

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

In the Matter of:)	
)	
U.S. Department of Energy)	January 16, 2009
)	
(License Application for Geologic Repository at Yucca Mountain))	Docket No. 63-001
)	

**ANSWER OF THE U.S. DEPARTMENT OF ENERGY TO
THE NUCLEAR ENERGY INSTITUTE'S PETITION TO INTERVENE**

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I. INTRODUCTION

In accordance with 10 C.F.R. § 2.309 and 10 C.F.R. Part 63, and the Advisory Pre-Application Presiding Officer (PAPO) Board Order of June 17, 2008, the U.S. Department of Energy (DOE or the Department) hereby files its Answer to the “Nuclear Energy Institute’s (NEI) Petition to Intervene” (Petition), filed on December 19, 2008.¹ The Petition responds to the U.S. Nuclear Regulatory Commission’s (NRC or Commission) Notice of Hearing and Opportunity to Petition for Leave to Intervene on an Application for Authority To Construct a Geologic Repository at a Geologic Repository Operations Area at Yucca Mountain, published in the *Federal Register* on October 22, 2008 (73 Fed. Reg. 63,029) (Hearing Notice). The Hearing Notice concerns DOE’s License Application (Application or LA) for authorization to construct a

¹ DOE is filing this Answer in advance of the deadline set by the Commission in its Hearing Notice. DOE recognizes, however, that Petitioners have the full time allotted by the Hearing Notice to file their replies. DOE's early filing does not affect the deadlines set by the Commission.

geologic repository at Yucca Mountain, Nevada for the disposal of spent nuclear fuel (SNF) and high-level radioactive waste (HLW).

To be admitted as a party to this proceeding, under 10 C.F.R. § 2.309, NEI must: (1) be in substantial and timely compliance with the Licensing Support Network (LSN) requirements imposed by 10 C.F.R. § 2.1003 at the time of its request for participation in the proceeding as provided in 10 C.F.R. § 2.1012(b)(1), and be in compliance with all orders of the Pre-License Application Presiding Officer (PAPO) regarding electronic availability of documents; (2) have legal standing to intervene in the proceeding pursuant to 10 C.F.R. § 2.309; and (3) submit at least one admissible contention in accordance with 10 C.F.R. § 2.309(f)(1). In addition to the NRC's contention admissibility requirements in 10 C.F.R. § 2.309(f), environmental contentions must also meet the requirements of 10 C.F.R. § 51.109 and 10 C.F.R. § 2.326.

As discussed below, DOE has no reason to believe that NEI is not in substantial and timely compliance with its LSN obligations and PAPO orders at this time. However, NEI has failed to demonstrate legal standing, and has not met its burden of demonstrating that it is entitled to discretionary intervention. Moreover, DOE does not believe that NEI has proffered any admissible contentions.²

II. COMPLIANCE WITH LSN REQUIREMENTS

DOE has no reason to believe that NEI is not in substantial and timely compliance with its LSN obligations at this time, and therefore this Answer does not address the detailed requirements for LSN compliance.

² DOE's Answer to Nevada's Petition contains a "Background" section summarizing the Yucca Mountain site, proposed repository operation, the applicable NRC regulatory framework, and the NRC Staff's technical review and the hearing process. DOE has omitted that section from this Answer in the interest of brevity.

III. LEGAL STANDING

NEI asserts that it has representational standing to intervene in this proceeding, and further requests discretionary intervention. As discussed below, NEI has failed to demonstrate that it has representational standing because it has failed to show that any of its members will suffer an injury-in-fact that is within the zone of interests protected by the governing statutes and redressable by the NRC in this proceeding. NEI also has not met its burden of demonstrating that it is entitled to discretionary intervention. Accordingly, the Petition must be denied.

A. Applicable Legal Standards

1. Standing as of Right

To intervene as of right in an NRC licensing proceeding, a petitioner must demonstrate legal standing. The standing requirement is grounded in section 189a of the Atomic Energy Act (AEA) of 1954, 42 U.S.C. § 2239(a)(1)(A), which requires the Commission, “[i]n any proceeding under the [AEA], for the granting, suspending, revoking, or amending of any license” to provide “a hearing upon the request of any person whose interest may be affected by the proceeding” Accordingly, the Commission’s hearing rules provide that the Licensing Board shall consider the following factors when deciding whether to grant standing to a petitioner: (1) the nature of the requestor’s/petitioner’s right under the AEA to be made a party to the proceeding; (2) the nature and extent of the requestor’s/petitioner’s property, financial or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the requestor’s/petitioner’s interest. 10 C.F.R. § 2.309(d)(ii)-(iv); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998).

To determine whether a petitioner’s “interest” provides a sufficient basis for intervention, the Commission has long relied on “current judicial concepts of standing.” *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 5-6 (1998), *aff’d sub*

nom. Envirocare of Utah, Inc. v. Nuclear Regulatory Comm'n, 194 F.3d 72 (D.C. Cir. 1999) (citing *Portland Gen. Elec. Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 613-14 (1976); *Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995)). To demonstrate standing in NRC licensing proceedings under section 189a, a petitioner, thus, must allege: (i) a particularized injury; (ii) that is fairly traceable to the challenged action; and (iii) is likely to be redressed by a favorable decision. *Quivira Mining Co.*, CLI-98-11, 48 NRC at 6 (citing *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993)); *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-62 (1992)). These requirements, which have their origin in Article III, § 2 of the Constitution, are discussed further below.

Similarly, the Commission also applies “prudential” principles of standing. The Commission requires that a petitioner allege “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) (internal quotation marks omitted) (quoting *Duke Power Co. v. Carolina Envtl. Study Group, Inc.*, 438 U.S. 59, 72 (1978)). A petitioner, in other words, must assert his own legal interests, not the interests of others. *See, e.g., Fla. Power and Light Co.* (St. Lucie, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989) (affirming a Licensing Board’s refusal to admit a petitioner attempting to intervene on the basis of alleged injury to workers at a nuclear plant, reiterating that “the petitioner must himself fulfill the requirement for standing”); *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-11, 7 NRC 381 (1978) (denying standing to an individual who attempted to intervene by alleging injury to her son who attended medical school in the vicinity of a proposed nuclear facility). The requirement that a

party seeking review be himself among the injured—as opposed to merely citing an injury to a cognizable interest—is intended to “prevent[] the [hearing] from becoming no more than a vehicle for the vindication of the value interests of concerned bystanders.” *United States v. Students Challenging Regulatory Action Procedures*, 412 U.S. 669, 687 (1973) (*SCRAP*); see also *Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972); *Lujan*, 504 U.S. at 562-63.

Finally, the Commission requires that the petitioner’s interest fall “within the ‘zone of interests’ protected or regulated by the governing statute” at issue. *Bennett v. Spear*, 520 U.S. 154 (1997); *Reyblatt v. NRC*, 105 F.3d 715, 721 (D.C. Cir. 1997); *Quivira Mining Co.*, CLI-98-11, 48 NRC at 6 (citing *Gulf States Utils. Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 47 (1994); *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 316 (1985)). In short, “the petitioner must establish that the injury he complains of (his aggrievement or the adverse effect upon him) falls within the zone of interests sought to be protected by the statutory provision whose violation forms the legal basis for his complaint.” *Quivira Mining Co.*, CLI-98-11, 48 NRC at 17. The Commission, in applying this test, has noted that its “principal concern is to ensure that parties participating in [NRC] adjudicatory proceedings have interests that are cognizable” under the applicable statutes—typically the AEA and National Environmental Policy Act (NEPA). *Id.*

The required elements of legal standing—(1) injury-in-fact; (2) causation; (3) redressability; and (4) within the zone of interests—are discussed further below.

a. Injury-in-Fact

To establish injury-in-fact, a petitioner must assert injuries that are “distinct and palpable, particular and concrete, as opposed to being conjectural or hypothetical.” *Int’l Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-98-6, 47 NRC 116, 117 (1998) (citing *Steel Co. v.*

Citizens for a Better Env't, 523 U.S. 83, 103 (1998)); *Warth v. Seldin*, 422 U.S. 490, 508-509 (1975); *see also Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 72 (citations omitted). Although the injury need not already have occurred, “when future harm is asserted, it must be “threatened,” “certainly impending,”” and “real and immediate.” *Int’l Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-01-15, 53 NRC 344, 349 (2001), *aff’d*, CLI-01-18, 54 NRC 27 (2001) (quoting *Cabot Performance Materials* (Reading, Pennsylvania), LBP-00-13, 51 NRC 284, 289 (2000)); *see also City of Los Angeles v. Lyons*, 461 U.S. 95, 124 (1983) (quoting *O’Shea v. Littleton*, 414 U.S. 488, 493 (1974)); *see also Babbitt v. United Farm Workers Nat’l Union*, 442 U.S. 289, 298 (1979). As such, a petitioner must allege that “he has been or will in fact be perceptibly harmed by the challenged agency action, not that he can imagine circumstances [in the future] in which he could be affected by the agency’s action.” *Int’l Uranium (USA) Corp.*, LBP-01-15, 53 NRC at 349 (quoting *SCRAP*, 412 U.S. at 688-89). “A claimed violation of law does not create a presumption of standing, without some showing that the violation could harm the petitioner.” *Int’l Uranium (USA) Corp.* (Source Material License Amendment License No. SUA-1358), CLI-01-18, 54 NRC at 30. Moreover, “unsupported general references to radiological consequences are insufficient to establish a basis for injury” for purposes of standing. *Sacramento Mun. Util. Dist.* (Rancho Seco Nuclear Generating Station), LBP-92-23, 36 NRC 120, 130 (1992).

Accordingly, standing does not exist when the threat of alleged injury is abstract, hypothetical, or speculative. *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 72; *see also Int’l Uranium (USA) Corp.*, CLI-98-6, 47 NRC at 117. For example, the Commission has refused to admit petitioners who attempted to intervene in a licensing proceeding for the export of weapons-grade plutonium on the basis of concerns about accidents or terrorist attacks during

transport of the materials. The Commission found that the petitioners had failed to provide anything “beyond mere speculations about an unsupported and undefined potential threat,” and that because “[p]etitioners’ claims of potential injury are so speculative . . . they do not amount to cognizable harm for purposes of standing.” *U.S. Dep’t of Energy (Plutonium Export License)*, CLI-04-17, 59 NRC 357, 365-66 (2004). Licensing Boards similarly have rejected, as too speculative, standing claims based on alleged potential injuries resulting from contamination of food grown near nuclear power plants, *see Philadelphia Elec. Co. (Limerick Generating Station, Units 1 and 2)*, LBP-82-43A, 15 NRC 1423, 1448-49 (1982), and a postulated terrorist attack on a nuclear facility concurrent with the petitioner’s presence in the vicinity of the facility. *See Tenn. Valley Auth. (Sequoyah Nuclear Plant, Units 1 and 2; Watts Bar Nuclear Plant, Unit 1)*, LBP-02-14, 56 NRC 15, 27 (2002).

b. Causation

A petitioner must also establish that the injuries alleged are “fairly traceable to the proposed action.” *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 75. In this case, that proposed action is limited to the NRC authorization, pursuant to 10 C.F.R. Part 63, for DOE to construct a geologic repository for the disposal of SNF and HLW at a GROA at Yucca Mountain. Specifically, “the assertion of an injury without also establishing the causal link to the challenged [agency action] is insufficient to establish [] standing to intervene.” *Northeast Nuclear Energy Co. (Millstone Nuclear Power Station, Unit 3)*, LBP-98-22, 48 NRC 149, 155 (1998). If a petitioner cannot show that an alleged injury “flows directly from the challenged action,” it must show that the injury flows indirectly from the challenged action and that the “chain of causation is plausible.” *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 75; *see, e.g., Commonwealth Edison Co. (Zion Nuclear Power Station, Units 1 and 2)*, LBP-98-27, 48 NRC 271, 276-77 (1998) (holding that the petitioner had failed to establish a “plausible nexus” between the challenged

decommissioning action and the asserted injury, given the permanent shutdown and defueling of the reactors and petitioner's failure to affirmatively demonstrate how the licensing action "could plausibly lead to the offsite release of radioactivity"), *aff'd*, CLI-99-04, 49 NRC 185 (1999).

The relevant inquiry is thus whether petitioner can demonstrate that one of its cognizable interests will be adversely affected by one of the possible outcomes of the proceeding. *Nuclear Eng'g Co., Inc.* (Sheffield, Illinois, Low-Level Radioactive Waste Disposal Site), ALAB-473, 7 NRC 737, 743 (1978).

c. Redressability

A petitioner is further required to show that "its actual or threatened injuries can be cured by some action of the tribunal." *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), CLI-01-02, 53 NRC 9, 14 (2001). Furthermore, "it must be 'likely,' as opposed to merely 'speculative' that the injury will be 'redressed by a favorable decision.'" *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 76 (quoting *Lujan*, 504 U.S. at 561). If the NRC cannot take action that would redress the injury being claimed by a petitioner, the petitioner lacks an essential element of the requisite standing to request a hearing. *Westinghouse Elec. Corp.* (Nuclear Fuel Export License for Czech Republic-Temelin Nuclear Power Plants), CLI-94-7, 39 NRC 322, 331-32 (1994). The Commission, like a court, will deny standing if it finds that it cannot provide relief that will remedy the injury to the petitioner because, *inter alia*, the agency's action would not necessarily redress the alleged injury, or the necessary relief depends upon the actions of third parties that are not assured. *See, e.g., id.* at 332 (holding that where an alleged injury does not stem directly from the challenged governmental action, but instead involves predicting the actions of third parties not before the agency, the difficulty of showing redressability is particularly great).

d. Zone of Interests

Under federal and NRC caselaw, “to establish standing to intervene, a petitioner must not only demonstrate injury in fact, but also that the asserted injury is arguably within the zone of interests protected or regulated by the statute at issue.” *Quivira Mining Co.*, CLI-98-11, 48 NRC at 8. “Merely because one may be injured by a particular agency action . . . ‘does not necessarily mean one is within the zone of interests to be protected by a given statute.’” *Id.* at 11 (quoting *Air Courier Conference of Am. v. Am. Postal Workers Union*, 498 U.S. 517, 524 (1991)) (emphasis in original). The U.S. Supreme Court, which initially applied the zone of interest test in *Ass’n of Data Processing Serv. Org. v. Camp*, 397 U.S. 150, 152-53 (1970), has described the purpose of the test as follows:

[T]he “zone of interest” test is a guide for deciding whether, in view of Congress’ evident intent to make agency action presumptively reviewable, a particular plaintiff should be heard to complain of a particular agency decision. In cases where the plaintiff is not itself the subject of the contested regulatory action, the test denies a right of review if the plaintiff’s interests are so marginally related to or inconsistent with the purposes implicit in the statute that it cannot reasonably be assumed that Congress intended to permit the suit.

Clarke v. Sec. Indus. Ass’n, 479 U.S. 388, 399-400 (1987). While a petitioner need not show a specific congressional intent to protect or otherwise benefit him or his class, there must be “some indication” that the petitioner’s interest is arguably among those interests protected by the relevant statute. *Quivira Mining Co.*, CLI-98-11, 48 NRC at 10.

In NRC licensing actions, the AEA and NEPA typically are the “relevant statutes” that define the applicable “zone of interests.” The AEA—the Commission’s enabling statute—“concentrates on the licensing and regulation of nuclear materials for the purpose of protecting public health and safety and the common defense and security.” *Id.* at 14. Accordingly, the Commission has linked the notion of “injury” to a petitioner to the potential for radiological

health and safety harm associated with the proposed action. *See, e.g., Cleveland Elec. Illuminating Co.*, CLI-93-21, 38 NRC at 95-96; *Va. Elec. and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-342, 4 NRC 98, 105-06 (1976).

The Commission has stated that “[t]he [AEA] expressly authorizes [it] to accord protection from radiological injury to both health and property interests.” *Gulf States Utils.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC at 48 (citing AEA §§ 103b, 161b, 42 U.S.C. §§ 2133(b), 2201(b)). The AEA, however, “does not encompass economic harm that is not directly related to environmental or radiological harm.” *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-02-16, 55 NRC 317, 336 (2002) (citations omitted). Consequently, the “bare mention[] of health and safety cannot be used to establish standing when the essence of [petitioner’s] concern is economics, not safety.” *Id.* at 337 (citing *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999)).

In considering whether a NEPA-based contention is within the zone of interests cognizable in an NRC proceeding, it is important to recognize that NEPA is a procedural statute whose principal purpose is “to insure a fully informed and well-considered decision.” *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 558 (1978) (NRDC); *see also Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350-351 (1989). NEPA’s “twin aims” are: (1) to ensure that the agency takes a “hard look” at the environmental consequences of the proposed action, and (2) to make information on the environmental consequences available to the public. *Dubois v. U.S. Dep’t of Agric.*, 102 F.3d 1273, 1285 (1st Cir. 1996), *cert. denied sub nom., Loon Mountain Recreation Corp. v. Dubois*, 521 U.S. 1119 (1997). While “NEPA does protect some economic interests . . . it only protects against those injuries that result

from environmental damage.” *Quivira Mining Co.*, CLI-98-11, 48 NRC at 10 (quoting *Sacramento Mun. Util. Dist.* (Rancho Seco Nuclear Generating Station), CLI-92-2, 35 NRC 47, 56 (1992)). A petitioner who suffers only economic injury unrelated to any environmental damage has no standing to bring a challenge under NEPA. *Id.* at 8.

2. Standing of Organizations

a. Standing of an Organization in its Own Right

An organization that wishes to intervene in a proceeding may do so either in its own right (by demonstrating injury to its organizational interests), or in a representative capacity (by demonstrating harm to the interests of its members). *Yankee Atomic Elec. Co.*, CLI-98-21, 48 NRC at 195 (citing *Ga. Inst. of Tech.*, CLI-95-12, 42 NRC at 115). To intervene in a proceeding in its own right, an organization must allege—just as an individual petitioner must allege—that it will suffer an immediate or threatened injury to its organizational interests that can be fairly traced to the proposed action and be redressed by a favorable decision. *See Ga. Inst. of Tech.*, CLI-95-12, 42 NRC at 115. The Commission considers an organization, like an individual, as a “person” (as that term is defined in 10 C.F.R. § 2.4, and as the Commission has used it in making standing determinations under 10 C.F.R. § 2.309). *See Consumers Energy Co.*, CLI-07-18, 65 NRC at 411.

Therefore, an organizational petitioner must show a “risk of ‘discrete institutional injury to itself, other than the general environmental and policy interests of the sort the [federal courts and NRC] repeatedly have found insufficient for organizational standing.’” *Id.* at 411-12 (quoting *Int’l Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 252 (2001)) (emphasis in original). In *Sierra Club v. Morton*, the U.S. Supreme Court held that a “special interest in the conservation and the sound maintenance of the national parks, game

refuges, and forests of the country” was insufficient to provide organizational standing to a petitioner. 405 U.S. at 730. The Court stated that:

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

Id. at 739.

Similarly, an organization’s assertion “that it has an interest in state and federal environmental laws and in the land, water, air, wildlife, and other natural resources that would be affected” is insufficient to establish standing. *Int’l Uranium (USA) Corp.*, CLI-01-21, 54 NRC at 251-52 (finding that petitioners “showed no discrete institutional injury to itself, other than general environmental and policy interests of the sort [the Commission] repeatedly [has] found insufficient for organizational standing”). Equally insufficient for standing purposes is a petitioner’s:

- mere academic interest in a proceeding. *See Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Unit 2), LBP-03-3, 57 NRC 45, 52 (2003); *see also Int’l Uranium (USA) Corp.* (Receipt of Material from Tonawanda, New York), LBP-98-21, 48 NRC 137, 141 (1998);
- interest in presenting “sound science” to a licensing board. *Private Fuel Storage* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 176 (1998), *aff’d*, CLI-98-13, 48 NRC 26 (1998);
- interest in disseminating information on nuclear non proliferation. *See Transnuclear, Inc.* (Export of 93.15% Enriched Uranium), CLI-94-1, 39 NRC 1 (1994);
- interest in environmental and consumer protection. *See Consumers Energy Co.*, CLI-07-18, 65 NRC at 411-12 (finding that petitioner’s interest in promoting the “economic use of energy, including nuclear energy, and to promote the public interest, environmental protection, and consumer protection” was insufficient to provide standing);

- interest in promoting compliance with federal and state laws and regulations. *See Int'l Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-02-3, 55 NRC 35, 39 (2002 (citing *Ten Applications for Low-Enriched Uranium Exports to EURATOM Member Nations*, CLI-77-24, 6 NRC 525, 531 (1997))); or
- interest in promoting the “development of sound energy policy.” *Edlow Int'l C.* (Agent for the Government of India on Application to Export Special Nuclear Material); CLI-76-6, 3 NRC 563, 572 (1976); *see also Sacramento Mun. Util. Dist.*, CLI-92-2, 35 NRC at 59 (finding that petitioner’s institutional interest in disseminating information “regarding the need for future energy sources in California” is insufficient for standing purposes).

b. Representational Standing

To invoke representational standing, an organization must: (1) show that at least one of its members has standing in his or her own right (*i.e.*, by demonstrating geographic proximity in cases where the presumption applies, or by demonstrating injury-in-fact within the zone of protected interests, causation, and redressability); (2) identify that member by name and address; and (3) show, “preferably by affidavit,” that the organization is authorized by that member to request a hearing on behalf of the member. *Consumers Energy Co.*, CLI-07-18, 65 NRC at 408-10; *see also N. States Power Co.* (Monticello Nuclear Generating Plant, Prairie Island Nuclear Generating Plant, Units 1 & 2; Prairie Island Independent Spent Fuel Storage Installation), CLI-00-14, 52 NRC 37, 47 (2000); *Gen. Pub. Utils. Nuclear Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000). Where the affidavit of the member is devoid of any statement that he or she wants and has authorized the organization to represent his or her interests, the presiding officer should not infer such authorization. *Duquesne Light Co.* (Beaver Valley Power Station, Unit 2), LBP-84-6, 19 NRC 393, 411 (1984). Indeed, the Commission has held that “[t]he failure both to identify the member(s) [petitioners] purport to represent and to provide proof of authorization therefore precludes [petitioners] from qualifying as intervenors.” *Consumers Energy Co.*, CLI-07-18, 65 NRC at 410.

3. Discretionary Intervention

Pursuant to 10 C.F.R. § 2.309(e), a presiding officer may consider a request for discretionary intervention where a party lacks standing to intervene as of right under § 2.309(d)(1). Discretionary intervention may be granted only when at least one petitioner has established standing, and at least one contention has been admitted for hearing. 10 C.F.R. § 2.309(e); *see also PPL Susquehanna LLC*, (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 21 n.14 (2007). In addition to addressing the factors in 10 C.F.R. § 2.309(d)(1), a petitioner who seeks intervention as a matter of discretion (if standing as of right is not shown), must address in its initial petition the six factors set forth in 10 C.F.R. § 2.309(e), which the presiding officer will consider and balance.

The petitioner has the burden to establish that the factors in favor of intervention outweigh those against intervention. *See Nuclear Eng'g*, ALAB-473, 7 NRC at 744-45 (requiring discretionary intervenor to show “that it is both willing and able to make a valuable contribution to the full airing of the issues . . . in this proceeding”). Factors weighing in *favor* of allowing intervention include: (1) the extent to which its participation would assist in developing a sound record; (2) the nature of petitioner’s property, financial or other interests in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding. *See* 10 C.F.R. § 2.309(e)(1)(i)-(iii). Conversely, factors weighing *against* allowing intervention include: (1) the availability of other means whereby the petitioner’s interest will be protected; (2) the extent to which petitioner’s interest will be represented by existing parties; and (3) the extent to which petitioner’s participation will inappropriately broaden the issues or delay the proceeding. *See* 10 C.F.R. § 2.309(e)(2)(i)-(iii).

