(a). Accordingly, this basis cannot support the proposed contention.

To be admissible, a proposed contention must be material to the findings the NRC must make to support the action that is involved in the proceeding. 10 C.F.R. § 2.309(f)(1)(iv). Petitioners have not identified, in basis B, a regulatory requirement that would require an ESP applicant to address below-grade construction. Thus, contrary to Petitioners' assertion that the application is inadequate for failure to evaluate the suitability of the site for below-grade construction, the omission of such information is not an inadequacy where no such information is required. Accordingly, proposed Contention 2.2 fails to state an issue material to the findings the NRC must make in this proceeding and is, thus, inadmissible. 10 C.F.R. § 2.309(f)(1)(iv).

Contention 2.2 also fails to show that a genuine dispute exists on a material issue of law or fact. 10 C.F.R. § 2.309(f)(1)(vi). The contention neglects the fact that the PPE used in Exelon's application encompasses reactors with below-grade containments. The site safety analysis report, submitted as a part of the application, offers a PPE, based on seven advanced reactors, as a surrogate for actual facility information. See SSAR, § 1.2, "General Site Description"; § 1.3, "Overview of Reactor Types"; and § 1.4, "Plant Parameters Envelope." It is that surrogate for which the applicant seeks an Early Site Permit conclusion of site suitability. *Id.* Contention 2.2 fails to directly controvert Exelon's application in that it neglects the fact that a reactor containment

could be built below grade within the application's PPE. The foundation embedment for the plant parameter envelope, *i.e.*, the depth from finished grade to the bottom of the basemat for the most deeply embedded power block structure, is 140 feet. SSAR at 1.T-1. As stated in Exelon's application, the PPE values are generally based on certified design information and the best available information for as yet uncertified designs. A set of plant parameter values is developed considering the values provided by various reactor vendors and by applying appropriate conservatism where required to characterize the surrogate facility. As applicable, the most limiting (maximum or minimum) bounding value is selected. The complete set of plant parameter values describes, or envelopes, the site-facility interface. This effort is intended to provide a comprehensive list of plant parameters to accurately characterize a plant at a site, and to support development of an ESP application, including the SSAR and ER. See SSAR at § 1.3. Two of the designs referenced in the Exelon application as contributing to the PPE, the GT-MHR and the PBMR, in fact, employ below-grade containment designs. Thus, the PPE encompasses a below-grade containment design and bounds reactors with structures as deep as 140 feet. Since the Applicant has included reactors with below-grade containment in its application, even though not required by regulation to do so, Petitioners' proposed contention that the Applicant has failed to provide such information does not raise a genuine dispute on an issue of fact and is inadmissible on that basis. 10 C.F.R. § 2.309(f)(1)(vi).

Moreover, the statement of the contention itself constitutes an attack on the Commission's regulations in that it asserts that "below grade construction is advisable and appropriate, if not necessary, in order to maintain an adequate level of security . . ." Contentions at 7. In effect, the contention proposes that no reactor containment may be safely built on the Clinton site unless it is below grade. However, 10 C.F.R. Part 52, Appendix A reflects that the Commission has, through rulemaking, approved the design of the ABWR reactor. (This is one of the designs

identified in the ESP application.) The design of the ABWR does not require below-grade construction of the reactor containment, contrary to the assertion in the proposed contention. If the proposed contention were admitted, it would present to the Board for determination the question of whether below-grade construction should be required. Since the Commission has approved three advanced reactor designs that do not require below-grade construction, see 10 C.F.R. Part 52, Appendices A, B and C, the proposed contention amounts to an attack on an existing regulation and may not be pursued in an adjudicatory proceeding. 10 C.F.R. § 2.335(a).

Petitioners also cite information from NUREGs and other documents in support of their proposed contention regarding the vulnerability of nuclear plants to terrorist attacks and sabotage. Contentions at 8-10. To the extent that Petitioners seek to raise security issues, *i.e.*, issues regarding the defense of any facility that might occupy the site, their proposed Contention 2.2 is inadmissible. Although they purport to rely on 10 C.F.R. § 100.21(f), which provides: “[s]ite characteristics must be such that adequate security plans and measures can be developed,” as a basis for the contention, the Petitioners have not provided any factual information or legal argument to demonstrate the existence of a genuine dispute with regard to whether site characteristics preclude development of adequate security plans and measures. 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, this basis does not support the position raised in proposed Contention 2.2 and must be rejected.