Of the six factors, primary consideration is given to the first factor—assistance in developing a sound record. *See Portland Gen. Elec. Co.*, CLI-76-27, 4 NRC at 616; *see also*

Gen. Pub. Utils. Nuclear Corp. (Oyster Creek Nuclear Generating Station), LBP-96-23, 44 NRC 143, 160 (1996); Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2201 (Jan. 14, 2004) (The extent to which a petitioner’s participation will inappropriately broaden the issues or delay the proceeding also is accorded greater weight).

In assessing a particular petitioner’s ability to contribute to the development of a sound record, NRC tribunals have focused on the petitioner’s showing of *significant ability to contribute on substantial issues of law or fact that will not otherwise be properly raised or presented*; the specificity of such ability to contribute on those substantial issues of law or fact; justification of time spent on considering the substantial issues of law or fact; the ability to provide additional testimony, particular expertise, or expert assistance; and specialized education or pertinent experience. See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-81-1, 13 NRC 27, 33 (1981) (citing cases); see also *Fla. Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-24, 32 NRC 12, 15-17 (1990), *aff’d*, ALAB-952, 33 NRC 521, 532 (1991).

Historically, NRC tribunals have granted discretionary intervention only sparingly. See, e.g., *Va. Elec. & Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-363, 4 NRC 631, 633 (1976) (finding the petitioner “well equipped to make a ‘genuinely significant’ contribution” on the safety issue in question—integrity of steam generator and reactor coolant pump supports—because it had fabricated the supports for the facility in question and sought to present related design and construction information). This is a clear indication that petitioners pursuing this procedural path bear a substantial burden.

As the Commission has noted, this *sui generis* proceeding—which is “time-limited by statute”—has the potential to be “one of the most expansive proceedings in agency history” and

“unusually complex.” *U.S. Dep’t of Energy* (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), CLI-08-14, 67 NRC __ (slip op. at 5-6) (June 17, 2008).

Numerous governmental entities (including the State of Nevada and numerous Affected Units of Local Government or AULGs) have sought to participate formally in this proceeding.

Collectively, those entities have submitted 13 petitions or requests to participate and over 300 proposed contentions raising a broad spectrum of safety and environmental issues.

Consequently, the likelihood that discretionary intervention will bring “significant” additional expertise and resources to bear on “substantial” issues of law or fact not otherwise adequately raised or presented is low. *Portland Gen. Elec. Co.*, CLI-76-27, 4 NRC at 616-17. Thus, given the unique and complex nature of this proceeding, and the “rigorous schedule” governing its completion, any grant of discretionary intervention must rest on a very compelling showing.

Cf. Wilderness Soc’y v. Morton, 479 F.2d 1261, 1263 (D.C. Cir. 1972) (Tamm, J., concurring) (citing need to be wary of permissive intervention, “lest the manageable lawsuit become an unmanageable cowlick”).

B. DOE’s Answer Regarding NEI’s Legal Standing

NEI seeks representational standing in this proceeding to intervene on behalf of its members, which include entities that own or operate commercial nuclear power plants in the United States.³ Petition at 2. NEI argues that these members have standing to intervene based on their direct “safety, security, environmental, operational, and financial interests in the timely licensing of the Yucca Mountain waste repository.” *Id.* at 3. NEI sets forth three principal types of injuries to these members to support its claim for standing: (1) delay in the licensing process will allegedly inflict economic harm on NEI’s members (*Id.* at 3); (2) over-conservatism in

³ To that end, NEI has submitted affidavits from five of its corporate members in which each of the identified corporations authorizes NEI to represent it in this matter. *See* Attachments 2 through 6.

repository design could cause occupational risks and radiological exposure to workers at the Yucca Mountain site (*Id.* at 5 n.5); and (3) over-conservatism in design as well as licensing delay could increase radiation dose to individuals at reactor sites or other locations outside the Geologic Repository Operations Area (GROA) (*Id.* at 5).

As discussed below, each of these bases fails to establish legal standing in this proceeding. NEI's first basis is insufficient because the *economic* interest of NEI's members does not fall within the zone of interests protected or regulated by the statutes at issue in this proceeding, and therefore, NEI cannot demonstrate prudential standing. NEI's second basis is insufficient because NEI has not shown that occupational risks and radiological exposure to workers at the repository will pose any harm to NEI members, and therefore, NEI cannot demonstrate injury-in-fact. NEI's third basis regarding radiological and safety issues at commercial reactor sites is insufficient because injuries at locations outside the GROA are outside the scope of this proceeding, and cannot be a basis for standing.

1. Allegations of Economic Injuries Do *Not* Establish Standing

NEI asserts its members have an economic interest assuring the "timely licensing and construction of the nuclear waste repository[.]" *Id.* at 6. NEI argues that any delay in opening the Yucca Mountain repository will pose economic harm to its members. This basis for standing is insufficient in this proceeding, however, because purely economic interests fall outside the zone of interests protected or regulated by the statutes at issue in this proceeding.

The Commission has determined that the AEA and NEPA zones of interests do *not* include purely economic injuries unlinked to radiological or environmental harm (for example, a loss occasioned by the necessity to cease doing business in the area affected by radiation releases). *See, e.g., Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-02-16, 55 NRC 317, 336 (2002) (the AEA "does not encompass economic harm that is not

directly related to environmental or radiological harm”); *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 6 (1998) (While “NEPA does protect some economic interests . . . it only protects against those injuries that result from environmental damage.”). Accordingly, the asserted economic injury to NEI’s members does not fall within these statutes’ zone of interests. That alleged economic injury also does not establish standing under the NWPA, the primary focus of which is establishing a repository that is protective of the public and the environment. 42 U.S.C. 10131(b).

The NWPA states that the NRC “shall, by rule promulgate technical requirements and criteria that it will apply, under the Atomic Energy Act of 1954 . . . and the Energy Reorganization Act [(ERA)] of 1974 . . . in approving or disapproving . . . applications for authorization to construct repositories.” 42 U.S.C. 10141(b). As this provision makes clear, the rules that NRC has promulgated under the NWPA may cover only issues that are within the scope of either the AEA or the ERA. As previously explained, the AEA “does not encompass economic harm [like the harm claimed by NEI] that is not directly related to environmental or radiological harm.” *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-02-16, 55 NRC at 336. The same is true for the ERA. *English v. G.E. Comp.*, 496 U.S. 72, 76 (1990) (holding after the NWPA was in effect that the “NRC does not purport to exercise its authority based on economic considerations, but rather is concerned primarily with public safety and health”) (citing *Pac. Gas and Elec. Comp. v. State Energy Res. Conservation and Dev. Comm’n*, 461 U.S. 190, 207 (1983)).

Thus, even after passage of the ERA, the NRC’s primary concern is with public safety and health; economic harm remains outside the scope of its purview. Indeed, the Commission has previously suggested that it would not consider economic claims in this licensing proceeding.

In 1989 (more than six years after the NWPA was enacted), the Commission amended its Rules of Practice in 10 C.F.R. Part 2 for the adjudicatory proceeding on the application for a license to receive and possess high-level radioactive waste at a GROA. In the Final Rule, the Commission stated that it received several comments from a nuclear industry coalition, including a recommendation that it should remove the “discretionary intervention” procedure from the agency’s Rules of Practice.

The Commission disagreed and noted that the industry⁴ may have to rely, if at all, on that procedure based upon lack of standing: “It is also worth noting that, because the industry’s interest in the HLW is economic, it may not satisfy the Commission’s traditional judicial test for standing and thus might well have to rely” on the discretionary intervention doctrine. Final Rule—Submission and Management of Records and Documents Related to the Licensing of a Geologic Repository for the Disposal of High-Level Radioactive Waste, 54 Fed. Reg. 14,925, 14,931 (Apr. 14, 1989).

Nuclear Energy Inst., Inc. v. Env’tl. Protection Agency, 373 F.3d 1251 (D.C. Cir. 2004) is not to the contrary. That case held that NEI had standing to challenge a ground-water protection standard that the EPA promulgated pursuant to § 801 of the Energy Policy Act (EnPA). *Nuclear Energy Inst., Inc.*, 373 F.3d at 1280. In particular, the court of appeals found injury-in-fact because NEI had shown a “substantial probability” that the challenged regulation would injure its members by delaying the Yucca Mountain repository and increasing its cost, and that elimination of the regulation would likely redress that harm. *Id.* at 1279. The court held that prudential standing existed because Congress intended § 801 to facilitate construction of a

⁴ A coalition of industry groups (Edison Electric Institute, Utility Nuclear Waste Management Group, and U.S. Council for Energy Awareness) participated in the rulemaking at issue.

permanent nuclear waste repository and NEI's members' grievance with the challenged regulation fell within that zone. *Id.* at 1279-80.

In making that ruling, the court of appeals did not hold that NEI has standing under the NWPA generally or merely because some of its members would be harmed by delay in the Yucca Mountain repository. *See id.* To the contrary, the court of appeals' ruling regarding injury-in-fact was based on a specific record and a likely connection between the challenged regulation and harm to NEI's members. *See id.* Indeed, the causal nexus to delay was essentially undisputed, as the court noted the EPA said "virtually nothing about possible delays in the licensing process" as a consequence of the ground-water standard. *Id.* at 1279.

The court also made clear that its ruling on prudential standing was not a categorical endorsement of NEI's standing under the NWPA. The court cited the established principle that prudential standing is not based on "Congress's purposes in enacting the *overall* statutory scheme" *Id.* at 1280 (citing *Grand Council of the Crees v. FERC*, 198 F.3d 950 (D.C. Cir. 2000)) (emphasis in original). Rather, prudential standing depends on the "particular provision of law" upon which the claimant relies, there § 801 of the EnPA. *Id.* (citing *Bennett v. Spear*, 520 U.S. 154, 175-76 (1997)).

Unlike that case, the approach taken by DOE in the LA, which NEI complains about here, should expedite the licensing proceeding. It should give the NRC greater comfort with the LA since DOE can demonstrate that the repository will comply with regulatory standards even with these conservatisms, thereby facilitating the NRC's review.

NEI's contentions, in contrast, would create the opposite effect. Those contentions could delay the opening of the repository, because they could prolong the licensing proceeding and, if successful, require DOE to revise the analyses that support the LA, its plans for accepting and

transporting commercial SNF, and the configuration and designs for surface and subsurface facilities located within the GROA. Put simply, granting NEI standing could result in the very outcomes that NEI claims it wants standing to prevent.

Further, regarding prudential standing, NEI's Petition does not seek to enforce § 801 of the EnPA. NEI argues instead more generally that the NWPA was intended to address its members' disposal of spent nuclear fuel. That is an impermissible attempt to predicate standing on the overall purpose behind a statutory scheme, rather than a specific statutory provision. *NEI v. EPA* itself confirms that NEI cannot satisfy prudential standing on that basis. It certainly provides no basis for overriding the Commission's determination of the zone of interests pertinent to its licensing proceedings. *See Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999) (holding that NRC was entitled to treat economic harm as outside the zone of interest that would provide standing in a licensing proceeding under the AEA, even though that might confer standing in an Article III proceeding).

The court in *NEI v. EPA* granted NEI standing because of the potential economic costs to its members resulting from a delay in the licensing and opening of the Yucca Mountain repository. Economic harm, however, is not a basis for standing in this proceeding. Moreover, NEI's contentions could result in prolonging this proceeding and delaying the opening of the Yucca Mountain repository. Thus, NEI's participation in this proceeding would promote none of the objectives that provided the basis for standing in *NEI v. EPA*. Furthermore, *NEI v. EPA* contains no language that can be construed to support standing for NEI on the basis of safety issues.

2. Alleged Radiological Injuries at the Repository Do *Not* Establish NEI's Standing

NEI's Petition next bases its claim of standing on alleged radiological injuries that may

occur at the geologic repository at Yucca Mountain. *See* Petition at 5, n.5 (noting that over-design in certain respects of the proposed repository “would result in unnecessary occupational risks and radiological exposures at the repository site”). As an example, in the Affidavit of Rodney J. McCullum in support of NEI’s standing, Mr. McCullum states that the design of DOE’s proposed Surface Aging Facility with excessive seismic design requirements would “increase occupational exposures” at that facility site. McCullum Aff. ¶ 18.

Simply put, this basis for standing is insufficient because it does not demonstrate injury-in-fact to NEI’s members, the first requirement for standing. It does not demonstrate radiological or environmental harm to NEI members. Similarly, the affidavits from NEI’s members do not assert that its employees or its property might be directly affected by the potential release of radioactive materials from or at the geologic repository. Nor can these NEI members claim that radiological releases from or at the repository will have an impact upon their businesses which are at considerable distances from Yucca Mountain.

For these reasons, the Licensing Board should reject this basis for standing.

3. Alleged Radiological/Environmental Injuries at Reactor Sites Do *Not* Establish NEI’s Standing

Finally, NEI’s Petition bases its claim of standing on alleged radiological injuries to its members (the five companies who submitted affidavits) and its members’ employees at reactor sites or other locations outside the GROA. *See* Petition at 5 (noting alleged impacts of interim storage and disposal); McCullum Aff. ¶ 16 (stating that nuclear fuel storage involves small occupational radiological exposures). Regardless of whether the injuries are to its members or its members’ employees,⁵ potential injuries at sites outside of the GROA are governed by other

⁵ DOE notes that NEI has not fulfilled the requirements of representational standing for any employees of its members (*i.e.*, it has not shown that any employees are members of NEI who have authorized NEI to represent them). In any event, even if NEI had fulfilled those basic requirements of representational standing, the result

NRC licenses and regulations, and are outside the scope of this proceeding and therefore not a basis for standing. *See Shieldalloy Metallurgical Corp. (Cambridge, Ohio Facility) 49 NRC 347, 355 (1999)*(claimed injury that is outside the scope of the proceeding cannot be used to show causation or redressability, as these will not provide standing).

The alleged injuries outside the GROA are outside the scope of this proceeding because the NRC’s licensing authority in this construction authorization proceeding is “limited to the licensing of DOE to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area sited, constructed, or operated at Yucca Mountain, Nevada.” Proposed Rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 64 Fed. Reg. 8,640, 8,655 (Feb. 22, 1999). Any alleged radiological health and safety issues associated with the handling or storing of spent fuel at commercial reactor sites regulated under Part 50 or other locations outside the GROA are outside the scope of that proceeding and cannot provide the basis for denying or modifying the construction authorization. Accordingly, these alleged injuries are not redressible in this proceeding.⁶

For these reasons, NEI’s alleged radiological or safety issues at commercial reactor sites cannot be redressed in this proceeding or be used to show causation, and therefore, do not support NEI’s claim for standing.

would not change. Because the injuries being alleged are outside of the GROA, they are, as explained above, outside the scope of this proceeding and therefore cannot, as a matter of law, be a basis for standing.

⁶ One NEI member company claims that it will be injured because of issues with the design of fuel canisters. Affidavit of Dhiaa M. Jamil, ¶ 6. This appears to be a reference to the casks that will be used to transport the waste and their alleged potential to leak. *See id.* Certification of the design of the casks, under 10 C.F.R. Part 71, is a separate and distinct process from this one. *See* 42 U.S.C. § 10175. As noted above, because the cask design is outside the scope of this proceeding, this injury does not demonstrate causation, is not redressable in this proceeding, and cannot be used to show standing.

C. DOE's Answer Regarding Discretionary Intervention

In addition to failing to demonstrate that it is entitled to standing as of right, NEI has failed to meet its burden of showing that it should be granted discretionary intervention (*i.e.*, that the factors in favor of intervention outweigh those against intervention). As previously noted, of the six factors, primary consideration is given to the first factor—the extent to which a petitioner can be reasonably expected to assist in developing a sound record. *See Portland Gen. Elec. Co.*, CLI-76-27, 4 NRC at 616. While the first factor is the most important of the factors in favor of granting discretionary intervention to be considered, the sixth factor, the potential to inappropriately broaden or delay the proceeding, is the most important of the factors weighing against intervention. Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2201 (Jan. 14, 2004). Here, as will be demonstrated below, these two primary factors weigh heavily against granting NEI discretionary intervention.

An additional consideration for the Board to consider, that also weighs against NEI's request, is that discretionary intervention has been granted by NRC tribunals sparingly. *See, e.g., Va. Elec. & Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-363, 4 NRC 631, 633 (1976) (finding the petitioner “well equipped to make a ‘genuinely significant’ contribution” on the safety issue in question—integrity of steam generator and reactor coolant pump supports—because it had fabricated the supports for the facility in question and sought to present related design and construction information); *see also Andrew Siemaszko*, CLI-06-06, 63 NRC 708, 716-717 (2006) (Commission notes that discretionary intervention is an extraordinary procedure and only eight petitions have ever been granted, without reversal, during the thirty years the six factor test has been applied); Final Rule, “Changes to Adjudicatory Process,” 69 Fed. Reg. 2182, 2201 (Jan. 14, 2004) (“discretionary intervention is an extraordinary procedure, and will not be allowed unless there are compelling factors in favor of such intervention”).

Because NEI's ultimate position is that it favors NRC granting construction authorization, NEI does not present a compelling basis for exercise of this extraordinary relief. There are already a large number of petitioners raising an extensive number of contentions. The NRC has a rigorous statutory schedule for resolving these contentions. Adding another participant in that proceeding should be allowed only upon a very compelling showing which NEI has failed to make.

First, there is no evidence in NEI's Petition that its participation in this proceeding will assist, in some significant manner, the development of a sound record. *See* 10 C.F.R. § 2.309(e)(1)(i). To be granted discretionary intervention, a petition must "show [a] significant ability to contribute on substantial issues of law or fact which will not otherwise be properly raised or presented . . ." *Portland Gen. Elec. Co.*, CLI-76-27, 4 NRC at 617. Furthermore, "[i]f the Board cannot identify specific contributions it expects from Petitioners, then the Board should deny their request to intervene as parties, absent other 'compelling' factors favoring intervention." *Andrew Siemaszko*, CLI-06-06, 63 NRC at 722.

NEI claims it will "provide direct, substantive expertise on [areas where NEI seeks to participate]. . ." but fails to describe that expertise and fails to assert how the record will be deficient without such participation. Furthermore, it states that it will provide experts on repository safety "drawn from NEI staff, the staff of its members' organizations, and NEI contractors . . ." Petition at 7. NEI does not, however, provide the identities or qualifications of any purported experts it will present, or explain why DOE's expert analyses are not sufficient. Based on the record before it, the Board cannot conclude that NEI will significantly contribute to the creation of a sound record.

Moreover, this factor and the sixth factor (whether NEI's participation will inappropriately broaden the issues before the Board), heavily weigh against granting NEI's request for discretionary intervention (meaning that even a compelling showing on the other four factors, which NEI does not make, cannot overcome this deficiency).

Second, the nature of NEI's property, financial or other interests in the proceeding does not favor allowing intervention. *See* 10 C.F.R. § 2.309(e)(1)(ii). In an attempt to demonstrate that factor two weighs in its favor, NEI vaguely states that "[u]sed fuel storage and disposal are important operational, safety, and financial issues for nuclear operators and former operators." Petition at 8. While this statement is true, its nexus to this proceeding is too vague and broad. *See Yankee Atomic Elec. Co. (Yankee Nuclear Power Station)*, LBP-98-12, 47 NRC 343, 358 (1998).

In addition to the general statements set forth above, NEI makes the following statements, which assert interests outside the scope of the proceeding, in support of this factor:

- "[R]emoval of used fuel from the present interim storage locations will facilitate decommissioning of power reactor sites at the end of plant operation, expediting unrestricted release of the sites for future beneficial uses." Petition at 8.
- "NEI's members have a direct interest in the prudent use of expenditures from the Nuclear Waste Fund." *Id.*

An issue outside the scope of the proceeding is insufficient to support a grant of discretionary intervention. *Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2)*, LBP-78-11, 7 NRC 381, 388 (1978). As previously noted, the NRC's licensing authority in this construction authorization proceeding is "limited to the licensing of DOE to receive and possess source, special nuclear, and byproduct material at a geological repository operations area [{"GROA"}] sited, constructed, or operated at Yucca Mountain, Nevada." 64 Fed. Reg. at 8655. As such, issues like the ones asserted by NEI dealing with reactor sites governed by Part 50, as well as

issues dealing with use of expenditures from the Nuclear Waste Fund, are outside the scope of this proceeding.

Third, to show the possible effect of an NRC decision on its members' interests, per 10 C.F.R. § 2.309(e)(1)(iii), NEI merely states that “[a]ny decision or order that may be issued in this proceeding (whether favorable or adverse) will directly impact NEI’s members.” Petition at 8. As previously noted, the interests that NEI asserts are outside the scope of the proceeding. The fact that a decision by the Board will have an effect on interests of its members that are outside the scope of this proceeding does not support a grant of discretionary intervention. *See Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2)*, LBP-78-11, 7 NRC at 388.

Fourth, pursuant to 10 C.F.R. § 2.309(e)(2)(i), NEI must show “the [un]availability of other means whereby . . . [NEI’s] interests will be protected.” Although NEI does not clearly indicate the reason why it seeks to intervene in this proceeding in the section addressing this factor, earlier NEI makes clear that it wants to intervene because it “supports issuance of a license for the Yucca Mountain repository . . . [and wants to participate] as appropriate, on matters raised by other parties that oppose the project or aspects of the project.” Petition at 6. In other words, its interests coincide with DOE’s interests in this proceeding. Thus, its interests that are within the scope of this proceeding can be adequately represented by DOE.

Fifth, as explained above, DOE can be expected to adequately represent the interests of NEI in licensing the Yucca Mountain repository per 10 C.F.R. § 2.309(e)(2)(ii). DOE and NEI share an interest in minimizing further delays in DOE’s acceptance of SNF from NEI’s members. To the extent NEI and DOE’s interests diverge, based upon NEI’s Petition, it is on issues outside of the scope of this proceeding. Sixth, NEI’s participation would broaden the proceeding per 10 C.F.R. § 2.309(e)(2)(iii), as its interests are, as explained above, outside the

scope of this proceeding. Furthermore, its contentions are contrary to all the other petitioners' positions (and based upon the novel theory that alleges that DOE should have used more relaxed standards in designing the Yucca Mountain repository). As a result, admitting NEI would clearly broaden the scope of the proceeding and introduce novel and vague theories.

As shown above, NEI has failed to demonstrate standing to intervene in this proceeding and has failed to meet the requirements for discretionary intervention. This proceeding is not the proper forum to litigate disagreements between DOE and NEI over matters outside the scope of this proceeding. Therefore, NEI's Petition must be denied.

IV. ADMISSIBILITY OF CONTENTIONS

A. Applicable Legal Standards and Relevant NRC Precedent

1. Petitioner Must Submit at Least One Admissible Contention to be Admitted as a Party

To be admitted as a party in the Yucca Mountain licensing proceeding, a petitioner must proffer at least one admissible contention. *See* 10 C.F.R. §§ 2.309(a), 2.309 (d)(2)(iii). The NRC will deny a petition to intervene from a petitioner who has complied with the LSN requirements and has demonstrated standing to intervene, but who has not proffered at least one admissible contention. *See generally, Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 5 (2001). As the Commission has observed, “[i]t is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of this proceeding.” *Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-14, 48 NRC 39, 41 (1998). “A contention’s proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions.” *Statement of*

Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 (1998). Finally, “government entities seeking to litigate their own contentions are held to the same pleading rules as everyone else.” *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 568 (2005).