Also, as a part of their rationale for requiring below-grade construction, Petitioners state that the new generation of reactors does not have as robust a containment as the current generation. However, the factual basis offered for this statement does not support the statement but rather contradicts it. Three current reactors are mentioned as having containments that are constructed of reinforced concrete 2.5 feet thick, while the AP600, a “new generation” reactor, is

said to have a reinforced concrete containment wall 3 feet thick.<sup>17</sup> Because the Petitioners' own factual assertions reflect that the "new generation" reactors will have containment walls thicker than existing reactors, Petitioners' information fails to support the position that Petitioners urge: that the current generation of reactors is more robust than the advanced reactors that might be built at the applicant's site. Thus, the Petitioners have failed to provide sufficient information to show a genuine dispute on a factual issue. 10 C.F.R. § 2.309(f)(1)(vi).

B. Validity of below-grade construction

The third part of the basis for Contention 2.2 asserts that below-grade construction of nuclear reactor containments is a viable design security measure. Contentions at 11. The only support for the claim that below-grade construction is "viable" is a letter from Edward Teller to the Joint Committee on Atomic Energy written in 1953. Dr. Teller's concern in the passage cited is not security from terrorist attacks but "the danger that a reactor might malfunction and release its radioactive poison." In response to the concern regarding such releases, he states that "underground location or particularly thoughtfully constructed safety devices *might be considered*." Letter from Dr. Edward Teller to the Honorable Sterling Cole, Chairman on the Joint Committee of Atomic Energy, United States Congress (July 23, 1953) (Petitioners' Exhibit 2.2-6); see Contentions at 11 (emphasis added). This basis does not support the proposed contention. "A document put forth by an intervenor as supporting a basis for a contention is subject to scrutiny both for what it does and does not show." *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996). Here, while the contention is directed at a security concern, the document addresses operational

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<sup>17</sup> The text of Petitioners' Contentions references the AP600 as the advanced reactor on which it relies for the comparison with current reactors. However, the Declaration of Paul V. Gunter references the AP1000 reactor.

safety—not security. Therefore, the document fails to provide the requisite support to allow a conclusion that a genuine dispute on a material issue exists. 10 C.F.R. § 2.309(f)(1)(vi).

For the reasons discussed, proposed Contention 2.2 is not an admissible contention and should be rejected.

**Proposed Contention 3.1: Clean Energy Alternatives**

The environmental review fails to rigorously explore and objectively evaluate all reasonable alternatives.

Basis: There are several serious shortcomings in the ER's evaluation of reasonable alternatives for the Clinton ESP application. First, the evaluation of alternatives is improperly constrained because the NRC regulations provide, in clear violation of NEPA, that the application need not analyze the need for power. Second, the ER treats each alternative energy source as a discrete alternative, contrary to the mandate of NEPA to combine alternatives. Third, the ER improperly rejects the reasonable alternative of meeting energy needs through increased energy efficiency efforts on the ground that such efforts would not be profitable for Exelon. Finally, the ER relies on flawed and outdated information to support its conclusion that energy efficiency, renewable energy resources, distributed generation and "clean coal" technologies are not reasonable alternatives to new nuclear power generation. Each of these points demonstrate that there is "a germane dispute" with Exelon "on a material issue of law or fact," thereby making this an admissible contention. 10 C.F.R. 2.309(f)(1)(vi).

Supplemental Petition at 2.