2. Petitioner in this Proceeding Has a Heightened Obligation to Proffer Well Pled and Adequately Supported Contentions Given the Availability of the LSN

As the Commission has noted, this proceeding involves a number of “unique facts and circumstances” —one of those being the development of the LSN as a substitute for traditional document discovery. In developing this system, the NRC sought both to streamline the discovery process *and* to facilitate submittal of well-pled contentions:

Another efficiency the [LSN] provides is reducing the effort consumed in carrying out document discovery and allowing more effort to be spent in case preparation. Because access to these documents is provided *before* the application is docketed, each party can focus on formulating meaningful contentions before the licensing hearing begins. *There should be no excuse for poorly crafted contentions, and the licensing board can reduce hearing delays by readily rejecting or otherwise disposing of unfocused or unsupported contentions.* Likewise, the [LSN] rule places tighter restrictions on amending or adding contentions late in the hearing processes because the [LSN] affords the parties an opportunity to raise and resolve issues earlier than what traditionally has been possible.

SECY-95-153, Memorandum from James M. Taylor, Executive Director of Operations, to the Commissioners, “Licensing Support System Senior Management Team Recommendations on Direction of the Licensing Support System,” June 14, 1995, *available at* LEGACY ADAMS Accession No. 9506280652 (emphasis added).

In issuing the final LSN rule nearly a decade later, the Commission noted that “the history of the LSN and its predecessor . . . makes it apparent it was the Commission’s expectation that the LSN, among other things, would provide potential participants with the

opportunity to frame focused and meaningful contentions” and avoid potential discovery-related delays. Final Rule, Licensing Proceeding for a High-Level Radioactive Waste Geologic Repository: Licensing Support Network, Submissions to the Electronic Docket, 69 Fed. Reg. 32,836, 32,843 (June 14, 2004) (Final Rule, LSN, Submissions to the Electronic Docket). The Commission added that “[t]hese objectives are still operational.” *Id.* In fact, in a recent adjudicatory order related to this proceeding, the Commission reaffirmed these objectives:

The use of the LSN was intended, among other things, to “enabl[e] the comprehensive and early review of the millions of pages of relevant licensing material by the potential parties to the proceeding, so as to permit the earlier submission of better focused contentions resulting in a substantial saving of time during the proceeding.”

U.S. Dep’t of Energy, CLI-08-12, 67 NRC __ (slip op. at 8).

And in fact, DOE’s production of documentary material on the LSN fulfilled those objectives. DOE first made documentary material available on the LSN in 2004, when it publicly released approximately 1.3 million documents. Transcript of Record at 540, *U.S. Dep’t of Energy* (High-Level Waste Repository: Pre-Application Matters), ASLBP No. 04-8239-01-PAPO (July 12, 2005). DOE made another 2.1 million documents publicly available on the LSN in April, 2007—more than a year before it submitted the LA. Policy Issue Information Memorandum, SECY-07-0130, August 7, 2007, *available at* ADAMS No. ML071930440 at 5. DOE regularly added documents to the LSN each month thereafter, and in October, 2007, DOE certified that all its extant documentary material was available on the LSN. The Department of Energy submitted its Certification of Compliance on October 19, 2007. DOE has since then updated its LSN production each month with new documentary material that it has generated, received, or identified. *See e.g.*, The Department of Energy’s Certification of Licensing Support Network Supplementation (November 1, 2007); *see also* Revised Second Case Management

Order, ASLBP No. 04-829-01-PAPO (July 6, 2007) at 21 (requiring monthly supplemental production on LSN of documentary material created or discovered after party’s initial LSN certification).

Altogether, DOE has made more than 3.5 million documents available on the LSN. *U.S. Dep’t of Energy* (High-Level Waste Repository: Pre-Application Matters), LBP-08-01, 67 NRC __ (slip op. at 11) (January 4, 2008) (stating that “it is not disputed that DOE has made available a massive amount of documentary material—3.5 million documents, amounting to over 30 million pages, including redacted versions of some privileged documents and privilege logs for hundreds of others.”). That production includes documents that DOE cites and relies upon in the LA. It includes extensive underlying calculations, data, and other material on which those documents are based. Further, as required by regulation, it also includes documents with information that does not support the information DOE intends to cite or rely upon in the licensing proceeding. 10 C.F.R. § 2.1001 (definition of “documentary material”).

DOE’s extensive production substantially heightens NEI’s ability—and *its corresponding obligation*—to proffer focused and adequately supported contentions in this proceeding. As the Commission observed in rejecting a challenge to DOE’s initial LSN certification, “potential parties had access to millions of DOE documents upon which to begin formulating meaningful contentions” during the period following that certification, as contemplated by the Commission’s regulations. *U.S. Dep’t of Energy*, CLI-08-12, 67 NRC __ (slip op. at 9). Indeed, because of DOE’s early production of documentary material on the LSN starting 4 years before LA submittal, every potential party has had an even greater opportunity than the regulations contemplate to use those materials to develop contentions.

Based on the above circumstances, NEI must be held to a particularly heightened burden to proffer well-pled and adequately supported contentions. NEI is a well-positioned participant that has had the legal and technical resources to review DOE's documentary material to develop contentions.

3. Proffered Contentions Must Meet All of the Contention Admissibility Requirements of 10 C.F.R. § 2.309(f)(1) as Well as the Requirements of the Applicable June 20, 2008 and September 29, 2008 Case Management Orders

Section 2.309(f)(1) requires a petitioner to “set forth with particularity the contentions sought to be raised,” and to satisfy the following six criteria: (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 licensing action that is the subject of the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(i)-(vi). *A failure to comply with any one of the six admissibility criteria is grounds for rejecting a proffered contention. See* Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2221 (emphasis added); *see also* *Private Fuel Storage L.L.C.*, CLI-99-10, 49 NRC at 325.

The purpose of these six criteria is to “focus litigation on concrete issues and result in a clearer and more focused record for decision.” Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2202. The current contention admissibility standards are “strict by design,” *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *recons. denied*, CLI-02-1, 55 NRC 1 (2002), and were intended to “raise

the threshold for the admission of contentions.” Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168 (Aug. 11, 1989); *see also Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999). As explained above, the availability of the LSN further raises this threshold for the admission of a contention in this proceeding. In revising its Part 2 rules in 2004, the Commission reiterated that the standards are “necessary to ensure that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues.” Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2189-90 (stating that the NRC “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”); *id.* at 2202.

Strict application of these contention admissibility criteria in this proceeding is critically important. The vast number of contentions submitted and the “rigorous schedule” imposed by the NWPA and Appendix D to Part 2 present unprecedented challenges to the conduct of a timely, effective, and focused adjudication. Recognizing these challenges, the Advisory PAPO Board, with the Commission’s express approval, issued its Case Management Order “to help both potential parties and licensing boards address the admissibility of contentions in any HLW proceeding effectively and efficiently.” *U.S. Dep’t of Energy* (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), LBP-08-10, 67 NRC __ (slip op. at 3) (June 20, 2008) (Case Management Order).⁷ That Order imposes numerous format requirements for proffered contentions. Failure to adhere to these format requirements may provide an additional

⁷ A second case management order was issued. *See U.S. Dep’t of Energy* (Regarding Contention Formatting and Tables of Contents), LBP-08-10, 67 NRC __ (Sept. 29, 2008).

basis for rejection of proffered contentions should a potential party significantly and in bad faith ignore these requirements. *Id.* at 3, 5-9.

The six contention admissibility criteria set forth in § 2.309(f)(1), and the related pleading requirements contained in the Case Management Order, are discussed further below.

a. Petitioner Must Specifically State the Issue of Law or Fact to Be Raised

Section 2.309(f)(1)(i), the first admissibility criterion, requires that a petitioner “provide a specific statement of the issue of law or fact to be raised or controverted,” by “articulat[ing] at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party].” *Duke Energy Corp.*, CLI-99-11, 49 NRC at 338. To be admissible, a contention “must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application].” *Dominion Nuclear Conn., Inc.*, CLI-01-24, 54 NRC at 359-60. Section 2.309(f)(1)(i) “bar[s] contentions where petitioners have only ‘what amounts to generalized suspicions, hoping to substantiate them later.’” *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 424 (2003) (quoting *Duke Energy Corp.*, CLI-99-11, 49 NRC at 337-39). Elaborating further on this requirement, the June 20, 2008, Case Management Order for this proceeding requires “narrow, *single-issue* contentions” that are “sufficiently specific as to define the relevant issues for eventual rulings on the merits, and not require” extensive narrowing or clarification by the parties or boards. *U.S. Dep’t of Energy*, LBP-08-10, 67 NRC __ (slip op. at 6) (emphasis added).

b. Petitioner Must Briefly Explain the Basis for the Contention

Section 2.309(f)(1)(ii) requires that a petitioner provide “a brief explanation of the basis for the contention.” *See also* Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170. This includes “sufficient foundation” to

“warrant further exploration.” *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 428 (1990) (footnote omitted). A petitioner’s explanation serves to define the scope of a contention, as “[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases.” *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988), *petitions denied in part, granted in part, Mass. v. Nuclear Regulatory Comm’n*, 924 F.2d 311 (D.C. Cir. 1991), *cert. denied*, 502 U.S. 899 (1991). The Board, however, must determine the admissibility of the contention itself, not the admissibility of individual “bases.” *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 379 n.45 (2002).

c. Petitioner Must Demonstrate that the Issue Raised in the Contention is Within the Scope of the Proceeding

Section 2.309(f)(1)(iii) requires that a petitioner demonstrate “that the issue raised in the contention is within the scope of the proceeding.” The scope of the proceeding is defined by the Commission’s Notice of Hearing and the NRC regulations governing review and approval of the Application. *See, e.g., Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985). Contentions are necessarily limited to issues that are germane to the specific application pending before the Board. *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204 n.7 (1998). Any contention that falls outside the specified scope of this proceeding—as discussed further below—must be rejected. *See, e.g., Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 NRC 631, 639 (2004).

As an initial matter, it should be noted that NEI’s contentions have a common theme. That is, NEI disagrees with elements of DOE’s proposed action that is the subject of the license application and the related NEPA documents. This proceeding, however, is not a forum to

debate the comparative merits of DOE's proposed action and NEI's preferred alternatives. Rather, the focus of this proceeding is whether DOE's proposed action complies with applicable regulatory requirements and whether the related NEPA documents adequately analyse the environmental impacts of DOE's proposed action.

A contention that challenges an NRC rule is outside the scope of this proceeding because, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding...." 10 C.F.R. § 2.335(a). This includes contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking. *See Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4)*, LBP-01-6, 53 NRC 138, 159 (2001), *aff'd on other grounds*, CLI-01-17, 54 NRC 3. For instance, any direct or indirect challenge to the current EPA standard or NRC implementing rule is a collateral attack and is outside the scope of the proceeding.

In addition, any contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must also be rejected by the Board as outside the scope of the proceeding. *Carolina Power & Light (Shearon Harris Nuclear Power Plant Units 1)*, LBP-07-11, 65 NRC 41, 57-58 (citing *Philadelphia Elec. Co. (Peach Bottom Atomic Power Station, Units 2 and 3)*, ALAB-216, 8 AEC 13, 20 (1974)). Accordingly, a contention that simply states the petitioner's views about what the regulatory policy should be does not present a litigable issue. *See Philadelphia Elec. Co.*, ALAB-216, 8 AEC at 20-21, 21 n.33. Similarly, challenges to the adequacy of the NRC Staff's safety review process, including the contents of its SER, are outside the scope of this proceeding. "The NRC has not, and will not, litigate claims about the adequacy of the Staff's safety review in licensing adjudications."

AmerGen Energy Co., LLC (License Renewal for Oyster Creek Nuclear Generating Station), CLI-08-28, 68 NRC __ (slip op. at 13-14) (Nov. 6, 2008).

Furthermore, asserting that generalized “uncertainties” exist in postclosure models or data, without showing in any way, how or why those uncertainties call into question the conclusions reached by DOE, or findings the NRC must make in its review of the LA, is not a sufficient basis for an admissible contention. To merely assert the existence of such uncertainties, without specifying their impact on a finding NRC must make in its issuance of the construction authorization, amounts to an improper challenge to Part 63, which explicitly recognizes that such uncertainties exist and cannot be eliminated. The Commission, in the Statements of Consideration accompanying Part 63, expressly rejected requests made by several commenters to define an acceptable level of uncertainty in Part 63, finding it “neither practical nor appropriate.” Final Rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, NV, 66 Fed. Reg. 55,732, 55,747-748 (Nov. 2, 2001). The Commission “decided to adopt EPA's preferred criterion of ‘reasonable expectation’ for purposes of judging compliance with the postclosure performance objectives [since] ... a standard of ‘reasonable expectation’ allows it the necessary flexibility to account for the inherently greater uncertainties in making long-term projections of a repository's performance.” *Id.* at 55,740. This flexibility encompasses consideration of the use, as appropriate, of cautious but reasonable approaches consistent with present knowledge in lieu of bounding or more conservative approaches. *See, e.g.*, 10 C.F.R. § 63.305(c).

The following examples from 10 C.F.R. § 63.101 are illustrative of the reasonable expectation standard:

- “Proof that the geologic repository will conform with the objectives for postclosure performance is not to be had in the ordinary sense of the word because of the uncertainties inherent in the understanding of the evolution”
- “[W]hat is required is reasonable expectation, making allowance for the ...uncertainties involved, that the outcome will conform with the objectives for postclosure....”
- “[D]emonstration of compliance must take uncertainties and gaps in knowledge into account so that the Commission can make the specified finding....”

10 C.F.R. § 63.304 describes the characteristics of reasonable expectation by stating that reasonable expectation:

- Requires less than absolute proof because absolute proof is impossible to attain for disposal due to the uncertainty of projecting long-term performance;
- Accounts for the inherently greater uncertainties in making long-term projections of the performance of the Yucca Mountain disposal system;
- Does not exclude important parameters from assessments and analyses simply because they are difficult to precisely quantify to a high degree of confidence; and
- Focuses performance assessments and analyses on the full range of defensible and reasonable parameter distributions rather than only upon extreme physical situations and parameter values.

Given the obligation of the Commission under section 801(b) of the Energy Policy Act of 1992 (EPACT) to modify its technical requirements and criteria under section 121(b) of the NWPA to be consistent with the radiological protection standards promulgated by the Environmental Protection Agency (EPA) under section 801(a) of EPACT, the proper application of the reasonable expectation standard must take into account the statements by EPA in promulgating the standards required by EPACT.⁸ These statements make clear that, while

⁸ See Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 66 Fed. Reg. 32,074, 32,101-03 (June 13, 2001) (section III.B.2.c titled “What Level of Expectation Will Meet Our Standards?”); see also Proposed Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 70 Fed. Reg. 49,014, 49,020-21 (Aug. 22, 2005) (section I.A.1.c titled “What is “Reasonable Expectation?”); Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 73 Fed. Reg. 61,256, 61,271-73 (Oct. 15, 2008) (section III.A.4 titled “How Did We Consider Uncertainty and Reasonable Expectation?”).

reasonable assurance and reasonable expectation are similar concepts, the evaluation of the Yucca Mountain repository requires a different level and type of technical proof than required for reactors and other situations licensed by NRC in the past.⁹ Reasonable expectation recognizes that, in the context of the Yucca Mountain repository, “unequivocal numerical proof of compliance is neither necessary nor likely to be obtained,”¹⁰ and while some “sources of uncertainty can be addressed, or at least accounted for while in other [data or model] areas our knowledge may be too limited to even characterize the uncertainty, much less explicitly account for it.”¹¹ Identifying postclosure uncertainties, without specifying their impact on whether the reasonable expectation standard is met, does not provide an adequate basis to admit a contention.

Therefore, in formulating its contentions, the initial burden is on the petitioner to explain the implications of alleged uncertainties and show why, if true, they exceed the range of acceptable (and unavoidable) uncertainties clearly reflected in the regulations, particularly the reasonable expectation standard set forth in 10 C.F.R. § 63.101. Any contention attempting to shift that burden to the applicant is an improper challenge to 10 C.F.R. § 2.309. *See Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Power Station)*, LBP-06-23, 64 NRC 257, 358-59 (2006). DOE’s responses to specific contentions identify where these pleading requirements have been violated.

Finally, as discussed, *infra*, contentions challenging DOE’s transportation of SNF and HLW to Yucca Mountain are also outside the scope of this proceeding.

⁹ See Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 66 Fed. Reg. at 32,101.

¹⁰ Proposed Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 70 Fed. Reg. at 49,021.

¹¹ Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 73 Fed. Reg. at 61,271, n.22.

d. Petitioner Must Demonstrate That Each Contention Raises a Material Issue

Section 2.309(f)(1)(iv) requires that a petitioner “[d]emonstrate 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.” Emphasis added. As the Commission has observed, “[t]he dispute at issue is ‘material’ if its resolution would ‘make a difference in the outcome of the licensing proceeding.’” *Duke Energy Corp.*, CLI-99-11, 49 NRC at 333-34; *see also* Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172. Thus, each contention must be one that, if proven, would entitle the petitioner to relief. *Yankee Atomic Elec. Co.* (Yankee Power Station), CLI-96-7, 43 NRC 235, 244 (1996). The Case Management Order states that this criterion “requires citation to a statute or regulation that, explicitly or implicitly, has not been satisfied by reason of the issue raised in the contention.” *U.S. Dep’t of Energy*, LBP-08-10, 67 NRC __ (slip op. at 7).

The “findings the NRC must make to support” the issuance of a construction authorization for a geologic repository are set forth in 10 C.F.R. § 63.31. To authorize construction of the repository, the NRC must determine that:

- there is reasonable assurance that the types and amounts of radioactive materials described in the application can be received and possessed in a geologic repository operations area of the design proposed without unreasonable risk to the health and safety of the public;
- there is reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public; and
- there is reasonable assurance that the activities proposed in the application will not be inimical to the common defense and security.

In short, the NRC must determine the validity of DOE’s conclusions concerning the ability of the repository design to limit exposure to radioactivity, both during the construction

and operation phase of the repository (*i.e.*, preclosure phase) and during the phase after the repository has been filled, closed, and sealed (*i.e.*, postclosure phase).

In making these determinations, the NRC must evaluate DOE's compliance with the applicable provisions of Part 63, including, among other things, whether DOE has described the proposed geologic repository as specified in § 63.21, and whether the site and design comply with the Part 63 performance objectives and requirements. Proposed safety contentions that fail to raise issues that are material to these findings are inadmissible. For example, Part 63 permits DOE to use probabilistic analyses to calculate potential postclosure radiation doses, 10 C.F.R. § 63.102(j), and to report those doses as *mean* doses. *See* 10 C.F.R. § 63.303. Therefore, contentions that either independently or cumulatively, fail to demonstrate an increase in the mean dose *above the regulatory limit* are immaterial and inadmissible because they would not "make a difference in the outcome of the licensing proceeding." *Duke Energy Corp.*, CLI-99-11, 49 NRC at 333-34.

e. Petitioner Must Demonstrate that Each Contention is Supported by Adequate Factual Information and/or Expert Opinion

Section 2.309(f)(1)(v) requires a petitioner to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so requires the Board to reject the contention. *See also Yankee Atomic Elec. Co.*, CLI-96-7, 43 NRC at 262 (in referencing 10 C.F.R. § 2.714, the predecessor to 10 C.F.R. § 2.309, the Commission stated that petitioners must present "claims rooted in fact, documents, or expert opinions"). A petitioner is "obligated to put forward and support contentions when seeking intervention, based on the application and information available" by examining the application and publicly available information. *Consumers Energy Co.*, CLI-07-18, 65 NRC at 414 n.46.

As explained above, the LSN heightens a petitioner’s already “ironclad” obligation to furnish adequate support because “early access to . . . documents in an electronically searchable form [has] allow[ed] for a thorough and comprehensive technical review of the license application by all parties and potential parties to the HLW licensing proceeding.” Final Rule, LSN, Submissions to the Electronic Docket, 69 Fed. Reg. at 32,837. Thus, where a petitioner neglects to provide the requisite support for its contentions, the Board may not—and in this case absolutely should not—make assumptions of fact that favor the petitioner or supply information that is lacking. *See Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Unit Nos. 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

Vague references to documents are not permissible. A petitioner must identify specific portions of the documents on which it relies. *See Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-89-03, 29 NRC 234, 240-41 (1989). Moreover, the mere incorporation of massive documents by reference is unacceptable. *See Tenn. Valley Auth.* (Browns Ferry Nuclear Plant, Units 1 and 2), LBP-76-10, 3 NRC 209, 216 (1976). Consistent with these requirements, the Case Management Order directs petitioners to ensure that documentary references “be as specific as reasonably possible.” *U.S. Dep’t of Energy*, LBP-08-10, 67 NRC __ (slip op. at 7). Additionally, it requires that supporting documents (with the exception of readily available legal authorities, copyright-restricted material, and LSN documentary material), be electronically attached to the petition. In citing LSN documents, petitioners must include the LSN accession number as well as the title, date, and relevant pages of the document.

A petitioner also must explain the significance of any factual information upon which it relies. *See Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 204-05 (2003). With respect to factual information or expert opinion proffered in support of a contention, “the

Board is not to accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention.” *Private Fuel Storage* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181 (1998), *aff’d on other grounds*, CLI-98-13, 48 NRC 26. Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.” *See Yankee Atomic Elec. Co.*, LBP-96-2, 43 NRC 61, 90 (1996), *rev’d in part on other grounds and remanded*, CLI-96-7, 43 NRC 235 (1996). The Board should examine documents to confirm that they support the proposed contention(s). *See Vt. Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-04, 31 NRC 333 (1990). A petitioner’s imprecise reading of a document cannot be the basis for a litigable contention. *See Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-6, 41 NRC 281, 300 (1995).

Furthermore, “an expert opinion that merely states a conclusion (e.g., the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing a *reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion” alleged to provide a basis for the contention. *See USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181). Conclusory statements cannot provide “sufficient” support for a contention, simply because they are proffered by an alleged expert. *See USEC*, CLI-06-10, 63 NRC at 472. In summary, a contention “will be ruled inadmissible if the petitioner ‘has offered no tangible information, no experts, no substantive affidavits’, but instead only ‘bare assertions and speculation.’” *Fansteel*, CLI-03-13, 58 NRC at

203 (quoting *Gen. Pub. Utils. Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-06, 51 NRC 193, 208 (2000)).

f. Petitioner Must Demonstrate that the Contention Raises a Genuine Dispute With Respect to a Material Issue of Law or Fact

With regard to the final requirement, that a petitioner “provide sufficient information to show . . . a genuine dispute . . . with the applicant . . . on a material issue of law or fact,” 10 C.F.R. § 2.309(f)(1)(vi), the Commission has stated that the petitioner must “read the pertinent portions of the license application, . . . state the applicant’s position and the petitioner’s opposing view,” and explain why it disagrees with the applicant. Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Dominion Nuclear Conn., Inc.*, CLI-01-24, 54 NRC at 358.

In claiming that the Application fails to address adequately a material issue, a petitioner must “explain why the application is deficient.” Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Ariz. Pub. Serv. Co.*, CLI-91-12, 34 NRC at 156. An allegation that some aspect of a license application is “inadequate” or unacceptable does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect. *See Fla. Power & Light Co.* (Turkey Point Plant, Unit Nos. 3 and 4), LBP-90-16, 31 NRC 509, 521, 521 n.12 (1990). Put another way, a contention that does not *directly controvert a position taken by the applicant in the application* is subject to dismissal. *See Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992) (emphasis added). For example, if a petitioner submits a contention of omission, but the allegedly missing information is, in fact, contained in the license application, then the contention does not raise a genuine dispute.

4. Environmental Contentions Addressing DOE’s Final Environmental Impact Statement and its Supplements Must Also Meet the Requirements of 10 C.F.R. § 51.109 and 10 C.F.R. § 2.326

In its Hearing Notice, the Commission reaffirmed that proposed environmental contentions are subject to substantially heightened admissibility standards.¹² In addition to the NRC’s contention admissibility requirements in 10 C.F.R. § 2.309(f), environmental contentions must also meet the requirements of 10 C.F.R. § 51.109 and the requirements of 10 C.F.R. § 2.326. These two sections impose the following admissibility standards on environmental contentions:

1. Contentions must allege that it is not practicable to adopt the DOE EIS for one of two reasons:

“(1)(i) The action proposed to be taken by the Commission differs from the action proposed in the license application submitted by [DOE]; and (ii) the difference may significantly affect the quality of the human environment;¹³ or

(2) Significant and substantial new information or new considerations render such [EIS] inadequate.” 10 C.F.R. § 51.109(c).
2. The contention must address a “significant” environmental issue. 10 C.F.R. § 2.326(a)(2).

¹² In February of 2002, DOE issued the *Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250F, February 2002) (2002 FEIS). On April 8, 2004, DOE announced in a Record of Decision (2004 ROD) the selection of the mostly rail alternative analyzed in the 2002 FEIS for transporting spent nuclear fuel and high-level radioactive waste nationally and within Nevada. 69 Fed. Reg. 18,557. DOE also announced in the 2004 ROD that it had selected the Caliente rail corridor in which to examine possible alignments for construction of a rail line in Nevada. In July 2008, DOE issued the *Final Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250F-S1) (Repository SEIS), the *Final Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada – Nevada Rail Transportation Corridor* (DOE/EIS-0250F-S2) (Nevada Rail Corridor SEIS), and the *Final Environmental Impact Statement for a Rail Alignment for the Construction and Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0369) (Rail Alignment EIS). On October 10, 2008, DOE issued a Record of Decision (2008 ROD) announcing its decision to construct and operate a railroad along a rail alignment within the Caliente corridor. 73 Fed. Reg. 60,247.

¹³ Because the action proposed to be taken by the NRC does not differ from the action proposed in DOE’s application, this first factor has no relevance to this proceeding and will not be discussed further.

3. The contention must demonstrate that, if true, “a materially different result would be or would have been likely” 10 C.F.R. § 2.326(a)(3).
4. The contention must be supported by affidavits that set forth the factual and/or technical basis for the movant’s claims and must be given by competent individuals with knowledge of the facts or by experts in the appropriate disciplines. 10 C.F.R. § 2.326(b).¹⁴

To present an admissible NEPA contention, a petitioner cannot simply repeat the comment it made to DOE on the draft, but must demonstrate, through affidavits that comply with the requirements of 10 C.F.R. §§ 51.109 and 2.326, why the EIS, including DOE's response to the comment, fails to comply with NEPA. *City of Los Angeles v. National Highway Traffic Safety Admin.*, 912 F.2d 478, 488 (D.C. Cir. 1990) (simple disagreement with an agency's findings or its methods is not sufficient to render an EA [or EIS] inadequate under NEPA). Accordingly, a potential intervenor must demonstrate that DOE has failed to take a "hard look" at environmental consequences. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n. 21 (1976). An EIS is adequate under this standard if it "contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences." *Churchill County v. Norton*, 276 F.3d 1060, 1071 (9th Cir. 2001); *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992).

These additional admissibility standards are discussed in greater detail below.

a. The 10 C.F.R. § 51.109 Criteria

Given the *sui generis* nature of this proceeding, neither the Commission nor its boards have applied § 51.109 in the context of an adjudication. Nevertheless, existing Commission decisions and federal caselaw under NEPA provide guidance with respect to how the criteria under § 51.109 should be applied in this proceeding.

¹⁴ In addition, evidence in the affidavits must meet NRC admissibility standards and each criteria in 10 C.F.R. § 2.326 must be addressed separately.

First, the Commission has made clear that its adjudicatory boards should not “automatically assume” that a proffered environmental contention—though cognizable as a “new consideration” under the D.C. Circuit’s decision in *NEI*—contains “significant and substantial information” that, if true, would render the DOE EIS and its supplements “inadequate” under NEPA. Letter from Bradley W. Jones, Esq., Assistant Gen. Counsel, U.S. Nuclear Regulatory Comm’n, to Martin G. Malsch, Esq., “Request By Nevada For Reconsideration and Clarification of Notice of Denial,” March 20, 2008, *available at* ADAMS Accession No. ML080810175 (Jones Letter). This approach is consistent with well-established NEPA principles, as applied by the federal courts, under which reviewing courts have held that the identification of a deficiency in an EIS does not necessarily render that EIS “inadequate.” For example, the D.C. Circuit so held in denying Nevada’s challenge to the transportation-related portions of DOE’s 2002 FEIS. *Nevada v. Dep’t of Energy*, 457 F.3d 78, 93 (D.C. Cir. 2006) (rejecting alleged inadequacies in the FEIS relating to environmental impacts on cultural resources, floodplains and archaeological and historic impacts and stating “we do not think that the inadequacies to which Nevada points make the FEIS inadequate” or render DOE’s selection of the Caliente Corridor “arbitrary and capricious.”). The D.C. Circuit in this prior proceeding emphasized that courts “will not ‘flyspeek’ an agency’s environmental analysis, looking for any deficiency no matter how minor.” *Id.* (citing *Fuel Safe Wash. v. Fed. Energy Regulatory Comm’n*, 389 F.3d 1313, 1323 (10th Cir. 2004); *Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci*, 857 F.2d 505, 508 (9th Cir. 1988)).

The Commission, for its part, has indicated that this same standard applies in its licensing proceedings. As the Commission explained:

NEPA’s twin goals are to inform the agency and the public about the environmental effects of a project. At NRC licensing hearings, petitioners may raise contentions seeking correction of *significant inaccuracies and omissions* in the [applicant’s environmental

report (“ER”) or agency’s EIS]. Our boards do not sit to ‘flyspeck’ environmental documents or to add details or nuances. If the ER (or EIS) on its face “comes to grips with all important considerations” nothing more need be done.¹⁵

Sys. Energy Res., Inc. (Early Site Permit for Grand Gulf Site), CLI-05-4, 61 NRC 10, 13 (2005) (quoting *Hydro Res., Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 71)) (emphasis added). A petitioner’s claim must “suggest *significant environmental oversights* that warrant further inquiry at an evidentiary hearing.” *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 811 (2005) (emphasis added). Thus, as the D.C. Circuit recognized in *Nuclear Energy Inst., Inc. v. Env’tl. Protection Agency*, there must be significant “substantive defects” in the FEIS and its supplements. 373 F.3d 1251, 1314 (D.C. Cir. 2004) (*NEI*).

Under NEPA, an EIS is not inadequate merely because a reviewing court or other adjudicatory tribunal might have reached a different conclusion. As the U.S. Supreme Court has explained, “[n]either the statute nor its legislative history contemplates that a court should substitute its judgment for that of the agency as to the environmental consequences of its actions.” *Kleppe*, 427 U.S. at 410 n.21. The NRC has indicated that it would adhere to this same tenet in deciding whether to adopt DOE’s EIS. Specifically, in promulgating 10 C.F.R. § 51.109, the NRC stated that “the adoption of the [DOE] statement does not necessarily mean that NRC would independently have arrived at the same conclusions on matters of fact or policy.”

Proposed Rule, NEPA Review Procedures for Geologic Repositories for High-Level Waste,

¹⁵ See also *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 424, 431 (2003) (“NRC adjudicatory hearings are not EIS editing sessions. Our busy boards do not sit to parse and fine-tune EISs.”). The Commission’s admonition against the “flyspecking” and “fine-tuning” of EISs is particularly apt here, given that DOE has “primary responsibility” for consideration of environmental matters under the NWP. Final Rule, NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed. Reg. 27,864, 27,865 (July 3, 1999) (codified at 10 C.F.R. § 51.109). In contrast, under the NWP, the NRC’s NEPA-related responsibility in this proceeding is limited to determining whether adoption of DOE’s EIS, as supplemented, is “practicable.” *Id.*

53 Fed. Reg. 16,131, 16,142 (May 5, 1988). Thus, in accordance with 10 C.F.R. § 51.109(d), insofar as the presiding officer determines that NRC adoption of DOE’s EIS is “practicable” under § 51.109(c), “such adoption shall be deemed to satisfy all responsibilities of the Commission under NEPA and no further consideration under NEPA or this subpart shall be required.”

In this proceeding, DOE submits that boards should apply § 51.109 consistent with the above referenced well established NEPA caselaw and decisions of the Commission.

b. The 10 C.F.R. § 2.326 Criteria and Procedures

Section 51.109(a)(2) directs the presiding officer, “to the extent possible,” to use the “criteria and procedures that are followed in ruling on motions to reopen under § 2.326.” In its Hearing Notice, the Commission reiterated that a presiding officer should, to the extent possible, apply the reopening procedures and standards set forth in § 2.326. *See* Hearing Notice, 73 Fed. Reg. at 63,031.

By explicitly directing presiding officers to use the criteria and procedures contained in § 2.326, the Commission reaffirmed its longstanding intent to avoid, in accordance with the NWPA, “the wide-ranging independent examination of environmental concerns that is customary in NRC licensing proceedings.” Proposed Rule, NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed. Reg. at 16,136; *see also* Final Rule, 54 Fed. Reg. 27,864, 27,865 (July 3, 1999) (codified at 10 C.F.R. § 51.109) (“[W]e believe it to be a fair reading of Congressional intent that NRC can adequately exercise its NEPA responsibility with respect to a repository by relying upon DOE’s environmental impact statement.”). Specifically, the Commission has noted that the test for reopening a closed record—the same test to be applied by the Board in ruling on the admissibility of environmental contentions in this proceeding—is a “stiff test” that imposes a “strict” burden. *Private Fuel*

Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-06-3, 63 NRC 19, 22, 25 (2006); *see also Fla. Power & Light Co.* (Turkey Point, Units 3 and 4), LBP-87-21, 25 NRC 958, 963-64 (stating that “a party seeking to reopen the record has a ‘heavy burden’ to bear”) (quoting *Ka. Gas and Elec. Co.* (Wolf Creek Station, Unit No. 1), 7 NRC 320, 338 (1978)). Parties seeking to reopen a closed record must raise a “significant” safety or environmental issue and demonstrate that “a materially different result [is] ‘likely’ as a result of the new evidence.” *Private Fuel Storage*, CLI-06-3, 63 NRC at 25. In applying this test, the Commission has further noted that “[n]ew information is not enough, *ipso facto*, to reopen a closed hearing record,” and that “the information must be significant and plausible enough to require reasonable minds to inquire further.” *Private Fuel Storage* (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 350 (2005).

The Commission has further noted that the supporting material required by § 2.326(b) “must be set forth with a degree of particularity *in excess of* the basis and specificity requirements contained in 10 C.F.R. [§ 2.309] for admissible contentions. Such supporting information must be more than mere allegations; it must be tantamount to evidence.” *Long Island Lighting Co.* (Seabrook Nuclear Power Station, Unit 1), CLI-89-1, 29 NRC 89, 93 (1989) (quoting *Pacific Gas and Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-775, 19 NRC 1361, 1366 (1984), *aff’d sub nom. San Luis Obispo Mothers for Peace v. U.S. Nuclear Regulatory Comm’n*, 751 F.2d 1287 (D.C. Cir. 1984), *aff’d on reh’g en banc*, 789 F.2d 26 (1986), *cert. denied*, 479 U.S. 923 (1986)). An intervenor’s mere “belief” is insufficient to satisfy § 2.326(b). *Fla. Power & Light Co.*, LBP-87-21, 25 NRC at 963.

In short, “the Commission expects its adjudicatory boards to enforce the [§ 2.326] requirements rigorously—*i.e.*, to reject out-of-hand reopening motions that do not meet those

requirements within their four corners.” *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 432 (1989) (citing *La. Power & Light Co.* (Waterford Steam Electric, Unit 3), CLI-86-1, 23 NRC 1 (1986); *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), CLI-86-7, 23 NRC 233 (1986), *aff’d sub nom. Ohio v. U.S. Nuclear Regulatory Comm’n*, 814 F.2d 258 (6th Cir. 1987)).

In the *Private Fuel Storage* decision (CLI-06-3) discussed above, the Commission applied the § 2.326 standard in ruling on a motion to reopen the record (after the Commission had rendered its final adjudicatory decision and authorized license issuance) to litigate a proposed environmental contention. The Commission’s ruling is illustrative and underscores the heavy burden imposed by § 2.326.¹⁶ For example, the Commission emphasized “the high threshold” for reopening a record as established by “longstanding regulations and precedent.” *Private Fuel Storage*, CLI-06-3, 63 NRC at 22. *See id.* at 25 (stating that the NRC does “not lightly reopen [its] adjudicatory proceedings”). The Commission found that the intervenor had failed to meet substantive and evidentiary requirements of § 2.326, stating that “we cannot say on the current record that a materially different result in our licensing proceeding is so ‘likely’ that we must reopen the adjudicatory proceeding for additional hearings and findings.” *Id.* at 26-27. Consequently, the Commission rejected the intervenor’s request that the entire project be placed on hold.

In the context of the Yucca Mountain proceeding, the requirement that the petitioner must demonstrate that a materially different outcome would likely result means that the contention, if

¹⁶ In recently denying a motion to reopen the record, the Commission emphasized the “deliberately heavy” burden associated with § 2.326. *See AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), CLI-08-28, 68 NRC __ (slip op. at 13-14) (Nov. 6, 2008) (“The burden of satisfying the reopening requirements is a heavy one, and proponents of a reopening motion bear the burden of meeting all of [these] requirements.”) (internal quotation marks and citations omitted).

true, would severely impact the EIS such that it could not be adopted unless formally supplemented by NRC or DOE.

In summary, given the considerably heightened admissibility standards applicable here, DOE submits that in this proceeding a presiding officer should admit *environmental* contentions in this proceeding only under very limited circumstances. Under 10 C.F.R. §§ 51.109(c) and 2.326, an environmental contention must present *evidence* concerning a “significant” environmental issue. Under those same provisions, that information must be so “substantial” as to demonstrate that the alleged inadequacy in the DOE EISs is “likely” to dictate a “materially different result.” As the Commission explained in *Private Fuel Storage*, this means that any “new information” proffered by a petitioner must present a “seriously different picture of the environmental landscape,” such that it would “be likely to change the outcome of the proceeding or affect the licensing decision in a material way.” CLI-06-3, 63 NRC at 19, 23.

5. Contention Subjects That Are Outside the Scope of, or Immaterial to the NRC’s Required Findings in, the Yucca Mountain Licensing Proceeding

As discussed above, a petitioner seeking admission of a proposed contention must, among meeting other requirements, demonstrate that the issue raised in the contention is within the scope of the proceeding and material to the findings that the NRC must make to support issuance of a repository construction authorization to DOE. A non-exclusive discussion of certain categories of contentions that clearly fall outside the proper scope of this proceeding and/or lack a material nexus to the Staff’s required findings is provided below.

a. Contentions Challenging Transportation of Spent Nuclear Fuel (SNF) and High Level Radioactive Waste (HLW) Are Beyond The Scope of This Proceeding

(1) The NRC has no regulatory authority over transportation of SNF or HLW.

Under the AEA and the ERA, NRC does not have regulatory authority over DOE's facilities and activities except as specifically provided by statute. 42 U.S.C. § 5851. Section 202 of the ERA provides the NRC with licensing and related regulatory authority over certain specific facilities of the DOE, including facilities for the disposal of SNF and HLW. 42 U.S.C. § 5842. However, neither section 202 of the ERA, nor the NWPA, nor any other statute provides NRC with authority over the transportation by DOE of SNF and HLW.

DOE's transportation of SNF or HLW therefore is not subject to NRC regulation and the NRC has recognized the limited scope of its regulatory authority. For example, in its discussion of proposed amendments to its regulations regarding GROA Security and Material Control and Accounting Requirements, the NRC explained that the rulemaking did not cover transportation of HLW to the GROA because "the NRC's regulatory authority is limited to the operations at a GROA." GROA Security and Material Control and Accounting Requirements, 72 Fed. Reg. 72,522, 72,527 (Dec. 20, 2007). DOE is required by the NWPA to use NRC certified casks for shipment of SNF or HLW to the repository.¹⁷ 42 U.S.C. § 10175. That certification, however, is

¹⁷ Similarly, in a May 10, 2002, response to a March 22, 2002, letter from Senator Richard Durbin, asking what role the NRC would play regarding transportation of spent fuel to Yucca Mountain, NRC Chairman Richard Meserve stated:

If DOE takes custody of the spent fuel at the licensee's site, *DOE regulations would control the actual spent fuel shipment*. Under such circumstances, the NRC's primary role in transportation of spent fuel to a repository would be certification of the packages used for transport.

* * *

As stated previously, if DOE takes custody to the spent fuel at the reactor site the only involvement NRC will have in the transport will be the certification of the transport cask.

separate and distinct from the repository licensing action being undertaken by the NRC under Part 63. The requirements for such a certification are set forth not in Part 63, but instead in 10 C.F.R. Part 71.

(2) Contentions challenging DOE’s Records of Decision concerning transportation of materials to Yucca Mountain are outside the scope of this proceeding and are within the original and exclusive jurisdiction of the Courts of Appeals.

In addition to the NRC’s lack of regulatory authority over transportation of SNF and HLW, under the NWPAs, any challenges to DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, section 114 of the NWPAs expressly provides that the United States Courts of Appeals shall have original and exclusive jurisdiction over any civil action for review of any final decision or action of the Secretary of Energy as well as of any civil action alleging the failure of the Secretary “to make any decision, or take any action, required under this subtitle.” 42 U.S.C. § 10139(a)(1)(C). Any such action must be initiated through a petition for review filed with a court of appeals within 180 days of the decision or action or failure to act involved. 42 U.S.C. § 10139(c).

Relevant to this proceeding, on October 10, 2008, DOE issued a Record of Decision (ROD) documenting DOE’s decision to construct a railroad in the State of Nevada in an alignment within the Caliente corridor along various segments together with various support facilities as detailed in the ROD. As discussed below, any challenge to the ROD accordingly

Letter from Richard Meserve, former Chairman of the NRC, to Sen. Richard Durbin at 2 (May 10, 2002), *available at* ADAMS Accession No. ML 21060662 (emphasis added). DOE’s plan is to take custody of the spent fuel at the reactor site.

must be initiated through a petition for review to a court of appeals—not through the NRC contention process.

In *Nevada v. DOE* and *NEI v. EPA*, the D.C. Circuit anticipated that DOE would in the future be issuing transportation related decisions. For example, in *NEI*, 373 F.3d at 1312, the Court stated:

Section 114(f)(4) of the NWPA provides, in relevant part, that the DOE’s FEIS “shall, to the extent practicable, be adopted by [NRC] in connection with the issuance by [NRC] of a construction authorization and license for such repository.” 42 U.S.C. § 10134(f)(4). To the extent NRC adopts the FEIS, NRC’s responsibilities under the National Environmental Policy Act shall be deemed satisfied and “no further consideration shall be required.” *Id.* In addition, *DOE is expected to use the FEIS to support one or more future decisions related to Yucca Mountain, including the selection of an alternative for transporting waste to the site.*

Emphasis added.

On April 8, 2004, DOE issued a ROD addressing transportation matters. Subsequently, following issuance of DOE’s April 8, 2004 ROD, Nevada filed a petition for review with the D.C. Circuit pursuant to section 114 of the NWPA seeking review of the ROD and the transportation-related portions of the 2002 FEIS on which it was based. The ROD announced DOE’s selection, both nationally and in Nevada, of the mostly rail scenario analyzed in the 2002 FEIS as the primary means of transporting SNF and HLW to the repository. The ROD also selected the Caliente rail corridor from several corridors considered in the 2002 FEIS as the corridor in which to study possible alignments for a rail line connecting the Yucca Mountain site to an existing rail line in Nevada. *See* ROD on Mode of Transportation and Nevada Fuel and High-Level Radiation Waste at Yucca Mountain, Nye County, NV, 69 Fed. Reg. 18,557 (Apr. 8, 2004). Nevada claimed that “in selecting a national transportation mode and Nevada rail

corridor for the movement of waste to Yucca, DOE violated NEPA and NEPA implementing regulations” and acted in an arbitrary and capricious manner and contrary to law. Petitioner’s Final Opening Brief at 2-4, *Nevada v. DOE*, 457 F.3d 78 (D.C. Cir. 2006) (No.04-1309).

The D.C. Circuit took jurisdiction of the State’s petition for review and rejected the State’s claims on their merits (with the exception of certain contingency plans which the court held were not ripe for review).¹⁸ The Court held, among other things, that DOE had taken the “requisite hard look” at the potential rail corridor environmental impacts and that “DOE’s analysis of the environmental impacts of rail corridor selection in its FEIS is adequate.” *Nevada*, 457 F.3d at 89-93. The D.C. Circuit also held that “[w]e summarily deny any claims not specifically addressed in this opinion,” which included all the issues raised in the State’s briefs. *Id.* at 94 n.10.

This decision is res judicata and the preclusive effect of this decision applies not only to those NEPA claims decided by the court of appeals but also to those which could have been raised. *W. Radio Servs. Co. v. Glickman*, 123 F. 3d 1189 (9th Cir. 1997) (concluding that “any cognizable claims should have been raised in *Western Radio I*, and are thus barred by res judicata”). Any party who failed to appeal would also be time barred pursuant to NWPA section 114(c) among other defenses. Further, as the Commission has recognized, a party does not have the option of postponing judicial review under section 114 of the NWPA, by instead trying to raise transportation-related environmental issues before the NRC. *See* Final Rule, NEPA Review Procedures for Geologic Repositories for High-Level Radioactive Waste, 54 Fed. Reg. at 27,866. In particular, the NRC rejected this approach when it was raised in comments to the proposed 10 C.F.R. § 51.109 in 1989. *See id.* In their comments to the Commission, certain

¹⁸ The Court of Appeals noted that “[a]lthough much of the FEIS concentrated on the Yucca site, it also analyzed alternatives for, and the ‘potential environmental consequences’ of, transporting nuclear waste from the many production sources throughout the country to the repository at Yucca.” *Nevada*, 457 F. 3d at 82.

environmental organizations stated that “affected parties may decide for reasons of litigative strategy” to raise environmental issues “in NRC licensing proceedings rather than by going to court.” *Id.* The Commission responded by stating that such a “unilateral decision” would “circumvent the clear policy of the NWPA....” *Id.*

The same path of review followed in 2004 is appropriate with respect to challenges to DOE’s transportation decisions set forth in the Department’s October 10, 2008 ROD. The fact that the NRC construction authorization proceeding, which is limited to activities at the GROA, now has commenced does not alter the requirement under section 114 of the NWPA that final DOE decisions must be appealed to the courts of appeals whose jurisdiction is “original and exclusive” over such matters. 42 U.S.C. § 10139(a)(1).

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, both as a result of the expiration of the 180-day period to challenge that ROD set forth in section 114 of the NWPA and as a result of the D.C. Circuit’s 2006 decision. Any challenges to DOE’s transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals.

(3) Consideration by NRC of transportation impacts under NEPA is limited.