**Staff Response to Proposed Contention 3.1:**

The Staff opposes the admission of proposed Contention 3.1, "The Clean Energy Alternative Contention," except to the extent it is limited to the ER's purported failure to consider wind power, solar power, distributed generation, and "clean coal" in combination, the ER's reliance on purportedly outdated and flawed information in its analysis of wind power as an alternative to a new nuclear power plant at Clinton with respect to the power output of wind turbines, the cost of wind power, the land use impacts of wind power, and avian collisions with wind turbines, and

the possibility of distributed solar power generation through the installation of solar units on roofs and other buildings. The remaining bases should be rejected because the Petitioners have not demonstrated that a genuine dispute of material fact or law exists with respect to the ER or because the proposed contention constitutes an attack on the Commission's regulations. See 10 C.F.R. § 2.309(f)(1)(vi); 10 C.F.R. § 2.335(a). Although the focal point of an NRC adjudication is on contentions rather than the underlying bases, the Commission recently reiterated that reference to the bases provided in support of a contention is appropriate in order to appropriately define the scope of the contention. *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 379 (2002) (citations omitted). Further, as the Appeal Board observed years ago, "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases." *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir.), *cert. denied*, 502 U.S. 899 (1991). Accordingly, the scope of a contention in litigation is determined by the bases submitted in support of the contention. Thus, the proposed contention and its bases are discussed in turn below.

A. Alternatives, including energy efficiency and renewable energy resources, to the siting of a new nuclear power plant at Clinton

First, Petitioners assert that, going beyond the requirements of the Commission's regulations, the NRC is legally required to consider energy efficiency and renewable energy resource alternatives to the siting of a new nuclear plant at the Clinton site. Supplemental Petition at 3. This is not an adequate basis for admitting a contention because it constitutes an impermissible challenge to a Commission regulation. See 10 C.F.R. § 2.335(a). A contention that attacks a Commission rule, or "which seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible." *Private Fuel Storage* (Independent Spent

Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179 (1998). On July 3, 2003, the Commission proposed “to amend § 52.17(a)(2) to clarify that an ESP applicant has the flexibility of either addressing the matter of alternative energy sources in the environmental report supporting its ESP application, or deferring the consideration of alternative energy sources to the time that the ESP is referenced in a licensing proceeding.” 68 Fed. Reg. 40028-40029 (July 3, 2003). Indeed, the Commission specified that “§ 52.17(a)(2) already provides the ESP applicant with the flexibility of choosing to defer consideration of the alternative energy sources to the time (if ever) that the ESP is referenced in a combined license or a construction permit application.” *Id.* at 40029. Petitioners’ argument that “[e]nergy efficiency and renewable energy . . . must be considered” at the ESP phase directly contradicts the Commission’s regulations. Supplemental Petition at 3. Therefore, this basis cannot support the proposed contention because it impermissibly challenges the Commission’s regulations.

Furthermore, Exelon elected to consider renewable energy resources and energy efficiency alternatives in its ESP application instead of deferring consideration of energy alternatives to a later licensing proceeding. See ER, § 9.2. Thus, this portion of the proposed contention does not directly controvert the application since it mistakenly asserts that the application does not address a relevant issue. See 10 C.F.R. § 2.309(f)(1)(vi); *Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station)*, LBP-93-23, 38 NRC 200, 247-248 (1993), *review declined*, CLI-94-2, 39 NRC 91 (1994). Accordingly, insofar as the proposed contention is based on the Applicant’s failure to consider renewable energy resources and energy efficiency alternatives, the proposed contention is inadmissible.

B. Need for power

Second, the Petitioners assert that the evaluation of alternatives by the applicant is improperly constrained because the NRC regulations provide that the application need not analyze

the need for power. Supplemental Petition at 4. As the Petitioners correctly note, 10 C.F.R. § 52.17 and § 52.18 both provide that the environmental review “need not include an assessment of the benefits (for example, the need for power) of the proposed action.” Since the Commission’s regulations explicitly state that consideration of the “need for power” is not necessary at the ESP stage, the Petitioners’ proposed contention constitutes an attack on the Commission’s regulations. 10 C.F.R. § 2.335(a). Therefore, this basis cannot support the proposed contention.

C. Energy efficiency and renewable energy resources both individually and in combination

Third, the Petitioners assert that the alternatives analysis is flawed because it “fails to consider energy efficiency and various energy resources in combination.” Supplemental Petition at 5. In particular, Petitioners assert that “a combination of wind power, solar power, energy efficiency, distributed generation, and ‘clean coal’ technology would be a better, lower-cost, safer, and environmentally preferable alternative.” Supplemental Petition at 5. To the extent the proposed contention is based on the failure of the ER to consider a combination of wind, solar, distributed generation and “clean coal,” Staff does not oppose admission of the contention. However, to the extent that the proposed contention is based on the Applicant’s rejection of energy efficiency alternatives, the contention is inadmissible for the reasons discussed in the following section.

As to other possible combinations, Exelon does indicate that the analysis of coal- and gas-fired generation bounds the impacts from a combination of the two technologies. ER, § 9.2.2. Accordingly, to the extent the proposed contention is based on failure to consider a mix of energy resources, it is not admissible since it fails to demonstrate a genuine dispute on a material issue of law or fact. 10 C.F.R. § 2.309(f)(1)(vi).

D. Rejection of energy efficiency alternatives

The Petitioners assert that the ER improperly rejects energy efficiency as an unreasonable alternative to the siting of a new nuclear power plant in Illinois. Supplemental Petition at 5. This portion of the contention is inadmissible because it does not limit the alternatives analysis to those that can reasonably achieve the goals of the project. *Citizens Against Burlington v. Busey*, 938 F.2d 190, 198 (D.C. Cir. 1991), *cert. denied*, 502 U.S. 994 (1991) (“The goals of an action delimit the universe of the action’s reasonable alternatives.”). The purpose and need of Exelon’s application is to designate the proposed site for future energy generation and sale on the wholesale market. ESP Application, Administrative Information, § 1.1. Exelon’s goals, which are company specific and economically based, cannot be achieved through generic efforts to enhance energy efficiency; therefore, Exelon was not required to evaluate energy efficiency alternatives in depth in its ER.<sup>18</sup> *Hydro Resources, Inc.*, CLI-01-04, 53 NRC 31, 55 (2001) (“Agencies need only discuss those alternatives that are reasonable and ‘will bring about the ends’ of the proposed action. . . . When the purpose is to accomplish one thing, it makes no sense to consider the alternative ways by which another thing might be achieved. . . . The agency . . . may take into account the ‘economic goals’ of the project’s sponsor.”); *Busey*, 938 F.2d at 198 (holding that consideration of alternative sites was unnecessary where those alternatives would not accomplish the purpose defined by agency). Exelon’s goal in applying for an ESP is not to reduce overall energy consumption, enhance energy efficiency generally, or allow other power companies to provide services to its customers; Petitioners cannot redefine the purpose of Exelon’s proposed action to broaden the scope of the alternatives to include energy efficiency and then claim that the application fails to address the redefined purpose. *Id.* at 199 (“An agency cannot redefine the

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<sup>18</sup> Although energy efficiency alternatives were not discussed in depth, they were considered. See ER at § 9.2.1.

goals of the proposal that arouses the call for action; it must evaluate alternative ways of achieving its goals, shaped by the application at issue and by the function that the agency plays in the decisional process.”). To the extent the subject contention is based on a purpose for the Clinton ESP other than that articulated by the Applicant, the contention fails to demonstrate a genuine issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

E. Rejection of renewable energy resources and reliance on outdated information

Lastly, the Petitioners assert that the ER considers, but improperly rejects, a number of viable renewable energy resources because Exelon uses outdated and flawed information to reject these alternatives. Supplemental Petition at 9-10. As an initial matter, to the extent the proposed contention is based on Exelon’s implementing energy efficiency strategies, the proposed contention is inadmissible for the reasons discussed *supra*.

Petitioners assert that Exelon fails to acknowledge that wind power is a reasonable alternative to a new nuclear power plant at the Clinton site. Supplemental Petition at 10. The Staff does not oppose admission of this contention to the extent it claims that the ER uses purportedly outdated and flawed information in its analysis of wind power as an alternative to a new nuclear power plant at Clinton with respect to the power output of wind turbines, the cost of wind power, the land use impacts of wind power, and avian collisions with wind turbines.

Petitioners also assert that the ER distorts the impacts of solar power by ignoring the possibility of distributed solar power generation through installation of solar units on roofs and other buildings. Supplemental Petition at 13. To the extent this contention is based on the failure of the ER to address distributed solar generation, Staff does not oppose the admission of this contention.

Petitioners also assert that the ER does not adequately address the opportunities for meeting base-load power needs through efficient on-site natural gas-fired generation.