Under section 114 of the NWPA, the Commission must adopt DOE’s FEIS to the extent practicable. In considering the environmental impacts of transportation decisions made by DOE, the role of the NRC here is similar to that adopted by the Commission in *Pub. Serv. Co. of N.H.*, (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 25 (1978), and affirmed by the court of appeals in *New England Coalition on Nuclear Pollution v. Nuclear Regulatory Comm’n*, 582

F.2d 87 (1st Cir. 1978). In that case, the petitioners argued that NEPA did not permit the NRC to adopt EPA findings made under the Federal Water Pollution Control Act (FWPCA) without an independent inquiry of the effects a proposed nuclear power plant would have on the aquatic environment. As the Commission noted, Congress had amended the FWPCA to avoid duplicative reviews, and left to the EPA the decision as to the water pollution control criteria to which a nuclear power plant's cooling system would be held. The NRC was not free to ignore considerations of aquatic impact; "it would have to consider them, but only as part of its overall 'balancing judgment' on whether it is in the public interest to grant the requested permit." *Pub. Serv. Co. of N.H.*, CLI-78-1, 7 NRC at 25. The NRC, further, could not "go behind" the EPA's determination. *Id.* at 26.

Similarly, in this proceeding, the NRC should decide whether to issue construction authorization for the repository given the transportation impacts as determined by DOE (and potentially as reviewed by the court of appeals). Accordingly, contentions challenging the accuracy or adequacy of DOE's NEPA analysis of the impacts of transporting SNF or HLW are not proper subjects for contentions in this proceeding.

b. Contentions Relating to the Proposal by DOE to Accept SNF in TADs Are Beyond The Scope of This Proceeding

Several of NEI's contentions relate to DOE's proposal to accept a substantial amount of commercial SNF for transportation and disposal in Transportation, Aging and Disposal canisters (TADs) rather than dual purpose canisters (DPCs). These contentions would have NRC second-guess DOE's management decision to accept up to as much as 90% of commercial SNF in TADs and, in effect, would require DOE to accept a smaller percentage of commercial SNF in TADs. DOE will make decisions concerning how to accept commercial SNF pursuant to contracts mandated by the NWPA and NRC has no statutory or regulatory authority over those contractual

decisions. While NRC can consider the effects of DOE's proposal to accept up to 90% of commercial SNF in TADs, it cannot go behind that proposal and, in effect, specify how much commercial SNF DOE can accept in TADs. Thus, any contention premised on such a change is beyond the scope of this proceeding.

(1) The NRC has no regulatory authority over DOE SNF or HLW management outside the GROA.

Under the AEA and the ERA, NRC does not have regulatory authority over DOE's facilities and activities except as specifically provided by statute. 42 U.S.C. § 5851. Section 202 of the ERA provides the NRC with licensing and related regulatory authority over certain specific facilities of the DOE, including facilities for the disposal of SNF and HLW. 42 U.S.C. § 5842. However, neither section 202 of the ERA, nor the NWPA, nor any other statute provides the NRC with authority over DOE's management of SNF and HLW outside the specified facilities, including the acceptance of SNF and HLW for disposal at the Yucca Mountain site. As noted previously, the NRC has recognized its "regulatory authority is limited to the operations at a GROA." GROA Security and Material Control and Accounting Requirements, 72 Fed. Reg. 72,522, 72,527 (Dec. 20, 2007). While DOE is required by the NWPA to use NRC certified casks for shipment of SNF or HLW to the repository, that requirement is separate and distinct from any contractual decisions that DOE may make in the future as to how much, if any, commercial SNF to accept in TADs.

(2) DOE's decisions in the future on what percentage of commercial SNF to accept in TADs are contract decisions outside the scope of this proceeding.

DOE's decisions on how much commercial SNF to accept in TADs are not subject to review by NRC. Section 302 of the NWPA is explicit that the acceptance by DOE of commercial SNF and HLW for disposal at the Yucca Mountain site is governed by the contract

between DOE and the generator of the SNF and HLW and that DOE is responsible for establishing the terms and conditions of the contract. While section 302 makes such a contract a condition for the issuance or renewal by NRC of a license for a commercial power plant, neither section 302 nor any other statutory provision grants the NRC the authority to approve the terms and conditions of the contract or regulate how the contract is implemented. Any questions concerning the implementation of a contract under section 302 must be resolved by DOE and the contract holder or by an appropriate court.

In addition, DOE's 2002 FEIS analyzed the impacts of the proposed action – the construction and operation of a geologic repository at Yucca Mountain for the disposal of SNF and HLW, including the transportation of commercial SNF to the repository. As part of the transportation analysis, DOE assessed the impacts of fuel packaging and loading activities at the commercial utility sites. DOE subsequently issued a ROD addressing transportation matters, including the selection of mostly rail as the national mode of transportation. In the Repository SEIS, DOE updated the FEIS to reflect changes in the design and operational details, including the use of TADs to accept, transport and dispose of up to 90% of the commercial SNF. The SEIS also reflected DOE's transportation-related decisions made following the completion of the FEIS. DOE concluded in the final Repository SEIS that the potential impacts associated with the updated repository design and operational plans are similar in scale to the impacts analyzed in the 2002 FEIS. DOE did not modify the April 2004 ROD decision on the transportation mode.

(3) Consideration by NRC of environmental impacts of DOE's decision to accept up to as much as 90 percent of commercial SNF in TADs is limited.

For the same reasons discussed in sections 5.a.(2) and (3), challenges to DOE's proposal to accept up to as much as 90 percent of commercial SNF in TADs and DOE's analysis of the environmental impacts of that proposal are not appropriately a part of this proceeding. Put

simply, NRC must take DOE's proposal to accept up to as much as 90% of commercial SNF in TADs and DOE's analysis of the environmental impacts of that proposal as a given in deciding whether to issue a construction authorization for the repository. *See Pub Serv. Co. of N.H.*, CLI-78-1, 7 NRC at 25-26.

B. DOE's Answer Regarding the Admissibility of Petitioner's Proposed Contentions

1. NEI - SAFETY - 01: Spent Nuclear Fuel Direct Disposal in Dual Purpose Canisters

The License Application (LA) fails to permit direct disposal of dual purpose canisters (DPCs) containing commercial spent nuclear fuel and is therefore inconsistent with “as low as is reasonably achievable” (ALARA) principles, unnecessarily generates additional low-level radioactive waste (LLRW), and wastes limited resources.

RESPONSE

In this contention, NEI alleges that because the LA fails to permit the direct disposal of commercial spent nuclear fuel in dual purpose canisters (DPCs), the LA is inconsistent with the principles of ALARA (“as low as reasonably achievable”), will lead to unnecessary generation of LLRW, and will “waste limited resources.” Petition at 9.

As explained below, this contention improperly seeks to use the ALARA concept to bootstrap into this proceeding a variety of topics that are outside its scope, including DOE’s decision to utilize TADs, radiological health and safety at commercial reactor sites and whether DOE’s design for the repository appropriately economizes on resources. It is also unsupported by facts or expert opinion and fails to raise a genuine dispute on a material issue of fact or law.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

NEI claims that this contention is within the scope of this proceeding “as it relates to” the NRC’s responsibilities under the AEA and the NWPA. Most of the claims in this contention, however, are outside the scope of this proceeding because they raise regulatory issues that relate to activities outside the GROA, or that are otherwise unrelated to the scope of this proceeding as set forth in the Commission’s Hearing Notice.

(1) Allegations Challenges Activities Outside the GROA Are Outside the Scope of the Proceeding

Because this contention alleges that, either through “unloading and reloading” of DPCs, or through the generation of unnecessary LLRW, there will be increased dose to individuals at reactor sites or other locations outside the GROA, Petition at 9, this contention is outside the scope of this proceeding. Likewise, to the extent NEI seeks to litigate the application of ALARA principles under Part 50 at commercial reactor sites, Petition at 10, such claims are also outside the scope of this proceeding.¹⁹

The NRC’s licensing authority in this construction authorization proceeding is “limited to the licensing of DOE to receive and possess source, special nuclear, and byproduct material at a geological repository operations area [(GROA)] sited, constructed, or operated at Yucca Mountain, Nevada.” Proposed Rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 64 Fed. Reg. 8,640, 8,655 (Feb. 22, 1999).

As such, any alleged radiological health and safety issues associated with the handling of spent fuel at commercial reactor sites regulated under Part 50 or other locations outside the GROA are outside the scope of this proceeding. Moreover, the NRC is not required to make any

¹⁹ To the extent NEI claims that any increased dose at commercial reactor sites violates ALARA principles, Petition at 10, those allegations fail to raise a genuine dispute, as explained in Section f. below.

findings under 10 C.F.R. Part 50 in order to issue the requested construction authorization.

Accordingly, to the extent this contention seeks to litigate such issues, it must be dismissed.

(2) Allegations of Unnecessary LLRW and Increased Cost Are Outside Scope

In addition, to the extent this contention alleges that, because of DOE's repository design, "discarded DPCs will be unnecessary LLRW, and the unloading and reloading processes will result in increased resource use and costs," Petition at 9, it is also outside the scope of this proceeding.²⁰

The scope of this proceeding is defined by the Notice of Hearing issued by the Commission. That Notice states, in pertinent part that "[t]he matters of fact and law to be considered are whether the Application satisfies the applicable *safety, security, and technical standards* of the AEA and NWPA and the NRC's standards in 10 CFR Part 63 for construction authorization for a high-level waste geologic repository" Notice of Hearing and Opportunity to Petition for Leave to Intervene on an Application for Authority to Construct a Geologic Repository at a Geologic Repository Operations Area at Yucca Mountain, 73 Fed. Reg. 63,029, 63,029 (Oct. 22, 2008) (emphasis added). In other words, this proceeding is intended to adjudicate whether the LA complies with specified safety, security, or technical standards, not whether it does so with an appropriate economy of resources. NEI does not explain how its allegations of increased LLRW generation and the expenditure of additional resources and costs to dispose of spent nuclear fuel in TADs relate to whether the LA satisfies these statutory and regulatory standards. The generation of allegedly "unnecessary" LLRW, and the allegedly unnecessary expenditure of resources, therefore, are not issues to be litigated in this proceeding.

²⁰ To the extent NEI claims that increased LLRW and resource costs associated with TADs violate ALARA principles, Petition at 10, those allegations fail to raise a genuine dispute, as explained in Section f. below.

(3) Allegations Related to DOE’s Proposal to Accept Up To 90 Percent of Commercial SNF in TADs Are Outside the Scope of the Proceeding

As discussed in section IV.A.5.b, DOE’s proposal to accept up to 90 % of commercial SNF in TADs is not subject to review by the NRC and therefore contentions premised on the extent to which DOE can use TADs to accept commercial SNF are outside the scope of the proceeding.²¹ While the NRC can consider the effects of that proposal, it must accept that proposal as a given. Accordingly, to the extent this contention seeks to litigate that proposal, it must be dismissed.

d. Whether the Issue is Material to the Findings that the NRC Must Make

To the extent NEI raises issues that, as explained in Section c., above, are outside the scope of this proceeding, it also raises issues that are not material to the findings that the NRC must make.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner’s Position and Supporting References

This contention is unsupported by adequate facts or expert opinion because, as NEI’s expert affidavit admits, the DPCs that have already been loaded with commercial SNF are not suitable for disposal under current NRC guidance. NEI claims that DPCs “can be directly disposed of in the repository.” Petition at 12. As explained in Section IV.A.3 above, however, the Board must scrutinize documents cited in support of a contention, and is not to accept uncritically the assertion that a document or expert opinion provides support for a contention. In fact, the primary document NEI cites shows that DPCs are unsuitable for direct disposal under

²¹ DOE’s proposal is premised on NRC’s certifying TADS for transportation, storage and disposal. Such certification is not the subject of this proceeding.

current NRC Staff guidance. As a result, this contention is unsupported by facts or expert opinion, and is inadmissible.

Contrary to NEI's claims, DPCs have not been demonstrated to have sufficient criticality controls to be relied upon during the postclosure period. Indeed, the OCRWM report cited in NEI's affidavit describes this matter. *See* Affidavit of Dr. Matthew M. Kozak, Brian Gutherman, and Richard A. Loftin in Support of Proposed Contention NEI-Safety-01 ¶ 61 (NEI-Safety-01 Aff.) (citing Draft Report, The Potential of Using Commercial Dual Purpose Canisters in Direct Disposal, LSN No. DN2001065443 (Sept. 2003) (Draft BSC Report)). As stated in the Draft BSC Report, under current NRC Staff guidance, "credit for fuel burnup [in criticality analyses for SNF waste packages] may be taken only when the amount of burnup is confirmed by physical measurements" Draft BSC Report at 17 (citing Reg. Guide 3.71). No such physical measurements have been taken of the fuel that currently is in DPCs, so burnup credit cannot be taken. *See id.*²² As a result, "current DPCs would not be disposable" due to criticality concerns. *See id.* However, *if* the NRC were to establish specific disposal guidance requirements for DPCs, *and if* that new Staff guidance permitted the calculation of burnup credit based on other alternative analyses, then "an *undetermined fraction* of current DPCs would *probably* be disposable." *Id.* (emphasis added).

NEI's affidavit attempts to dismiss this problem when it states that the Draft BSC Report identified "administrative regulatory obstacles to implementation regarding burnup credit." NEI Safety-01 Aff. ¶ 61.²³ In other words, NEI effectively admits that its claim that DPCs are

²² Theoretically, one could remove currently loaded fuel assemblies from DPCs to take such measurements, but this would raise the same ALARA concerns as transferring the fuel to TADs.

²³ NEI's experts also allege, in ¶ 70, that another EPRI document shows that DPCs "demonstrated acceptable post-closure performance" with respect to criticality. But NEI does not attach this document to its Petition or provide an LSN citation, so it cannot be relied upon. *See* Case Management Order, slip op. at 8.

disposable is really based upon speculation that the NRC might change its guidance, and speculation that subsequent analyses will show that all (or most) DPCs are adequate for direct disposal.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

(1) NEI's ALARA Claims Fail to Raise A Genuine Dispute

NEI alleges that the use of TADs for commercial spent nuclear fuel disposal—as opposed to direct disposal of DPCs—will result in unnecessarily increased occupational radiation exposure at reactor sites licensed under Part 50 and at the GROA. Petition at 10. Thus, NEI alleges, the LA violates the principles of ALARA, as set forth in 10 C.F.R. § 20.1003 and incorporated into Parts 50 and 63 under 10 C.F.R. §§ 50.40 and 63.111, respectively.²⁴

NEI, however, misinterprets ALARA as a prescriptive standard. Instead, as its name implies, ALARA—as low as *reasonably* achievable—must be analyzed by balancing radiation exposures against *other* factors and considerations. NEI ignores those other factors when it claims that the repackaging of spent nuclear fuel from DPCs to TADs “will result in . . . unnecessary radiation exposures,” but fails to balance the additional dose against other required considerations. Petition at 10.

The ALARA concept was intended by the Commission to be an “operating principle,” rather than to require a rigid “absolute minimization of exposures.” Final Rule, Standards for Protection Against Radiation, 56 Fed. Reg. 23,360, 23,366 (May 21, 1991). Likewise, the definition of ALARA, under 10 C.F.R. § 20.1003, “does not translate readily into a generic dose number, which, if exceeded, will lead to enforcement action.” Final Rule, Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act, 61 Fed. Reg. 65,120,

²⁴ As explained in Section c., above, compliance with ALARA principles at commercial reactor sites under Part 50 is outside the scope of this proceeding.

65,123 (Dec. 10, 1996). Compliance is based on potential exposure to radiation and, to the balancing of various factors, *i.e.*, economic, societal, state of technology, socioeconomic, feasibility, health and safety, and other factors. *See Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 250 (1996); *see also Gen. Pub. Utils. Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 2), LBP-88-23, 28 NRC 178, 183-84 (1988).

Speculation that a license application does not minimize future radiation dose is insufficient, by itself, to support an admissible contention. *See Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-16, 15 NRC 566, 585 (1982); *see also Yankee Atomic Electric Co.*, CLI-96-7, 43 NRC at 257. Even assuming that a petitioner presents a feasible alternative method—one that reduces radiation exposure *and* lowers costs—the above factors *must* be weighed. *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 8 (1996); *see also Yankee Atomic Electric Co.*, CLI-96-7, 43 NRC at 250. NEI does not provide this type of balancing analysis. NEI's supporting affidavit provides a very short discussion purportedly showing that repackaging of SNF from DPCs into TADs does not make economic sense. NEI-Safety-01 Aff. ¶ 55. This discussion fails to address any of the factors, other than economics, discussed above and specified in 10 C.F.R. § 20.1003.

In sum, the Commission has rejected contentions like this one, which allege that the applicant's design or license application violates ALARA by failing to minimize radiation exposure, but which fail to balance the postulated dose increases against other relevant factors, such as the state of technology, economics, public health and safety, other societal and socioeconomic considerations, and the public interest. In particular, although ALARA does not directly apply to postclosure, *compare* 10 C.F.R. § 63.11(a)(1) *with id.* § 63.113, a potentially increased dose to future generations is certainly a public health and safety consideration that

should be balanced against any preclosure occupational dose reduction. NEI's desire to avoid repackaging some commercial spent nuclear fuel from DPCs to TADs for disposal could potentially save some monies and perhaps some occupational dose during the preclosure period, but it would do so at the cost of some increased dose, or risk of increased dose to the RMEI during the postclosure period. *See generally* Draft BSC Report. NEI's failure to fully address the required ALARA balancing analysis renders its contention inadmissible, because it fails to raise a genuine dispute on a material issue of law or fact.

(2) NEI Fails to Raise a Genuine Dispute over the Direct Disposal of DPCs

In addition, NEI's claim that DPCs are suitable for direct disposal fails to raise a genuine dispute on a material issue of law or fact. NEI purports to dispute the statement, in SAR § 1.5.1.1.1.2.1.2, that "DPCs have not been shown to be suitable for disposal purposes." *Compare* SAR at 1.5.1-12 *with* Petition at 12. NEI claims that "DPCs can be directly disposed of in the repository while meeting the repository's performance objectives." Petition at 12. This claim, however, does not raise a genuine dispute on a material issue of law or fact because even if it is true, it does not identify any deficiencies or failures in the LA that would make a difference in the outcome of this proceeding. Other than the faulty ALARA claims discussed above in Section (1), NEI does not allege that any regulatory requirement has not been satisfied, nor does it allege that disposal of commercial spent nuclear fuel in TADs will result in any deficiency that would prevent NRC from making its required findings under Part 63.

A dispute "is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'" *Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3)*, CLI-99-11, 49 NRC 328, 333-34 (1999) (*quoting* Final Rule, Rules of Practice for Domestic Licensing

Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989)).

This contention identifies an alternative design choice—the use of DPCs rather than TADs for commercial SNF disposal—that NEI would prefer that NRC and DOE adopt. It does not show that DOE’s analysis is *deficient* under the regulations. Even if NEI’s analysis of the disposal capabilities of DPCs is correct, it does not follow that DOE’s design choice poses an unreasonable risk to public health and safety, or that it does not comply with required performance objectives, or that DOE’s proposed operating procedures are inadequate. *See* 10 C.F.R. § 63.31(a). On the contrary, even assuming that NEI’s analysis of the disposal capabilities of DPCs is correct, then it merely shows that DOE’s design protects the public health and safety to a greater degree than is strictly required under the regulations. Consequently, resolution of this contention will not “make a difference in the outcome of the licensing proceeding.” *Duke Energy Corp*, CLI-99-11, 49 NRC at 333-34.

In short, even if NEI could prove its claim that commercial SNF can be disposed of in DPCs, it does not follow that DOE must do so. DOE—and not NEI or NRC—is responsible for deciding whether and how to utilize TADs and DPCs. While the effects of that decision may in some instances be germane to this proceeding, a debate on the merits of that use compared to an alternative course of action is not. Thus, this contention fails to raise a genuine dispute on a material issue of law or fact and must be dismissed.

2. NEI - SAFETY - 02: Insufficient Number of Non-TAD SNF Shipments to Yucca Mountain

Yucca Mountain’s surface facility design capability to receive not less than 90% of commercial spent nuclear fuel (“SNF”) in TADs is inconsistent with ALARA principles.

RESPONSE

In this contention, NEI claims that DOE should change the Application so that up to 25% of commercial SNF could be received at Yucca Mountain in DPCs, rather than 10% as the current surface facility design is capable of receiving. Petition at 13. According to NEI, this aspect of the Application violates the principles of ALARA, because shifting the repackaging of commercial SNF in TADs from reactor sites to Yucca Mountain would lead to “less radiological dose” because of “more efficient operations at the repository” and because of “workers who perform repackaging operations regularly at the repository” *Id.* at 15-16. NEI believes that DOE should be able to accommodate this change, because “there would be little if any additional environmental impacts at the repository” *Id.* at 13.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

NEI claims that this contention is within the scope of this proceeding “as it relates to” the NRC’s responsibilities under the AEA and the NWPA. Petition at 13-14. In its discussion of materiality, however, NEI describes the applicability of ALARA analyses under 10 C.F.R. Part

50 in general and under 10 C.F.R. § 50.40 in particular. Petition at 14. To the extent that this contention alleges a deficient application of ALARA principles outside the GROA at commercial reactor sites regulated under Part 50, however, it is outside the scope of this proceeding.

The NRC's licensing authority in this construction authorization proceeding is "limited to the licensing of DOE to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area [(GROA)] sited, constructed, or operated at Yucca Mountain, Nevada." Proposed Rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 64 Fed Reg. 8,640, 8,655 (Feb. 22, 1999). As such, any alleged radiological health and safety issues associated with the handling of SNF at commercial reactor sites regulated under Part 50, or other locations outside the GROA, are outside the scope of this proceeding. Furthermore, the NRC is not required to make any findings under Part 50 in order to issue the requested construction authorization. Accordingly, because this contention seeks to litigate such issues, it must be dismissed.

As discussed in section IV.A.5.b, DOE's proposal to accept up to 90% of commercial SNF in TADs is not subject to review by the NRC and therefore contentions premised on changing that proposal are outside the scope of the proceeding. While the NRC can consider the effects of that proposal, it must accept that proposal as a given. Accordingly, to the extent this contention seeks to litigate DOE's proposal to accept up to as much as 90% of commercial SNF in TADs, it must be dismissed.

d. Whether the Issue is Material to the Findings that the NRC Must Make

To the extent NEI raises issues that, as explained in Section c., above, are outside the scope of this proceeding, it also raises issues that are not material to the findings that the NRC must make.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner's Position and Supporting References

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

NEI challenges GI § 1.2.2 and SAR § 1.5.1.1 which specify that the repository will be capable of accepting, transporting, and disposing of commercial SNF where at least 90% is received in TADs and no more than 10% is in DPCs or bare fuel casks. *See* Petition at 16. NEI believes that the repository design can be changed to accommodate up to 25% of commercial SNF in DPCs or bare fuel casks. *See id.* at 13, 15. Allegedly, this change can be made without resulting in any significant environmental impacts. *Id.* at 15. NEI claims that the Yucca Mountain surface facility design that receives not less than 90% of commercial SNF in TADs is inconsistent with ALARA principles because repackaging SNF at the repository will result in less overall radiological exposure. *See id.* at 14-15. This dispute, however, is not a genuine dispute on a material issue of law or fact because, as explained below, (1) NEI's ALARA analysis is flawed; and (2) the contention otherwise fails to allege any deficiency in the repository design.

(1) NEI's ALARA Analysis Is Flawed

This contention fails to fully address the ALARA cost-benefit balance. As its name implies, ALARA—as low as *reasonably* achievable—must be analyzed by balancing radiation exposures against *other* factors and considerations. NEI provides only a partial analysis—focusing exclusively on the total dose received from repackaging operations—while it ignores

other factors when it claims that “[r]epackaging commercial SNF from transportable canisters and casks to TADs at the repository will incur less radiological dose.” Petition at 15.²⁵

The ALARA concept was intended by the Commission to be an “operating principle,” rather than to require a rigid “absolute minimization of exposures.” Final Rule, Standards for Protection Against Radiation, 56 Fed. Reg. 23,360, 23,366 (May 21, 1991). Likewise, the definition of ALARA, under 10 C.F.R. § 20.1003, “does not translate readily into a generic dose number, which, if exceeded, will lead to enforcement action.” Final Rule, Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act, 61 Fed. Reg. 65,120, 65,123 (Dec. 10, 1996). Compliance is based on potential exposure to radiation and the balancing of various factors, i.e., economic, societal, state of technology, socioeconomic, feasibility, health and safety, and other factors. *See Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 250 (1996); *see also Gen. Pub. Utils. Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 2), LBP-88-23, 28 NRC 178, 183-84 (1988).

Speculation that a license application does not minimize future radiation dose, by itself, is insufficient to support an admissible contention. *See Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-16, 15 NRC 566, 585 (1982); *see also Yankee Atomic Electric Co.*, CLI-96-7, 43 NRC at 257. Even assuming that a petitioner presents a feasible alternative method—one that reduces radiation exposure and lowers costs—the above factors *must* be weighed. *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 8 (1996); *see also Yankee Atomic Electric Co.*, CLI-96-7, 43 NRC at 250.

²⁵ Part of the basis for this claim is that frequent repackaging operations at Yucca Mountain will lead to more efficient operations. *See* Affidavit of Brian Gutherman and Richard Loftin in Support of Proposed Contention NEI-SAFETY-02, ¶ 45 (NEI-Safety-02 Aff.). This ignores the possibility that the industry could make its own improvements in repackaging efficiency.

Contrary to these principles, NEI provides an incomplete balancing analysis, focusing exclusively on the total dose incurred from repackaging operations, while ignoring public health and safety, among other considerations. With respect to the public health and safety, even if DOE were to accept that the total dose might be somewhat lower under NEI's alternative, NEI appears to admit that this dose would be concentrated in a smaller number of people. As NEI admits, its alternative would concentrate the associated dose on the "workers who perform repackaging operations regularly at the repository." Petition at 16. As NEI's affidavit explains:

Workers at reactor sites would perform this operation perhaps annually, at most. A staff that performs a task frequently undoubtedly will perform the task more efficiently. This also leads to repackaging at the [Yucca Mountain Waste Handling Facility] being a lower-dose operation than if it was performed at the reactor sites.

NEI-Safety-02 Aff. ¶ 45. Thus, NEI's alternative, if adopted, would reduce the total dose, but would increase the dose to the individuals involved in more "frequent" repackaging work at the repository. In other words, this contention fails to address the public health and safety (and therefore ALARA) implications of having a single team conducting repackaging operations more "frequently" at Yucca Mountain.

The Commission has rejected contentions, like this one, which allege that the applicant's design or license application violates ALARA simply by failing to minimize radiation exposure, but which fail to balance the postulated dose increases against other relevant factors, including the state of technology, economics, public health and safety, other societal and socioeconomic considerations, and the public interest. NEI focuses exclusively on the total dose, while ignoring, for example, the public health and safety considerations of concentrating the entire dose on the small number of workers at the repository. As a result, NEI does not provide a full

ALARA balancing analysis, and its contention is inadmissible, because it fails to raise a genuine dispute on a material issue of law or fact.

(2) NEI's Claim that DPCs Are Suitable for Direct Disposal Fails to Raise a Genuine Dispute

NEI also fails to raise a genuine dispute on a material issue of law or fact because, ultimately, this contention is about NEI's desire to change DOE's proposal concerning the use of TADs in connection with its acceptance of commercial SNF, rather than any deficiency in DOE's repository design. Even if this contention is true, and DOE received up to 25% of commercial SNF in DPCs at Yucca Mountain, there is still no deficiency or failure in the Application that would make a difference in the outcome of this proceeding. Other than the flawed ALARA claims addressed in Section (1), above, NEI does not allege that any regulatory requirement has not been satisfied, nor does it allege that disposal of commercial spent nuclear fuel in TADs will result in any deficiency that would prevent NRC from making its required findings under Part 63.

A genuine dispute, under 10 C.F.R. § 2.309(f)(1)(vi), must be on a material issue of law or fact. A dispute "is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'" *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333-34 (1999) (*quoting* Final Rule, Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989)).

This contention identifies an alternative design choice—the repackaging of more commercial SNF at Yucca Mountain—that NEI prefers. It does not show, however, that DOE's analysis is deficient under the regulations. Even if NEI's alternative analysis is valid, it does not follow that DOE's choice poses an unreasonable risk to public health and safety, or that it does

not comply with required performance objectives, or that DOE's proposed operating procedures are inadequate. *See* 10 C.F.R. § 63.31(a). On the contrary, if this contention is true, and NEI's analysis of the environmental impacts of receiving up to 25% of commercial SNF in DPCs is correct, then it merely shows that either DOE's or NEI's preferred alternatives would adequately protect the public health and safety. Consequently, resolution of this contention will not "make a difference in the outcome of the licensing proceeding." *Duke Energy Corp.*, CLI-99-11, 49 NRC at 333-34.

In sum, even if NEI could prove that the repository can meet performance objectives while receiving a larger proportion of commercial SNF in DPCs, it does not follow that DOE must change its repository design. DOE—and not NEI or NRC—is responsible for deciding whether and how to utilize TADs and DPCs. A debate over the merits of that proposal compared to an alternative course of action is not germane to this proceeding. Thus, this contention fails to raise a genuine dispute on a material issue of law or fact and must be dismissed.

3. NEI - SAFETY - 03: Excessive Seismic Design of Aging Facility

The design requirement stated in Section 1.2.7.1.3.2.1 of the License Application (LA) Safety Analysis Report (SAR) specifying that the vertical aging overpack system “must withstand a seismic event characterized by horizontal and vertical peak ground accelerations of 96.52 ft/s² (3g) without tipover and without exceeding canister leakage rates” is excessively conservative, goes beyond the necessary safety margin, and is not consistent with ALARA principles.

RESPONSE

This contention concerns one component of DOE’s proposed surface Aging Facility—the vertical aging overpacks for DPCs and TADs. NEI challenges this component’s design requirement that it “must withstand a seismic event characterized by horizontal and vertical peak ground accelerations of 96.52 ft/s² (3g) without tipover and without exceeding canister leakage rates.” Petition at 17. The contention and associated affidavits refer to this design requirement as the “3g design” or “3g design requirement.”

NEI alleges that the 3g design requirement “is excessively conservative[.]” *Id.*²⁶ NEI has two concerns with this over-conservatism: (1) it allegedly could increase licensing uncertainty and risk of delay and (2) it allegedly could violate ALARA principles. *Id.* Additionally, one affidavit attached to the contention, though not the contention itself, also alleges that implementing the design in the SAR might increase costs relative to those of a design that NEI prefers.

²⁶ The National Academy of Sciences (NAS), EPA and NRC expressed concerns with respect to over-conservatism that resulted in the adoption of the reasonable expectation standard for evaluating postclosure matters. These concerns, however, relate to the fact, in some instances, that the use of bounding or extreme assumptions in complex models covering long time periods can result in unrealistic projections. These concerns do not provide a basis for challenging a decision by an applicant to use a robust design providing a substantial margin of safety that goes beyond the minimum regulatory requirements.

This contention is inadmissible. The issue of potential licensing delay and uncertainty falls outside the scope of the proceeding, as does that of cost. The concern about potential effects on occupational dose from DOE's design lacks adequate expert opinion and factual support, and does not raise a genuine dispute on a material issue of fact or law. Indeed, the surface Aging Facility design postulated by NEI does not accurately represent the actual configuration stated in the SAR, and that configuration does not possess the infirmities alleged by NEI.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based on this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based on this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

NEI alleges that this contention is within the scope of the proceeding because it raises an issue that "is material to the preclosure safety analysis . . . and to DOE's demonstration that the performance objectives of 10 C.F.R. 63.111 have been met." *Id.* at 17-18. Although it is true that challenges to DOE's design of a structure, system or component might be within the scope of the proceeding, and that NEI provides affidavits asserting that DOE's designs are more conservative than necessary to satisfy legal requirements, such an allegation in itself raises no legal issue, as long as the alleged excess conservatism, itself, produces no inconsistency with legal requirements. The NEI Petition itself and its attachments do not allege that the DOE Aging Facility design will not meet the requirements of Part 63 and implementing guidance: all they allege, at most, is that DOE is doing more than would be required to satisfy those requirements.

NEI alleges three issues: regulatory uncertainty and delay, consistency with ALARA, and cost. The first and third of these—regulatory uncertainty and delay, and cost—are simply not within the scope of this proceeding.

The scope of the proceeding is defined by the Commission’s Notice of Hearing, which provides in relevant part that “[t]he matters of fact and law to be considered are whether the Application satisfies the applicable *safety, security, and technical standards* of the AEA and NWPA and the NRC’s standards in 10 C.F.R. Part 63 for construction authorization for a high-level waste geologic repository” Notice of Hearing and Opportunity to Petition for Leave to Intervene on an Application for Authority to Construct a Geologic Repository at a Geologic Repository Operations Area at Yucca Mountain, 73 Fed. Reg. 63,029, 63,029 (Oct. 22, 2008) (emphasis added). Stated differently, the purpose of this proceeding is to adjudicate whether the Application complies with specified safety, security, or technical standards. Concern about licensing delays or risks does not, on its face, raise an issue as to whether the Application satisfies safety, security or technical standards, and the Petition and its attachments do not allege any such issue. Furthermore, concern about delay has no relevance to this proceeding, particularly because the NWPA specifies that the Commission must issue its final licensing proposal within 3 years after DOE submits the Application (with a one-year extension provision). 42 U.S.C. § 10134(d).

DOE does not object to NEI’s allegations in this contention regarding ALARA principles as being outside the scope of this proceeding. However, as explained in Section IV.B.f(3) *infra*, the allegations regarding ALARA principles do not raise a genuine dispute of law or fact and, therefore do not support admitting this contention.

Accordingly, arguments about licensing delay or risks of uncertainty do not meet 10 C.F.R. § 2.309(f)(1)(iii).²⁷

d. Whether the Issue is Material to the Findings that the NRC Must Make

For the reasons this contention is outside the scope of the proceeding, the portions of this contention relating to regulatory delay and uncertainty and to costs also fail to raise a material issue. DOE does not object to NEI's allegations in this contention regarding ALARA under this prong of § 2.309(f).

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner's Position and Supporting References

The contention also lacks adequate facts or expert opinion. The contention references two affidavits: (1) the affidavit of Messrs. Fuller, Gray and O'Connell, which sets forth why the 3g design requirement is, in NEI's view, excessively conservative; and (2) the affidavit of Brian Gutherman, which sets forth NEI's basis why the 3g design may violate ALARA principles.²⁸

These affidavits do not provide any support for the real concern behind this contention; namely, that over-conservatism could increase licensing uncertainty and delay as well as the costs of the Yucca Mountain project. Petition at 18. In fact, the affidavits are completely silent on this concern. Similarly, Mr. Gutherman's affidavit is completely silent on how the effect of DOE's alleged design over-conservatism could significantly increase the costs of the overpack system. These concerns thus boil down to nothing more than unsupported arguments of counsel.

²⁷ The same is true for the unsupported reference in the Affidavit of Brian Gutherman (Petition Attachment # 10, ¶ 4) that "the 3g design requirement could significantly increase the costs of the aging overpack system." This assertion is not mentioned in the contention itself, nor is any basis for it proffered in Mr. Gutherman's affidavit. Even more fundamentally, the costs of compliance with NRC requirements in a licensing proceeding are simply not within the scope of the proceeding. Thus, for these three reasons, the issue of costs allegedly associated with DOE's Aging Facility design should not be admitted into this proceeding.

²⁸ Mr. Gutherman also states that the "3g design requirement could significantly increase the costs of the overpack system." Gutherman Aff. ¶ 4. However, he provides neither an estimate of the general dimensions of this potentially "significant" effect nor any basis for his assertion. And it is not picked up in the Petition itself, and cannot serve as an independent basis for a contention.

Unsupported arguments of counsel are not sufficient to support this contention. The contention does not explain why the alleged over-conservatism will lead to licensing delay or risk, nor does it identify who would have those perceptions, and why those perceptions would matter. The contention does not explain why such a perception would complicate the licensing review or why it could lead to licensing delay, particularly when there is a statutory mandate for completing the licensing action under the NWPAA.

In sum, the Licensing Board cannot consider NEI's concern regarding licensing delay or risk because the contention does not satisfy 10 C.F.R. § 2.309(f)(1)(v).

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

As mentioned at the outset, NEI raises two concerns with the 3g design requirement: (1) it could increase licensing uncertainty and risk of delay and (2) it could violate ALARA principles. These concerns fail to create a genuine dispute on a material issue of law or fact.

(1) NEI's Concern about Risk of Delay or Uncertainty Does Not Create a Genuine Dispute

For the same reasons that this concern is outside the scope of the proceeding, and lacks adequate factual or expert opinion, it also does not show the existence of a genuine dispute on a material issue of law. As discussed above, NEI has failed to show how arguments about licensing delay or risks of uncertainty, or costs, fall within the scope of this licensing proceeding. Nor has NEI provided any factual support or expert opinion that over-conservatism, even if proven, could increase licensing uncertainty and delay. Accordingly, this concern fails to create a genuine dispute and must be rejected.

(2) NEI's concern about a Possible ALARA Violation Does Not Create a Genuine Dispute

NEI claims that the 3g design for the vertical aging overpack system “could increase the occupational exposures associated with the facility.” Petition at 17. Thus, NEI alleges the Application violates ALARA principles as set forth in 10 C.F.R. Part 20, and incorporated into Part 63 under 10 C.F.R. § 63.111. *Id.* at 18.

To support this concern, NEI solely relies on Mr. Gutherman’s affidavit, which states in relevant part:

The aging casks at the Yucca Mountain repository are specified to be free-standing and must remain upright during and after the 3g earthquake (TAD Specification, DOE Document ID WMO-TADCS-000001, Revision 1, Section 3.3.2.(1).c, p. 24). This requirement means that the aging casks cannot be anchored to the pad and the aging casks will likely be designed differently from current dry storage systems, *possibly with some structural element or apparatus to prevent overturning. Installation of such an element or apparatus, adjacent to each previously loaded aging cask, will cause the workers involved to receive a higher radiation dose than if the cask could be deployed in the free-standing mode.*

Gutherman Aff. ¶ 8 (internal paragraph number omitted) (emphasis added). Based on the assumption that DOE must install an apparatus to each cask, Mr. Gutherman calculates an estimated increased dose per device installed:

An estimate of the additional dose is 80 person-mrem for each apparatus installed. This dose was estimated assuming the following:

- a. A 5 mrem/hr radiation field in the vicinity of the cask for which the apparatus is being installed, plus the radiation from adjacent casks. This dose rate may actually be higher or lower depending on the source term of the contents inside each aging cask.
- b. A four-person installation crew.
- c. The installation takes four hours to complete.

Section 1.2.7.1 of the Yucca Mountain LA SAR states that the aging facility will accommodate up to 2,500 aging casks. At 80 person-mrem per installation, the total estimated additional occupational dose would be 200 person-rem.

Id. ¶¶ 9–10 (internal paragraph numbers omitted).

This expert opinion does not raise a genuine dispute because it is premised on an apparent misperception of the design of the vertical aging overpack system to include an apparatus that is, in fact, not part of the design. Indeed, there is neither a requirement nor an intention to install restraints or other apparatus on the aging pad or the aging overpack for the aging overpack system. This is evidenced by a plain reading of the following:

- The SAR states that “[t]he design of the vertical aging overpack permits placement on the aging pads *without* the requirement for seismic restraints or other tie-downs.” SAR at 1.2.7-6 (emphasis added).
- The SAR also describes the aging pads and does not include apparatus for seismic restraints. *See* SAR at 1.2.7-4 to -5.
- TAD Specification, DOE Document ID WMO-TADCS-000001, Revision 1, Section 3.3.2.(1).(c), p. 24 (LSN# DEN001591017) (which Mr. Gutherman cites in his affidavit) states that “the aging overpack shall remain upright and *free standing* during and following the event.” This does not imply additional restraints. None are shown or stated.
- Attachment D of the Aging Facility Foundation Design (170-DBC-AP00-00100-000-00A, Las Vegas, Nevada: Bechtel SAIC Company) (LSN# DN2002496587), provides an analysis of aging overpack stability during earthquake motion that is without restraints of any kind.

NEI’s expert has apparently proceeded on the mistaken premise that the aging facility will require tie-downs or other restraints on each waste package. It does not. Accordingly, the basis for NEI’s concern that the 3g design may increase exposure to site personnel is unfounded, and this aspect of the contention should therefore be dismissed.

Furthermore, even if NEI could establish that the 3g design could increase doses, NEI misinterprets ALARA as a prescriptive standard. Instead, as its name implies, ALARA—as low

as *reasonably* achievable—must be analyzed by balancing radiation exposures against *other* factors and considerations. NEI ignores those other factors when it claims that the 3g design will lead to unnecessary occupational doses at the operational repository without balancing the additional dose against other required considerations.²⁹

The Commission intended that the ALARA concept would be an “operating principle,” rather than a rigid “absolute minimization of exposures.” Final Rule – Standards for Protection Against Radiation, 56 Fed. Reg. 23,360, 23,366 (May 21, 1991). Likewise, the definition of ALARA under 10 C.F.R. § 20.1003 “does not translate readily into a generic dose number, which, if exceeded, will lead to enforcement action.” Final Rule – Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act, 61 Fed. Reg. 65,120, 65,123 (Dec. 10, 1996). Compliance is based on potential exposure to radiation and, to a larger extent, the balancing of various factors (that is, economic, societal, state of technology, socioeconomic, feasibility, health and safety, and other factors). See *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 250 (1996); see also *Gen. Pub Utils. Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 2), LBP-88-23, 28 NRC 178, 183–84 (1988).

Speculation that a license application does not minimize future radiation dose is insufficient, by itself, to support an admissible contention. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-16, 15 NRC 566, 585 (1982); see also *Yankee Atomic Elec. Co.*, CLI-96-7, 43 NRC at 257. Even assuming that a petitioner presents a feasible alternative method—one that reduces radiation exposure and lowers cost—the above factors *must* be weighed. *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 8

²⁹ Mr. Gutherman’s affidavit provides the statement that “the 3g design requirement could significantly increase the costs of the aging overpack system.” Gutherman Aff. ¶ 4. But this discussion fails to address any of the factors, other than costs, discussed above.

(1996); *see also Yankee Atomic Elec. Co.*, CLI-96-7, 43 NRC at 250. NEI does not do so, and instead merely relies on assertions that doses will be lower if its approach is adopted.

Accordingly, the concern that the 3g design may violate ALARA principles fails to create a genuine dispute on a material issue of law or fact.

For all of these reasons, the Licensing Board must dismiss this contention.

4. NEI - SAFETY - 04: Low Igneous Event Impact on TSPA

The Department of Energy (DOE) in the License Application (LA) has modeled the scenario of a volcano at the Yucca Mountain site in the Total System Performance Assessment (TSPA). Based on assumptions that postulate the complete failure of every waste package in the repository, DOE concludes that intrusive igneous events that intersect the repository account for approximately 40% of the total dose over a 10,000 year period. Based on an analysis and calculation by the Electric Power Research Institute (EPRI), NEI alleges DOE has been excessively conservative in its treatment in the LA TSPA of the consequences of a potential igneous event. NEI contends that in fact substantial additional safety margin exists in this area. NEI contends that if DOE considered a reasonably expected intrusive igneous scenario, the related consequences would show no significant release of radionuclides. DOE's conservative treatment and results could contribute to licensing uncertainty and could delay the development of the repository.

RESPONSE

NEI alleges that "DOE has been excessively conservative in its treatment in the LA TSPA of the consequences of a potential igneous event" such that "intrusive igneous events that intersect the repository account for approximately 40% of the total dose over a 10,000 year period." Petition at 23. NEI contends that this over-conservatism will "lead[] to a perception of reduced licensing margin" which, in turn, "will complicate the licensing review and could lead to licensing delay" which, in turn, "will increase the period of fuel storage at existing reactor and fuel storage sites, resulting in ongoing operational complexity, occupational exposures, and economic and environmental costs associated with interim used fuel storage." Petition at 25-26. NEI's concerns are outside the scope of the proceeding, are not supported by adequate expert opinion, and do not raise a genuine dispute on a material issue of fact or law.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based on this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based on this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

NEI alleges that the contention is within the scope of the proceeding because “it raises an issue addressed in the LA SAR and the TSPA-LA,” Petition at 25, but it is not. While challenges to DOE’s modeling of the consequences of a potential igneous event might be within the scope of the proceeding, this contention is not really about DOE’s modeling. Rather, the contention is really about NEI’s concern that excessive conservatism in that modeling “will complicate the licensing review and could lead to licensing delay” which, in turn, “will increase the period of fuel storage at existing reactor and fuel storage sites, resulting in ongoing operational complexity, occupational exposures, and economic and environmental costs associated with interim used fuel storage.” *Id.* 25-26

These concerns are not within the scope of the proceeding. NEI is concerned about “licensing delay.” *Id.* at 25. The duration of the licensing of Yucca Mountain is governed by the Nuclear Waste Policy Act, as amended. 42 U.S.C. § 10134(d) (requiring the Commission to issue a final licensing decision within 3 years after DOE submits the Application, with a one year extension provision). Regardless of this statutory mandate, licensing delays are not within the scope of the proceeding.

NEI also is concerned that a licensing delay “will increase the period of fuel storage at existing reactor and fuel storage sites.” Petition at 25. Again, the duration of such storage at

commercial and federal SNF and HLW storage sites is not a harm within the scope of this proceeding. This is because NRC's regulatory authority in this proceeding is "limited to the licensing of DOE to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area [(GROA)] sited, constructed, or operated at Yucca Mountain, Nevada." Proposed rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 64 Fed Reg. 8,640, 8,655 (Feb. 22, 1999); *see also* Notice of Hearing, 73 Fed. Reg. at 63029 (Oct. 22, 2008) (limiting the proceeding to the regulations in 10 C.F.R. Parts 2, 51, and 63, and not including Parts 50 or 72).

NEI also is concerned that longer storage at existing reactor and fuel storage sites will "result[] in ongoing operational complexity, occupational exposures, and economic and environmental costs associated with interim used fuel storage." For the reasons stated in the preceding paragraph, operations, worker exposure, and economic and environmental costs associated with ongoing SNF and HLW storage at commercial and federal sites are not within the scope of this proceeding. *See* 64 Fed Reg. at 8,655; 73 Fed. Reg. at 63029.

d. Whether the Issue is Material to the Findings that the NRC Must Make

NEI has not demonstrated that the issue it seeks to raise is material to the findings that the Commission must make in its review of DOE's LA. Although NEI cites regulations in Part 63 that it alleges DOE has not met, Petition at 25-26, its concerns do not meet 10 C.F.R.

§ 2.309(f)(1)(iv) because: (1) they are not within the scope of the proceeding as discussed above (and, therefore, cannot be material to the findings that the Commission must make here), and (2) allegations that an applicant is being *too* conservative are not material, as explained below.

Petitioner's allegations, even if true, would not alter the outcome of this proceeding and therefore do not raise a material issue. A dispute "is 'material' if its resolution would 'make a

difference in the outcome of the licensing proceeding.” *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333-34 (1999) (*quoting* Final Rule, Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989)). Here, NEI alleges that DOE is “excessively conservative in its treatment in the LA TSPA of the consequences of a potential igneous event.” Petition at 23. But NRC regulations and guidance authorize DOE to make bounding assumptions in its igneous intrusion evaluations in demonstrating compliance with the repository performance standards. *See* 10 C.F.R. § 63.114(b) (stating that “Any performance assessment used to demonstrate compliance with § 63.113 must: . . . provide for the technical basis for parameter ranges, probability distributions, or *bounding* values used in the performance assessment.) (emphasis added).