Supplemental Petition at 13. However, Exelon did consider gas-fired generation a reasonable alternative and therefore chose to examine it in depth. ER, § 9.2.2.11; § 9.2.3.2. Furthermore, Petitioners do not point to any portion of the discussion of gas-fired generation as flawed or outdated. Therefore, this basis cannot support the contention because Petitioners fail to demonstrate a genuine dispute on a material issue of fact or law. 10 C.F.R. § 2.309(f)(1)(vi).

**Proposed Contention 3.2: Waste Confidence Rule Contention**

The Waste Confidence Rule does not apply to this proceeding and thus the environmental review must evaluate whether and in what time frame spent fuel generated by the proposed new Clinton 2 Plant can be safely disposed of.

The ER for the Clinton ESP is deficient because it fails to discuss the environmental implications of the lack of options for permanent disposal of the irradiated (i.e., "spent") fuel that will be generated by the proposed reactors if they are built and operated. Nor has the NRC made an assessment on which Exelon can rely regarding the degree of assurance now available that radioactive waste generated by the proposed reactors "can be safely disposed of [and] when such disposal or off-site storage will be available." Final Waste Confidence Decision, 49 Fed. Reg. 34,658 (August 31, 1984), citing *State of Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979). Accordingly, the ER fails to provide a sufficient discussion of the environmental impacts of the proposed new nuclear reactors.

Supplemental Petition at 14.

**Proposed Contention 3.3: If the Waste Confidence Decision Applies to This Proceeding, It Should be Reconsidered.**

Even if the Waste Confidence Decision applies to this proceeding, it should be reconsidered, in light of significant and pertinent unexpected events that raise substantial doubt about its continuing validity, *i.e.*, the increased threat of terrorist attacks against U.S. facilities.

Contentions at 12.

Staff Response to Proposed Contention 3.2 and 3.3:

Petitioners' proposed contentions are inadmissible. Petitioners' Contention 3.2 constitutes an impermissible challenge to the Commission's regulations. See 10 C.F.R. § 2.335(a) (generally prohibiting attack on Commission regulations in adjudicatory proceedings).<sup>19</sup> This is because the contention is based on concerns associated with the ultimate disposal of spent fuel. These concerns have been generically resolved by the Commission through rulemaking. See 10 C.F.R. § 51.23(a). Since the Commission has decided to generically address matters related to the ultimate disposal of spent fuel through rulemaking, Petitioners cannot, in an adjudicatory proceeding, attack the pertinent rule. See 10 C.F.R. § 2.335(a) ("[N]o rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding subject to this part.").

As basis for Contention 3.2, the Petitioners make several assertions.<sup>20</sup> First, the Petitioners argue that Exelon's environmental report is "fatally flawed" because it does not address ultimate disposal of spent fuel. Supplemental Petition at 15 citing *Minnesota v. NRC*, 602 F.2d 412, 416-17 (D.C. Cir. 1979).<sup>21</sup> Additionally, Petitioners argue that the Commission's

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<sup>19</sup>The narrow circumstances under which regulations may be waived during an adjudication are addressed *infra*.

<sup>20</sup>Notably, the Petitioners fail to address at all the Commission's rule resolving waste disposal matters generally, 10 C.F.R. § 51.23.

<sup>21</sup> Although the Petitioners cite *Minnesota v. NRC* to support their argument that Exelon's ER is fatally flawed for failing to address ultimate disposal of spent reactor fuel, the reference is inapposite. In *Minnesota v. NRC*, the Court of Appeals for the D.C. Circuit remanded to the Commission the issue of ultimate disposal of spent fuel in a case involving two license amendments. *Minnesota*, 602 F.2d at 419. The D.C. Circuit, however, did not reverse the agency's determination that the amendments should be issued. *Id.* at 418. Rather, the court held that the petitioners were not entitled to an adjudicatory proceeding on issues related to the disposal of spent fuel and that the NRC "could properly consider the complex issue of nuclear waste disposal in a 'generic' proceeding such as a rulemaking, and then apply its determinations in subsequent adjudicatory proceedings." *Id.* at 416. Since the NRC has engaged in the

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determinations regarding ultimate disposal of spent fuel are “inapplicable because [they] concern[] plants that are currently operating, not new plants.” *Id.* Further, the Petitioners argue that “[t]he Commission gives no indication that it has confidence that repository space can be found for spent fuel and other high-level radioactive waste from new reactors licensed after December of 1999.” *Id.* Lastly, the Petitioners assert that the Commission has not expressed confidence that additional repository space will be made available for the ultimate disposal of waste generated by a new generation of reactors. *See id.* at 15-18.