Similarly, conservatism in analyses is consistent with the YMRP, which authorizes conservatism in cases that use a simplified modeling approach, and where such simplification does not result in *underestimation* of dose. *See* NUREG-1804, Rev. 2, at 2.2-2. Even with the alleged conservatisms, the TSPA analyses show that the intrusion modeling case produces a maximum mean annual dose for the first 10,000 years postclosure of 0.066 mrem, and for the period between 10,000 years and 1 million years, a maximum projected median annual dose of about 0.32 mrem. TSPA Model/Analysis, Section ES9.2.3.1[a] (LSN# DEN001579005, DEN001591399, DEN001593217, DEN001592442 and DEN001598775). Both dose estimates are small fractions of the respective dose limits. Clearly then, the methods DOE used do not underestimate dose compared to the EPRI analyses, and the estimated doses are well below the dose limits. Accordingly, even if DOE's assumptions were excessively conservative, that would not create a material issue to litigate in this proceeding.

NEI also makes a novel legal interpretation of the postclosure, individual protection standard in 10 C.F.R. § 63.311. NEI correctly characterizes this regulation as requiring that “DOE demonstrate, using performance assessment, that there is a *reasonable expectation* that, for 10,000 years following disposal the ‘reasonably maximally exposed individual’ receives no more than an annual dose of 15 millirem per year.” Petition at 25 (emphasis added). But NEI then interprets the term “reasonable expectation” to essentially prohibit DOE from using bounding assumptions in its modeling and evaluations when it states that “DOE’s analysis is more conservative than a ‘reasonable expectation’” *Id.* But as stated in the previous paragraph, Section 63.114(c) authorizes DOE to use bounding assumptions as part of its postclosure modeling evaluations. Accordingly, NEI’s novel interpretation is inconsistent with the unambiguous regulations in Part 63 and, therefore, does not raise a material issue.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner’s Position and Supporting References

This contention also is unsupported by adequate facts or expert opinion. The contention references a supporting affidavit (Petition, Attachment 11 (affidavit of Drs. Apted and Morrissey)), which, in turn, discusses “several relevant EPRI reports” and a final report of the Advisory Committee on Nuclear Waste (ACNW). Petition at 23. The affidavit appears to support the technical allegations that DOE has used bounding assumptions in its evaluation of the consequences of a potential igneous event.

The expert affidavit, however, does not provide any support for the real issues behind this contention; namely that over-conservatism will “lead[] to a perception of reduced licensing margin” which, in turn, “will complicate the licensing review and could lead to licensing delay” which, in turn, “will increase the period of fuel storage at existing reactor and fuel storage sites, resulting in ongoing operational complexity, occupational exposures, and economic and

environmental costs associated with interim used fuel storage.” Petition at 25-26. In fact, the affidavit is completely silent on these issues. These issues are, thus, unsupported statements of counsel.

Such unsupported factual statements of counsel cannot support this contention. The contention does not explain why DOE’s treatment of intrusive igneous events is over-conservative or otherwise inconsistent with reasonable expectation. In addition, the contention does not explain why this will lead to perceptions of reduced licensing margin, nor does it identify who would have those perceptions, and why those perceptions would matter. The contention does not explain why such a perception would complicate the licensing review or why it could lead to licensing delay, especially when there is a statutory mandate for completion of the licensing action in the NWPA. Nor does the contention explain why increased duration of SNF and HLW storage at commercial and federal sites would result in ongoing operational complexity, or occupational exposures.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

The Licensing Board also must dismiss this contention because it does not establish that a genuine dispute exists with DOE on a material issue of law or fact. NEI states that its experts disagree with DOE’s assessment of the consequences of an igneous intrusion event, which would “account for approximately 40% of the total dose over a 10,000 year period” Petition at 30.³⁰ Specifically:

NEI’s experts contend that the assessment is based on overly conservative assumptions regarding magma behavior and the

³⁰ NEI does not provide a citation to this 40% value. And that value is incorrect. “The Igneous Intrusion Modeling Case contributes roughly 30 percent of the total mean annual dose before 10,000 years (Figure 8.1-3[a]).” Total System Performance Assessment Model/Analysis for the License Application, Las Vegas, Nevada: Sandia National Laboratories, MDL-WIS-PA-000005 REV 000 ADD 001 (LSN# DEN001579005). Note that Figure 8.1-3[a] referenced in *Id.* is identical to SAR Figure 2.4-18.

number of waste packages impacted. NEI's experts further contend that the assessment fails to consider realistic constraints on magma-waste package interactions, and other factors, that would limit radionuclide releases. As a result, there is a genuine dispute regarding the contribution of postulated igneous activity to the calculated 10,000 year dose.

Id.

These arguments are beside the point. Even if the challenge is that DOE's evaluation of the consequences of a potential igneous event is overly conservative resulting in an overestimate of dose, the contention does not present a genuine dispute of a material issue. NRC adopted the reasonable expectation standard for evaluating postclosure matters to make clear, among other things, that DOE could use cautious but reasonable assumptions consistent with present knowledge in modeling future doses. There is nothing in the reasonable expectation standard or elsewhere in the applicable regulatory requirements, however, that would put at issue in this proceeding an assumption that a prospective party believes is overly conservative. In short, there can be no genuine dispute when a petitioner alleges that an applicant has been too conservative, for all the reasons stated above in this legal response.

5. NEI - SAFETY - 05: Excessive Conservatism in the Postclosure Criticality Analysis

The postclosure criticality analysis described in Section 2.2.1.4.1.1 of the License Application (LA) Safety Analysis Report (SAR) provides a substantial safety margin, is excessively conservative, and will unnecessarily lead to the expectation that disposal control rod assemblies be inserted in some fuel assemblies at nuclear power plants prior to shipment to disposal.

RESPONSE

This contention alleges that assumptions and analyses in SAR Section 2.2.1.4.1.1 provide a substantial safety margin, are excessively conservative, and, as a result, will lead to installation of disposal control rod assemblies at nuclear power plants. NEI alleges that, in some cases, this will result in increased occupational dose to workers at those plants, unnecessary expenditures from the Nuclear Waste Fund, and increased economic and environmental costs.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

In essence, NEI's contention alleges regulatory deficiencies that relate to activities outside the GROA, or otherwise raise issues unrelated to the scope of this proceeding as set forth in the Commission's Hearing Notice. The scope of this proceeding is defined by the Commission's Notice of Hearing and the NRC regulations governing review and approval of the

Application. *See* Notice of Hearing, 73 Fed. Reg. at 63029 (Oct. 22, 2008). The applicable regulations are limited to 10 C.F.R. Parts 2, 51, and 63, and do not include Part 50, which applies to licensing of nuclear power plants. *See also Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985). Put another way, NRC’s regulatory authority is “limited to the licensing of DOE to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area [(GROA)] sited, constructed, or operated at Yucca Mountain, Nevada.” Final rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 66 Fed Reg. 55,732, 55,780 (Nov. 2, 2001). Accordingly, to the extent that this contention alleges issues relating to 10 C.F.R. Part 50 or activities outside of the GROA, those issues are outside the scope of this proceeding, and the contention must be denied.

The Commission’s Notice of Hearing also makes clear that “The matters of fact and law to be considered are whether the Application satisfies the applicable safety, security, and technical standards of the AEA and NWPA and the NRC’s standards in 10 C.F.R. Part 63 for construction authorization for a high-level waste geologic repository” Hearing Notice, 73 Fed. Reg. at 63,029. As discussed below, each of NEI’s various allegations contained in this contention fall outside of the scope of this proceeding as defined by the Commission’s Notice.

This contention claims that the repository design includes an excessively conservative postclosure safety analysis, which could result in the installation of disposal control rod assemblies at nuclear power plants. Petition at 32. NEI asserts that the results of such installation may include “increased occupational dose to workers.” *Id.* at 31. However, the individuals who are the subject of NEI’s concern are not personnel working at the GROA. Rather, these are individuals employed by Part 50 nuclear power plant licensees, and as the

contention acknowledges, the requirement to protect these workers from unnecessary occupational dose arises under 10 C.F.R. § 50.40. Moreover, installation of control rods into fuel assemblies by these workers will take place at the nuclear power plants at which the nuclear waste is located, not at the GROA. Therefore, the contention's allegation that an overly conservative postclosure criticality analysis will result in the possibility of increased occupational doses to workers installing control rods falls outside the scope of this proceeding.

For the same reason, NEI's claim that an overly conservative postclosure criticality analysis will lead to "unnecessary expenditures from the Nuclear Waste Fund, and increased economic and environmental costs," Petition at 31, as well as "operational complexity, ... economic and environmental costs associated with dry storage and disposal of used nuclear fuel" and "unnecessary design and operational costs," *id.* at 32, also falls outside of this proceeding. According to the affidavit of Dr. Redmond, inserting disposal control rod assemblies into fuel assemblies at nuclear power plants exposes workers to increased radiation doses, creates unnecessary expenditures from the Nuclear Waste Fund and may result in licensing delays to approve a TAD canister design. NEI Attachment 12 at paragraph 4. As discussed, such activities (and any resulting costs and expenditures) will take place outside the GROA and, therefore, are outside the scope of this proceeding. The same can be said of any activities or costs associated with storage or disposal of fuel at locations other than Yucca Mountain.

In addition, to the extent the challenge is that the postclosure criticality analysis is excessively conservative and provides a substantial safety margin, the contention presents an issue outside the scope of the proceeding. NRC adopted the reasonable expectation standard for evaluating postclosure matters to make clear, among other things, that DOE could use cautious but reasonable assumptions consistent with present knowledge in modeling future doses. *See*

10 C.F.R. § 63.101(a)(2). There is nothing in the reasonable expectation standard or elsewhere in the applicable regulatory requirements, however, that would put at issue in this proceeding the use of a more conservative or bounding assumption.

d. Whether the Issue is Material to the Findings that the NRC Must Make

This contention fails to raise a material issue, in violation of 10 C.F.R. § 2.309(f)(1)(iv) and the Advisory PAPO Board's Case Management Order, because at no point does it allege a violation of the regulations applicable to this proceeding or identify any deficiency that would prevent NRC from making its required findings under 10 C.F.R. § 63.31. *See* Case Management Order at 7. Nor would NEI's contention, if accepted, affect the outcome of this proceeding.

First, as noted above, all of NEI's allegations concern activities outside of the GROA, and such concerns would not prevent NRC from making its 10 C.F.R. Part 63 findings in this proceeding. The scope of the NRC's regulatory authority in this proceeding, as established by the Nuclear Waste Policy Act of 1982, as amended, is to license the DOE "to receive and possess source, special nuclear, and byproduct material at a [GROA] sited, constructed, or operated at Yucca Mountain, Nevada." 10 C.F.R. § 63.1.

Second, this contention does not allege that the postclosure criticality analysis fails to satisfy the Commission's regulations or is deficient in any substantial way. Although NEI alleges that the LA is "not consistent" with the 10 C.F.R. Part 20 principles of ALARA (Petition at 31-32), this allegation relates solely to how reactor licensees may, or may not be able to satisfy these principles under 10 C.F.R. § 50.40, which is outside the scope of this proceeding and, therefore, cannot be material. Petition at 31-32. With respect to activities inside the GROA, NEI makes no attempt to explain how the DOE's preclosure criticality analysis violates any of the regulations at issue in this proceeding.

Finally, this contention fails to raise a material issue because its allegations that the LA is overly conservative would not alter the outcome of this licensing proceeding. An issue “is ‘material’ if its resolution would ‘make a difference in the outcome of the licensing proceeding.’” *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333-34 (1999) (*quoting* Final Rule, Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989)). Ultimately, the outcome of this proceeding will be determined by whether the NRC can make the required findings under 10 C.F.R. § 63.31. Specifically, to grant the license, the Commission must determine that the proposed repository can be constructed and materials disposed therein “without unreasonable risk to the health and safety of the public.” 10 C.F.R. § 63.31(a)(1) and (2). In making its determinations, the Commission must consider, for example, whether the site and design *comply with the performance objectives* in subpart E of Part 63, and whether the proposed operating procedures to protect health and to minimize danger to life or property *are adequate*. 10 C.F.R. § 63.31(a)(3) (emphasis added).

NEI claims that DOE’s “excessive conservatism of the postclosure criticality analysis goes well beyond what is appropriate or necessary to assure safety.” Petition at 32. NEI then identifies an alternative, less conservative analysis that it would prefer that NRC and DOE adopt. But even if NEI’s alternative analysis is valid, it clearly does not follow that DOE’s more conservative analysis poses an unreasonable risk to public health and safety, or that it does not comply with required performance objectives, or that DOE’s proposed operating procedures are inadequate. *See* 10 C.F.R. § 63.31(a). On the contrary, if the analysis at SAR Section 2.2.1.4.1.1 is overly conservative, it merely shows that DOE’s analysis protects the public health and safety to a greater degree than is strictly required under the regulations. Consequently, resolution of

this contention will not “make a difference in the outcome of the licensing proceeding.” *Duke Energy Corp.*, CLI-99-11, 49 NRC at 333-34.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner’s Position and Supporting References

This contention is unsupported by adequate facts or references for its assertions that DOE’s conservative postclosure analysis will result in increased dose, operational complexities, and economic and environmental costs at reactor sites. Petition at 32. NEI cites only to the affidavit of Dr. Redmond at Attachment 12, which merely consists of Dr. Redmond’s conclusory opinions and assertions without explanation or support. *See generally* NEI Attachment 12. For example, Dr. Redmond states that, with regard to the neutron absorber thickness used in the criticality analysis of the TAD canister, “[t]his 33% reduction in absorber thickness is arbitrary and results in an excessively conservative criticality analysis,” but provides no support for that conclusion. NEI Attachment 12 ¶ 6. A contention cannot stand merely on an expert’s bare assertion that he rejects the applicant’s representations and calculations as erroneous, without any specific challenge to the relevant analysis in the application. *See Dominion Nuclear Conn.*, (Millstone Power Station, Unit 3) CLI-08-17, 68 NRC __ (slip op. at 11)(August 13, 2008). Moreover, conclusory statements cannot provide “sufficient” support for a contention, even if they are proffered by an alleged expert. *See USEC, Inc.* (American Centrifuge Plant) CLI-06-10, 63 NRC 451, 472 (2006). NEI’s contention suffers from this fatal flaw.

In addition, although Dr. Redmond’s affidavit includes a listing of six references on the last page of the attachment, the positions taken by Dr. Redmond do not provide citation to those references for support, much less point to specific pages or portions of the documents. A petitioner must identify specific portions of the documents on which it relies. *See Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-89-03, 29 NRC 234, 240-41 (1989). Consistent

with these requirements, the Case Management Order directs petitioners to ensure that documentary references “be as specific as reasonably possible.” *U.S. Dep’t of Energy*, (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), LBP-08-10, 67 NRC __ (slip op. at 7) (June 20, 2008). NEI’s contention clearly fails in this regard.

Finally, all of the documents referenced in Attachment 12 are NRC guidance documents, and do not lend support for Dr. Redmond’s claims that less conservative positions would still ensure DOE’s compliance with the postclosure objectives of 10 C.F.R. § 63.113. Rather, these documents only support Dr. Redmond’s position that NRC guidance documents have previously allowed standards and assumptions that are less conservative than those adopted by DOE in its LA.

Section IV.A.3 above discusses the legal standards under 10 C.F.R. § 2.309(f)(1)(v) that require adequate factual support or expert opinion in order for a contention to be admitted. This contention fails to meet those standards because, in contrast to the requirements of 10 C.F.R. § 2.309(f)(1)(v), as discussed in Section IV.A.3 above and the specific response below: (1) the contention contains only unsupported assertions of counsel; and (2) the contention relies entirely on an expert affidavit that simply “adopts” the otherwise unsupported assertions made in paragraph 5 of the contention. That approach falls far short of the requirement to provide conclusions supported by reasoned bases or explanation.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

The contention also does not raise a genuine dispute with DOE on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and must be dismissed. Under Section 2.309(f)(1)(vi), NEI “must include references to specific portions of the application . . . that the petitioner disputes . . . 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 . . .” The petitioner must also explain why the application is deficient. Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 156 (1991) (holding that a petitioner must “show where the application is lacking”).

First, this contention fails to establish a genuine issue of material fact because it is unduly speculative. NEI states that DOE’s “excessive conservatism” in its postclosure criticality analysis will “create[] a de facto expectation that disposal control rod assemblies . . . be inserted into some fuel assemblies at the nuclear power plants.” Petition at 32. Contrary to NEI’s statement, the SAR allows individual analyses to be performed demonstrating acceptable reactivity control for postclosure performance. *See* SAR Section 2.2.1.4.1.1.3. SAR Section 2.2.1.4.1.1.3 mentions disposal control rod assemblies as an example only.

Second, as explained above, in raising concerns that the LA is overly conservative, this contention does not identify any *deficiencies* or *failures* in the Application. Instead, NEI merely expresses its desire for a different, less conservative analysis. For example, NEI states that: “[t]he excessive conservatism of the postclosure criticality analysis goes well beyond what is appropriate or necessary to assure safety. Adherence to standard industry practice will provide a sufficient margin of safety.” Petition at 32. Even if the analysis in SAR 2.2.1.4.1.1 is more conservative than the regulations require, NEI still would not have shown that there is any deficiency in the Application. Thus, there is no genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Third, the delays and costs that NEI alleges will result from DOE's overly conservative analysis do not give rise to a genuine dispute of a material issue. As explained above, this contention and Attachment 12 clarify that those alleged results would be borne at reactor sites, outside of the GROA. Such concerns are not material to the NRC's findings in this proceeding, and therefore fail to raise a genuine dispute of material fact.

For the aforementioned reasons, this contention must be rejected.

6. NEI - SAFETY - 06: Drip Shields Are Not Necessary

The drip shields that the Department of Energy (“DOE”) proposes as part of the Engineered Barrier System (“EBS”) are not necessary because the repository is capable of meeting regulatory requirements with significant performance margin and defense in depth without drip shields. Installation of the drip shields will result in significant and unnecessary radiation exposures, resource use, and costs, and is therefore inconsistent with ALARA principles.

RESPONSE

In this contention, NEI claims that because drip shields are not necessary to meet repository regulatory requirements, their use will lead to unnecessary radiation exposures, resource uses, and cost, contrary to “ALARA cost benefit principles.” Petition at 38-39.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

NEI claims that this contention is within the scope of this proceeding “as it relates to” the NRC’s responsibilities under the AEA and the NWPA. Petition at 36. NEI’s claims, however, are outside the scope of this proceeding.³¹

³¹ Although, in this contention, NEI does not claim that any unnecessary dose will be experienced at commercial reactor sites regulated under Part 50, it does reference 10 C.F.R. § 50.40 and claims that “Part 20 applies to persons holding NRC licenses” under Part 50. Petition at 36. To the extent that this contention seeks to litigate the application of ALARA principles under Part 50 at commercial reactor sites, *see* Petition at 36, such claims are outside the scope of this proceeding.

(1) Allegations of Unnecessary Use of Resources and Increased Cost Are Outside Scope

This contention claims that “fabrication and installation of drip shields” will lead to “unnecessary use of resources” and “unnecessary expenditure of billions of dollars.” Petition at 36-37. Such claims are outside the scope of this proceeding, for the reasons set forth herein. Further, to the extent NEI ties these allegations of increased resource use and expenditures to ALARA principles, Petition at 37, these allegations fail to raise a genuine dispute, as explained in Section f. below.

The scope of this proceeding is defined by the Notice of Hearing issued by the Commission. That Notice states, in pertinent part, that, “The matters of fact and law to be considered are whether the Application satisfies the applicable *safety, security, and technical standards* of the AEA and NWPA and the NRC’s standards in 10 CFR Part 63 for construction authorization for a high-level waste geologic repository” Notice of Hearing and Opportunity to Petition on Leave to Intervene on an Application for Authority to Construct a Geologic Repository at a Geologic Repository Operations Area at Yucca Mountain, 73 Fed. Reg. 63,029, 63,029 (October 22, 2008)(emphasis added). In other words, this proceeding is intended to adjudicate whether the LA complies with specified safety, security, or technical standards, not whether it does so with an appropriate economy of resources. NEI does not explain how its allegations of increased resource use and cost relate to whether the LA satisfies these statutory and regulatory standards. Allegedly unnecessary expenditures of resources and money, therefore, are not issues to be litigated in this proceeding.

(2) Allegations That Drip Shields are Unnecessary Are Outside the Scope of this Proceeding

DOE—and not NEI or the NRC—is responsible for deciding whether and to what extent the repository design will incorporate drip shields. While the NRC can consider the effects of

drip shields, it cannot go behind DOE's proposal to incorporate drip shields into the repository. Thus, any contention premised on such a change is beyond the scope of this proceeding.

d. Whether the Issue is Material to the Findings that the NRC Must Make

To the extent NEI raises issues that, as explained in Section c., above, are outside the scope of this proceeding, such issues are not material to the findings that the NRC must make.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner's Position and Supporting References

This contention is unsupported by adequate facts or expert opinion. To support its claim that drip shields are not a necessary element of repository design, NEI relies heavily upon the conclusions of an EPRI Report, which purportedly shows, among other things, that DOE's seepage rate and seepage fraction estimates are "overly conservative." *See* Affidavit of Dr. Matthew M. Kozak, Dr. Michael J. Apped, and Dr. Fraser King in Support of Proposed Contention NEI-Safety-06 ¶ 37 (NEI-Safety-06 Aff.) (citing EPRI Report 1018058, "Occupational Risk Consequences of the Department of Energy's Approach to Repository Design, Performance Assessment and Operation in the Yucca Mountain License Application" (EPRI Report); *see also, e.g., id.* ¶ 70-71 and Figures 4(a) and (b) (showing TSPA results from this EPRI Report, comparing dose with and without drip shields). But NEI does not attach the EPRI Report to its Petition or provide an LSN citation for the report. Therefore, NEI cannot rely upon this EPRI Report. *See* Case Management Order, at 8.³² In addition, Section f., below, addresses the expert opinion and factual information NEI relies upon and explains why it fails to raise a genuine dispute of law or fact.

³² NEI also relies upon other documents which are neither attached nor cited with an LSN number. *E.g.*, NEI-Safety-06 Aff. ¶¶ 39 (citing "He and Dunn 2006"); 40 (citing "King 2006"; "Pan et al."; "King, et al."); 45 (citing "Hanks, et al.").

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

(1) NEI's ALARA Claims Fail to Raise A Genuine Dispute

As explained above, NEI claims that because drip shields are not necessary to meet repository regulatory requirements, their use will lead to unnecessary radiation exposures, resource uses, and cost, contrary to “ALARA cost benefit principles.” *See* Petition at 38-39. Thus, NEI's ALARA claims are based on an *entering assumption* that drip shields are unnecessary to show adequate repository performance. Section (a), below, explains that NEI has not provided evidence showing that drip shields are unnecessary to meet repository performance objectives, thereby failing to raise a genuine dispute. Section (b) explains that NEI provides an incomplete ALARA cost-benefit analysis, thereby also failing to raise a genuine dispute.

(a) NEI Fails to Show that Drip Shields Are Unnecessary to Meet Postclosure Requirements

NEI's affidavit supporting this contention claims that “drip shields are not needed to protect waste packages from seepage and rockfall.” NEI-Safety-06 Aff. ¶ 25. NEI, however, fails to provide any support for this claim.