None of the bases advanced by the Petitioners regarding the ultimate disposal of spent fuel addresses the Commission’s controlling regulations regarding ultimate disposal of spent fuel and high-level waste. However, the Commission’s regulations clearly state that:

The Commission has made a generic determination that, if necessary, spent fuel generated in *any* reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation . . . of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of *any* reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.

10 C.F.R. § 51.23(a) (emphasis added). As stated in the regulation, the Commission does not qualify its ultimate finding on the disposal of spent fuel. In fact, the Commission states that it has confidence that waste generated by “any” reactor will be safely disposed of. *See id.* The word “any” suggests no limitation of time or kind. Thus, the distinctions advanced by the Petitioners (*i.e.*, that the Commission’s consideration of ultimate disposal solely addressed the current fleet

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<sup>21</sup>(...continued)

rulemaking envisioned by the D.C. Circuit in the *Minnesota* decision, the reference to the case by the Petitioners is misplaced. In fact, the case envisions that the NRC would apply 10 C.F.R. § 51.23(a) in future proceedings such as the instant adjudicatory proceeding.

of reactors and not a new generation of reactors) are simply incorrect. The regulation does not reflect that the Commission's findings regarding ultimate disposal of high-level waste and spent fuel from "any" reactor were intended to exclude new reactors. Therefore, in light of the plain language of the rule,<sup>22</sup> the Petitioners' argument that new reactors are not covered by the Commission's finding is without merit.

In the alternative, the Petitioners argue, as proposed Contention 3.3, that, if the Board rules that the Commission's determination regarding waste confidence applies in this proceeding, the rule's validity should be reconsidered. See Contentions at 12. As basis for their proposition that the current rule is no longer viable, the Petitioners refer to statements made by the Secretary of Energy regarding the Department of Energy's ("DOE") proposed Yucca Mountain repository.<sup>23</sup>

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<sup>22</sup>In addition to the Commission's plain language in the rule (*i.e.*, that it has confidence that "any" reactor's spent fuel will be disposed of safely), an examination of the Commission's statements made at the time it issued its most recent amendments to 10 C.F.R. § 51.23(a) provides further evidence that the Petitioners' assertions are inaccurate. Even though the Petitioners argue that the Commission's findings (and, by inference, the regulations) did not address new plants and failed to address additional repository space for spent fuel generated by new reactors, the Commission's "Review and Final Revision of Waste Confidence Decision" clearly reflects the contrary. See 55 Fed. Reg. 38,474, 38,501, 38,502, 38,503-04 (1990). For example, while performing its review of the Waste Confidence Decision, the Commission stated:

The availability of a second repository would permit spent fuel to be shipped offsite well within 30 years after expiration of [the current fleet of] reactors' OLS. The same would be true of the spent fuel discharged from *any new generation of reactor designs*.

*Id.* at 38,504 (emphasis added). In light of the Commission's statements cited above, it is evident that, contrary to Petitioners' blanket assertions, the Commission did consider the disposal of spent fuel from a new generation of operating reactors when it amended 10 C.F.R. § 51.23(a). Thus, the Petitioners have failed to provide legitimate bases for their allegations that Exelon's ER is deficient.

<sup>23</sup> Petitioners' reference to the Secretary of Energy's statements as basis for their assertion that the Board should reconsider the current validity of the Commission's regulation is unavailing. See *Yankee Rowe*, LBP-96-2, 43 NRC at 90 ("A document put forth by an intervenor as the basis for a contention is subject to scrutiny both for what it does and does not show."). Although the Petitioners rely on statements made by the Secretary of Energy to support their assertion that the

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*Id.* at 13-14. Additionally, the Petitioners assert that the terrorist attacks of 9/11 should cause the Board to revisit the validity of the Commission's rule and "whether nuclear power should be phased out as quickly as possible." *Id.* at 13-14.

The Petitioners' alternative contention, Contention 3.3, likewise is inadmissible. As discussed above, under the Commission's regulations, the Board is without authority to consider, as the Petitioners have proposed, the validity of a regulation promulgated by the Commission. See 10 C.F.R. § 2.335. This is the case whether a petitioner's attack on the regulations is based on concerns related to 9/11 or any other concerns.

The Commission has provided litigants in an adjudicatory proceeding subject to 10 C.F.R. Part 2 the opportunity to request that a Commission rule or regulation "be waived or an exception made for the particular proceeding." 10 C.F.R. § 2.335(b). The Commission has specified that "[t]he sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation . . . would not serve the purposes for which the rule or regulation was adopted." *Id.* The Commission requires that any request for such waiver or exception "be accompanied by an affidavit that identifies . . . the subject matter of the proceeding as to which application of the rule or regulation . . . would not serve the purposes for which the rule or regulation was adopted."

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<sup>23</sup>(...continued)

Commission's waste confidence findings should be revisited, an examination of those statements, however, reveals that the statements support the Commission's finding that the federal government will endeavor to provide for the ultimate disposal of spent fuel and high level waste at a centrally-located repository. *Compare* Waste Confidence Decision Review: Status, 64 Fed. Reg. 68,005, 68,007 (Dec. 6, 1999) (finding that no major shifts in national policy have occurred that would cause the Commission to revisit its waste confidence findings) *with* *Yucca Mountain Repository Development: Hearing on S.J. Res. 34 Before the Committee on Energy and Natural Resources United States Senate*, 107th Cong. 15 (2002) (prepared statement of Spencer Abraham, Secretary of Energy) (reaffirming, on homeland security grounds, that the federal government intends to proceed with the repository program).

*Id.* Additionally, “[t]he affidavit must state with particularity the special circumstances alleged to justify the waiver or exception requested.” *Id.*

In the instant case, the Petitioners have failed to establish that they meet any of the requirements imposed by the Commission on litigants wishing that a rule be waived or an exception be granted.<sup>24</sup> See Contentions 12-15. They have failed to establish that application of the Waste Confidence Rule in this particular proceeding would not serve the purpose for which the rule was adopted. To the contrary, 10 C.F.R. § 51.23 reflects, on its face, that the rule was designed to dispense with the need for NRC adjudications to address the impacts associated with the ultimate disposal of spent fuel and high-level waste.

For the reasons described above, the proposed contentions relating to waste confidence issues are inadmissible.

**Proposed Contention 5.1: Illinois State Moratorium Statute**

The Illinois State law imposing a moratorium on new nuclear plants forecloses the issuance of an early site permit for Clinton 2.

Basis: Exelon’s ESP permit application fails to address the Illinois statute, 220 ILCS 5/8-406(c), which prohibits any new nuclear power plant within the state until such time as the Director of the Illinois Environmental Protection Agency (“IEPA”) finds that the United States government has identified and approved a demonstrable technology or means for the disposal of high-level nuclear waste. The Director of the IEPA has, properly, not made the requisite finding, meaning that no new nuclear plant may now be built in Illinois and the issuance of an ESP is legally foreclosed.

Supplemental Petition at 18-19.

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<sup>24</sup>Particularly, the Petitioners have failed to show any special circumstances or provide an affidavit to support a request for the rule to be set aside in the instant proceeding. See 10 C.F.R. § 2.335(b) (requiring that a party moving to suspend applicability of a rule must plead certain special circumstances and support their argument with an affidavit).

Staff Response to Proposed Contention 5.1:

Petitioners' proposed contention is inadmissible because it does not raise an issue within the scope of this proceeding. See 10 C.F.R. § 2.309(f)(1)(iii). The proceeding at hand addresses whether a request for an early site permit should be granted. Notice of Hearing and Opportunity to Petition for Leave to Intervene Early Site Permit for the Clinton ESP Site, 68 Fed. Reg. 69426 (Dec. 12, 2003) ("Notice of Hearing"). As asserted by Petitioners, the applicable portion of the Illinois statute (the Public Utilities Act), 220 ILCS 5/8-406(c) reads:

After the effective date of this amendatory Act of 1987, no construction shall commence on any new nuclear power plant to be located within this State, and no certificate of public convenience and necessity or other authorization shall be issued therefor by the Commission<sup>25</sup>, until the Director of the Illinois Environmental Protection Agency finds that the United States Government, through its authorized agency, has identified and approved a demonstrable technology or means for the disposal of high level nuclear waste, or until such construction has been specifically approved by a statute enacted by the General Assembly.

Petitioners further assert that the "NRC must deny the ESP application because to grant it would violate Illinois' legal determination that there is no appropriate site for a new nuclear power plant in Illinois until the problems of disposing of high-level nuclear waste are solved." Supplemental Petition at 19. Despite Petitioners' assertions to the contrary, an NRC adjudicatory proceeding is not the proper forum for litigation and resolution of controversies about other agencies' permitting authority. *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-98-16, 48 NRC 119, 122 n.3 (1998); see *Consumers Power Co.* (Palisades Nuclear Plant), LBP-79-20, 10 NRC 108, 124 (1979) ("NRC . . . has no authority to determine whether the Licensee might have to obtain a new [Clean Water Act] discharge permit for the project or whether an existing permit encompasses the discharges to be generated by the project."); cf. *Tennessee Valley Auth.* (Yellow Creek Nuclear Plant, Units 1 & 2), ALAB-515, 8 NRC 702 (1978). Whether

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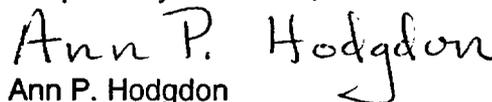
<sup>25</sup>The Commission referenced in the statute refers to the Illinois Commerce Commission and not the Nuclear Regulatory Commission.

non-NRC permits are required for an proposed action is the responsibility of bodies that issues such permits, *i.e.* the Illinois Commerce Commission, and not the NRC. *Hydro Resources* at 120; *see Philadelphia Electric Company (Peach Bottom Atomic Power Station, Units 2 and 3)*, ALAB-515, 8 AEC 13, 58 (1974) (footnote omitted) ('[NRC] licensing is in no way dependent upon the existence of a [Clean Water Act] permit.'). To find otherwise would result in duplicate regulation as both the NRC and the permitting authority would be resolving the same question of whether a permit is required. *Id.* Such a regulatory scheme runs the risk of Commission interference or oversight in areas outside its domain. *Id.* Nothing in the Commission's statutes or regulations contemplates such a role for the Commission. *Id.* Similarly, a discussion of whether the Director of the Illinois Environmental Protection Agency has made certain findings or whether the Illinois General assembly passed a statute authorizing certain activities is beyond the scope of the Commission's authority. Accordingly, this portion of the contention is beyond the scope of this NRC proceeding and should be denied. *See* 10 C.F.R. § 2.309(f)(1)(iii).

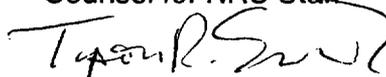
#### CONCLUSION

For the foregoing reasons, the Staff submits that the Petitioners' contentions should be rejected except to the extent and in the manner set forth above.

Respectfully submitted,



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Counsel for NRC Staff



Tyson R. Smith  
Counsel for NRC Staff

Dated at Rockville, Maryland  
this 28th day of May, 2004

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
EXELON GENERATION COMPANY, LLC. ) Docket No. 52-007-ESP  
 )  
(Early Site Permit for Clinton ESP Site) ) ASLBP No. 04-821-01-ESP  
 )

CERTIFICATE OF SERVICE

I hereby certify that copies of the "NRC STAFF'S RESPONSE TO PETITIONERS' CONTENTIONS REGARDING THE EARLY SITE PERMIT APPLICATION FOR THE CLINTON SITE" in the above-captioned proceeding have been served on the following through electronic mail and with copies by deposit in the NRC's internal mail system, or through electronic mail with copies by deposit in the U.S. Postal Service as indicated by an asterisk, this 28<sup>th</sup> day of May, 2004:

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