NEI fails to identify which specific postclosure regulatory requirements the repository would still meet if drip shields were omitted, but the information presented in the NEI-Safety-06 Affidavit speaks to 10 C.F.R. § 63.113(b), because NEI-Safety-06 Aff., Figures 4(a) and 4(b) show the results of NEI and EPRI's comparison of mean dose with and without drip shields.³³

³³ NEI's analysis, however, does not address whether the repository would still comply with 10 C.F.R. §§ 63.113(d) and 63.331 (groundwater protection) or §§ 63.113(c) and 63.321 (human intrusion) if drip shields were omitted. The postclosure analysis in the LA currently relies upon drip shields to show compliance with those regulatory requirements. *See* SAR § 1.3.4.7.3 (designating drip shields as important to waste isolation). Thus, NEI has not provided evidence showing that drip shields “are not needed” to meet *all* regulatory requirements.

Further, the results presented in NEI-Safety-06 Aff., Figures 4(a) and 4(b) do not meet the definition of a Performance Assessment as defined under 10 C.F.R. § 63.2, because they do not estimate the total dose incurred by the RMEI, including the associated uncertainties, as a result of releases caused by all significant features, events, processes, and sequences of events and processes, weighted by their probability of occurrence. Instead, NEI's analysis only considers the early waste package failure events. It omits any analysis of seismic and igneous events and their associated consequences, weighted by their probability of occurrence and then summed with the early waste package failure events. Thus, NEI fails to show that drip shields are not necessary to meet the postclosure dose requirements of 10 C.F.R. §§ 63.113(b) and 63.111.

Thus, NEI's ALARA argument, aside from being flawed for the other reasons detailed above, fails to raise a genuine dispute because it is premised on an assumption that its experts have not provided evidence to support.

(b) NEI's ALARA Analysis Is Incomplete

NEI also fails to fully address the ALARA cost-benefit balance. As its name implies, ALARA—as low as reasonably achievable—must be analyzed by balancing radiation exposures against other factors and considerations. NEI provides only a partial analysis—focusing exclusively on economic considerations—while it ignores other factors when it claims that the use of drip shields “will result in significant and unnecessary . . . radiation exposures.” Petition at 38.

The ALARA concept was intended by the Commission to be an “operating principle,” rather than to require a rigid “absolute minimization of exposures.” Final Rule, Standards for Protection Against Radiation, 56 Fed. Reg. 23,360, 23,366 (May 21, 1991). Likewise, the definition of ALARA, under 10 C.F.R. § 20.1003, “does not translate readily into a generic dose

number, which, if exceeded, will lead to enforcement action.” Final Rule, Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act, 61 Fed. Reg. 65,120, 65,123 (Dec. 10, 1996). Compliance is based on potential exposure to radiation and, to a larger extent, the balancing of various factors, *i.e.*, economic, societal, state of technology, socioeconomic, feasibility, health and safety, and other factors. *See Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 250 (1996); *see also Gen. Pub. Utils. Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 2), LBP-88-23, 28 NRC 178, 183-84 (1988).

Speculation that a license application does not minimize future radiation dose is insufficient, by itself, to support an admissible contention. *See Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-16, 15 NRC 566, 585 (1982); *see also Yankee Atomic Electric Co.*, CLI-96-7, 43 NRC at 257. Even assuming that a petitioner presents a feasible alternative method—one that reduces radiation exposure *and* lowers costs—the above factors *must* be weighed. *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 8 (1996); *see also Yankee Atomic Electric Co.*, CLI-96-7, 43 NRC at 250.

NEI provides an incomplete balancing analysis, focusing exclusively on economic concerns, such as resource use and cost, while ignoring overall public health and safety, among other considerations. For example, although ALARA does not directly apply to postclosure, *compare* 10 C.F.R. § 63.11(a)(1) *with id.* § 63.113, a potentially increased dose to future generations is certainly a public health and safety consideration that must be balanced against any preclosure occupational dose reductions. NEI’s desire to eliminate drip shields might save some occupational dose during the preclosure period, but—as NEI acknowledges—it would do so at the cost of some increased dose, or risk of increased dose, to the RMEI during the

postclosure period. *See* Petition at 39 (acknowledging “benefit that is accrued” by the drip shield’s inclusion as part of the design).

In sum, the Commission has rejected contentions, like this one, which allege that the applicant’s design or license application violates ALARA simply by failing to minimize radiation exposure, but which fail to balance the postulated dose increases against other relevant factors, including the state of technology, economics, public health and safety, other societal and socioeconomic considerations, and the public interest. NEI’s failure to fully address the required ALARA balancing analysis renders its contention inadmissible, because it fails to raise a genuine dispute on a material issue of law or fact.

(2) NEI Fails to Raise a Genuine Dispute Regarding Overconservatism in Repository Design

Apart from its ALARA argument, NEI “disputes the need for drip shields to be installed” because they are not necessary to meet repository regulatory requirements.” Petition at 38. This claim, however, does not raise a genuine dispute on a material issue of law or fact because even if it is true, it does not identify any deficiencies or failures in the LA that would make a difference in the outcome of this proceeding. Other than the faulty ALARA claims discussed above in Section (1), NEI does not allege that any regulatory requirement has not been satisfied, nor does it allege that the installation of drip shields will result in any deficiency that would prevent NRC from making its required findings under Part 63.

A dispute “is ‘material’ if its resolution would ‘make a difference in the outcome of the licensing proceeding.’” *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333-34 (1999) (*quoting* Final Rule, Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989)).

This contention identifies an alternative design choice—the elimination of drip shields—that NEI would prefer that NRC and DOE adopt. It does not show that DOE’s analysis is deficient under the regulations. Even if NEI’s alternative analysis is valid, it clearly does not follow that DOE’s choices pose an unreasonable risk to public health and safety, or that it does not comply with required performance objectives, or that DOE’s proposed operating procedures are inadequate. *See* 10 C.F.R. § 63.31(a). On the contrary, even assuming that NEI’s claim that drip shields are unnecessary is correct, then it merely shows that DOE’s design protects the public health and safety to a greater degree than is strictly required under the regulations. Consequently, resolution of this contention will not “make a difference in the outcome of the licensing proceeding.” *Duke Energy Corp.*, CLI-99-11, 49 NRC at 333-34.

Even if NEI shows that the repository can meet performance objectives without drip shields, it does not follow that DOE must change its repository design. Thus, this contention fails to raise a genuine dispute on a material issue of law or fact and must be dismissed.

7. NEI - NEPA - 01: Inadequate NEPA Analysis for 90% TAD Canister Receipt Design

The Yucca Mountain Final Supplemental Environmental Impact Statement (FSEIS) fails to analyze reasonably foreseeable environmental impacts that will result from DOE's proposal to receive up to 90% of spent nuclear fuel (SNF) at Yucca Mountain in Transport, Aging, and Disposal (TAD) canisters.

RESPONSE

In this contention, NEI makes two claims. First, it asserts that the Repository SEIS "fails to discuss any of the environmental impacts resulting from DOE's proposal to receive up to 90% of spent nuclear fuel at Yucca Mountain in TAD canisters." Petition at 41. According to NEI, DOE failed to analyze the environmental effects from "having to unload DPCs and BFCs and reload TAD canisters at reactor sites, including the additional low level radioactive waste that will result from the discarded DPCs and BFCs, and the environmental impacts associated with transporting the discarded DPCs and BFCs." Petition at 40. Second, NEI claims that less than 90% of SNF will be shipped in TAD canisters and that the impacts of using fewer TAD canisters were not analyzed by DOE. Petition at 40.

All NEPA contentions must demonstrate that they meet the criteria of 10 C.F.R § 51.109 and 10 C.F.R. § 2.326, as well as the standards for contentions of 10 C.F.R. § 2.309. NEI fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, NEI must (1) raise a significant environmental issue; and (2) demonstrate that its contention, if proven to be true, would or would likely result in a materially different outcome in this proceeding. Moreover, its environmental contention must be supported by the affidavit of a qualified witness that sets forth the factual and/or technical basis supporting the claim that these two criteria have been met,

including “with a specific explanation of why it has been met.” “[T]he Commission expects its adjudicatory boards to enforce the [§ 2.326] requirements rigorously – *i.e.*, to reject out-of-hand reopening motions that do not meet those requirements within their four corners.” *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2) ALAB-915, 29 NRC 427, 432 (1989).

This contention should be rejected because NEI’s experts’ affidavit does not address the requirements of §§ 51.109(a)(2) or 2.326(a) much less separately address each of the § 2.326 criteria. With regard to the most difficult and clearly the most important criterion—a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true—the experts’ affidavit is silent.³⁴ Equally important, NEI’s experts’ affidavit never provides the analysis that is explicitly required by § 2.326(b). That regulation requires NEI’s experts to “set forth the factual and/or technical bases for the movant’s claim that the criteria of paragraph (a) of this section have been satisfied.” Section 2.326(b) goes on to state “[e]ach of the criteria must be separately addressed, with a specific explanation of why it has been met.” As noted earlier, the Commission expects its adjudicatory boards to enforce the [section 2.326] requirements rigorously—*i.e.*, to reject out-of-hand reopening motions that do not meet those requirements within their four corners.” *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2) ALAB-915, 29 NRC 427,432 (1989). Here, NEI completely failed to meet those requirements. Its contention must be rejected.

This contention should also be rejected because it addresses issues that are not within the scope of this proceeding. The repackaging of SNF in DPCs into TADs at commercial sites is not

³⁴ In its Petition, NEI’s attempt to address the requirements of 10 C.F.R § 2.326 consists of two sentences: “DOE’s failure to analyze these reasonably foreseeable environmental impacts is timely raised in this petition for intervention and concerns a significant environmental issue. Had DOE initially analyzed these impacts, its EIS would have been altered.” Petition at 41. While these conclusory statements clearly do not satisfy the very rigorous requirements of § 2.326, they do demonstrate that NEI was aware of its obligation to meet the requirements of § 2.326 and did not do so.

part of DOE's Proposed Action in the Repository SEIS and for this reason as well, the contention fails to establish a genuine dispute with DOE on a material issue of fact or law, contrary to 10 C.F.R. 2.309(f)(1)(vi). The sensitivity analysis in Appendix A of the SEIS analyzes the effects on transportation and at the repository of a potential case in which only 75% of commercial SNF is transported in TADs with the remainder placed in TAD canisters at the repository site. This analysis concludes that the deviation in the percentage implementation of TAD canisters would have little effect on transportation or repository-related estimated environmental impacts.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

Contentions relating to the proposal by DOE to accept up to 90% of commercial SNF in TADs is not within the scope of this proceeding. As discussed in section IV.A.5.b, contentions relating to DOE's proposal to accept a substantial amount of commercial SNF for transportation and disposal in TADs are outside the scope of this proceeding. NRC has no statutory or regulatory authority over how DOE will accept commercial SNF pursuant to the contract between DOE and the generator of the SNF. While NRC can consider the effects of using TADs to accept commercial SNF, it cannot go behind those decisions and, in effect, dictate how much commercial SNF DOE can accept in TADs. Thus, any contention premised on such action is beyond the scope of this proceeding. Put simply, NRC must take DOE's proposal to accept up to

as much as 90% of commercial SNF in TADs as a given in deciding whether to issue construction authorization for the repository.

d. Whether the Issue is Material to the Findings that the NRC Must Make

For the reasons discussed in section c. above and in section IV.A.5.b, this contention does not raise an issue that is material to the findings NRC must make because it constitutes a challenge to DOE's proposal to use TADs rather than a challenge to DOE's analysis of the environmental impacts of that proposal. Because the contention raises issues that are outside the scope of this proceeding, it does not present an issue material to the findings that NRC must make.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner's Position and Supporting References

For the reason discussed in above with respect to the requirements of 10 C.F.R. §§ 51.109 and 2.326, and as addressed in Section IV.A.3 regarding the legal standards under 10 C.F.R. § 2.309(f)(1)(v), NEI has failed to provide the requisite supporting facts, expert opinion and references.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

For the reasons discussed in section c. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation proposals are outside the scope of this proceeding. Moreover, the contention also fails to raise a genuine dispute on a material issue because, contrary to the contention, the Repository SEIS does address in detail the environmental impacts that would result from DOE's receipt of up to 90% of SNF in TAD canisters at the repository, *e.g.*, Repository SEIS, Vol. I at § 4.1 (pp. 4-64 to 4-66, 4-71, 4-73, 4-74, 4-75, 4-90, 4-97, 4-100) and during transportation. *E.g., id.*, at 6-8, 6-10 to-14 (expressly

addressing loading activities at generator sites), 6-59. *See also* 8.4.1.1 (Cumulative Impacts of Storage and Loading at Generator Sites) at pp. 8-37 to 39.

As to NEI's argument that fewer than 90% of the SNF will, in fact, be in TADs, DOE also analyzed a situation in which less than 90% of the SNF would be shipped in TADs in response to scoping comments received from a number of commenters. Repository SEIS, Vol. I at 1-15 to-16. In Appendix A to the Repository SEIS, DOE analyzed the impacts of a TAD implementation ratio of 75%. Repository SEIS, Vol. II, App. A at A-2 to-5. NEI has said this approach is reasonable. In particular, NEI stated in its comments on the draft SEIS that “we find DOE’s decision to consider, in this SEIS, the possibility that it might in reality, receive up to 25 percent of the commercial inventory in non-TAD canisters (DSEIS Section 2.1.1) to be both reasonable and prudent.” Repository SEIS, Vol. III at CR-291.

NEI’s contention claims that as much as 14,354 metric tons of heavy metal (MTHM) will be in DPCs or BFCs, exceeding the 10% allotment for non-TAD use by 8,054 MTHM. Petition at 42. However, by NEI’s own calculations, this amount will not exceed the 25% allotment for non-TAD use analyzed by DOE in Repository SEIS, Appendix A. Petition at 42. DOE’s analysis fully meets the requirement that an agency take a hard look. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). Thus, NEI has not raised a material issue of fact for this reason as well.

Finally, DOE’s assumption that 90% of the SNF would be shipped in TADs while also considering the possibility of a smaller amount shipped in TADs, was clearly a reasonable one and should not be second guessed or challenged by potential intervenors. As in the case of a reviewing court, it is not the role of the NRC “to decide what assumptions ... we would make were we in the Secretary’s position, but rather to scrutinize the record to ensure that the

Secretary has provided a reasoned explanation for his policy assumptions” *Wyo. Lodging and Rest. Ass’n v. Dep’t. of Interior*, 398 F. Supp. 2d 1197, 1214 (D. Wyo. 2005), citing *American Iron & Steel Institute v. Occupational Safety and Health Admin.*, 939 F.2d 975, 982 (D.C. Cir. 1991); *San Francisco Baykeeper v. U.S. Army Corps of Engineers*, 219 F. Supp. 2d 1001, 1015 (N.D. Cal. 2002) (agency’s reasonable assumptions entitled to deference).

The NRC has already made clear that the decision to adopt DOE’s environmental analyses “does not necessarily mean that NRC would independently have arrived at the same conclusions on matters of fact or policy.” NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed Reg. 16,131, 16,142 (May 5, 1988). DOE has provided reasonable explanations for the assumptions it has made in its NEPA analyses, and it is not the Commission’s duty to “second guess” those assumptions. *Wyo. Lodging and Rest. Ass’n v. Dep’t of Interior*, 398 F. Supp. 2d at 1214. Indeed, NEI’s own claims regarding the possible amount of non-TAD use confirm the reasonableness of DOE’s assumptions. Therefore, this contention should be dismissed.

8. NEI - NEPA - 02: Overestimate of Number of Truck Shipments

The Yucca Mountain Final Supplemental Environmental Impact Statement (“FSEIS”) overestimates the radiological exposures that reactor and Yucca Mountain site workers will receive because it overestimates the number of spent nuclear fuel (“SNF”) shipments to Yucca Mountain that will occur by truck.

RESPONSE

In this contention, NEI asserts that the Repository SEIS overestimates the environmental harm from SNF transportation to Yucca Mountain because it overstates the number of truck shipments that will occur.

All NEPA contentions must demonstrate that they meet the criteria of 10 C.F.R § 51.109 and 10 C.F.R. § 2.326, as well as the standards for contentions of 10 C.F.R. § 2.309. NEI fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, NEI must (1) raise a significant environmental issue; and (2) demonstrate that its contention, if proven to be true, would or would likely result in a materially different outcome in this proceeding. Moreover, its environmental contention must be supported by the affidavit of a qualified witness that sets forth the factual and/or technical basis supporting the claim that these two criteria have been met, including a “specific explanation of why it has been met.” 10 C.F.R. § 2.326(b). As noted in Section IV.A.4 above, “the Commission expects its adjudicatory boards to enforce the [section 2.326] requirements rigorously – *i.e.*, to reject out-of-hand reopening motions that do not meet those requirements within their four corners.” *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2) ALAB-915, 29 NRC 427, 432 (1989).

First, NEI makes no effort in its expert's affidavit to address any of the requirements of §§ 51.109 and 2.326 much less separately address each of the § 2.326(a) criteria. NEI's entire effort to demonstrate compliance consists of the following four sentences in its Petition:

DOE's overestimation of the number of SNF shipments that will occur by truck constitutes "new considerations [that] render [its] environmental impact statement in adequate [sic]." 10. C.F.R. 51.109(c)(2). The issues raised herein meet the requirements of 10 C.F.R. 51.109(a)(2) (referring to the standards for motions to reopen under 10 C.F.R. 2.326). DOE's overestimation of the number of SNF shipments that will occur by truck is timely raised in this petition for intervention and concerns a significant environmental issue. Had DOE correctly estimated these shipments, its EIS would have been altered.

Petition at 44. These statements contain no supporting analysis or explanation and are not addressed in the supporting affidavit.

With regard to the most important and difficult showing—a demonstration that a "materially different result would be or would have been likely" if the contention were proven to be true – the affidavit of NEI's expert, Mr. Gutherman, is silent. Equally important, Mr. Gutherman never provides the analysis that is explicitly required by §§ 51.109 and 2.326(b). At a minimum, those regulations require Mr. Gutherman "to set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) of this section have been satisfied." Similarly, § 51.109 requires that the affidavit set forth the factual and/or technical bases for the claim that it would not be practicable to adopt the EIS. Here NEI has not simply failed to meet those standards, it has chosen to ignore them. Its contention must be rejected.

Apart from NEI's failure to comply with §§ 51.109 and 2.326, it has also failed in the affidavit of Mr. Gutherman to demonstrate that its contention raises a significant environmental issue or that Mr. Gutherman is qualified to offer opinions on the subject matter of the contention. Mr. Gutherman's affidavit, in effect, complains that the doses arising from shipment of spent

nuclear fuel by truck are too conservative and overestimate the doses that will actually occur. The fact that the EIS provides a conservative calculation of radiological doses due to shipment is not a significant environmental issue and Mr. Gutherman never explains why in his view it is. Moreover, Mr. Gutherman reaches his conclusions by simply asserting that all shipments from 6 of the 7 commercial reactors identified in the EIS as shipping by truck will, in Mr. Gutherman's estimation, be by rail. He fails to provide any information as to how he came to this conclusion or if the commercial plants in the United States agree with his assertions. He supports his conclusion by claiming that it is "public knowledge" that shipments from 6 of the 7 reactors will be stored in rail sized casks but does not provide any reference in support of this assertion.

Finally, Mr. Gutherman is not qualified to provide any expert opinions about radiological doses because he is not a health physicist, and his affidavit discloses nothing in his background or training that would allow him to render expert opinions about radiological dose calculations. His affidavit should therefore be stricken and the contention rejected on that basis alone.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

Contentions challenging DOE's transportation decisions, like this contention, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding and may also be barred under finality principles.

First, as addressed in Section IV.A.5 above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of authority in this proceeding over transportation of SNF and HLW, as addressed in Section IV.A.5 above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 114 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. NEI has failed to identify any issue relating to the alleged overestimate of truck shipments for which the approach specified in Section 114 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of truck shipments, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to

challenge that ROD set forth in Section 114 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

d. Whether the Issue is Material to the Findings that the NRC Must Make

Because it raises issues that are outside the scope of this proceeding and instead within the exclusive jurisdiction of the court of appeals, and because it fails to demonstrate a violation of NEPA as discussed in section f. below, the contention does not present an issue material to the findings that NRC must make.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner's Position and Supporting References

For the reasons discussed above with respect to the requirements of 10 C.F.R. §§ 51.109 and 2.326, and as addressed in Section IV.A.3 regarding the legal standards under 10 C.F.R. § 2.309(f)(1)(v), NEI has failed to provide the requisite supporting facts, expert opinion and references.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

For the reasons discussed in section c. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions are outside the scope of this proceeding. Moreover, the contention also fails to raise a genuine dispute on a material issue because it is not a cognizable complaint under NEPA to argue that an agency has overstated an environmental impact. An agency has the discretion to estimate the reasonably foreseeable upper bound of an action's impacts, and in doing so, fully comports with NEPA's requirements. *See Natural Res. Def. Council, Inc. v. U.S. Nuclear Regulatory Comm'n*, 685 F.2d

459 (D.C. Cir. 1982) (noting that “[i]f, after considering [the upper bound] of environmental damage, the decisionmakers conclude that the proposed action is worth its societal costs, full account will have been taken of the action’s environmental impact”), *rev’d on other grounds, Baltimore Gas and Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87 (1983). As a result, courts have upheld NEPA analysis methodologies that result in a conservative estimate of environmental effects. *See Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 539 (8th Cir. 2003) (finding that using a conservative estimate “did not undermine the purposes of NEPA”).

Here, DOE analyzed the radiological impacts resulting from shipping by using the latest information data set documented in the Facility Interface Data Survey. The information in the Data Survey identifies the utilities that would ship SNF by truck rather than rail. Repository SEIS Vol. 1, Section 6.1.7 at 6-8. In response to this same comment from NEI, DOE stated that if the number of sites shipping by truck decreased, the corresponding transportation impacts would also decrease. Repository SEIS, Vol. III. CRD-240. Nothing in NEI’s contention demonstrates that DOE’s evaluation of the sites that would use trucks rather than rail was in error. NEI provides no documentary support for its statement that the shipment from the utility sites listed in NEI’s contention will be by rail rather than truck. Further even if NEI were correct, it simply means that the Repository SEIS was appropriately conservative in its treatment of transportation impacts.

Furthermore, even if the Board were to conclude that this contention involved disputed expert opinions, it is well-settled law that a petitioner does not raise a material issue under NEPA simply by presenting a battle of experts. In *Price Road Neighborhood Ass’n, Inc. v. Dep’t of*

Transportation, 113 F. 3d 1505 (9th Cir. 1997), the Court of Appeals affirmed a district court's grant of summary judgment to the agency. The Ninth Circuit stated that the appellant had:

sought to engage in a battle of the experts with regard to several impacts, including air quality and noise, offering their own studies to contradict those of the agencies. We have consistently rejected such attempts, noting that "when specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts"

Id. at 1511, citing *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (quoting *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989). Accord *Havasupai Tribe v. Robertson*, 943 F.2d 32, 34 (9th Cir. 1991) (affirming district court decision based on the administrative record that no supplementation of an EIS was required because "disagreement among experts does not invalidate an EIS").

As the Supreme Court stated in *Marsh*, an agency must have the discretion to rely on the reasonable opinions of its own experts "even if, as an original matter, a court might find contrary views more persuasive." *Marsh*, 490 U.S. at 378. This is because, as the Supreme Court explained in *Kleppe v. Sierra Club*, 427 U.S. 390,410 n.21 (1976), "[n]either the statute nor its legislative history contemplates that a court should substitute its judgment for that of the agency as to the environmental consequences of its actions." The NRC has indicated that it would adhere to this same tenet in deciding whether to adopt DOE's EIS. Specifically, in promulgating 10 C.F.R. § 51.109, the NRC stated that "the adoption of the [DOE] statement does not necessarily mean that NRC would independently have arrived at the same conclusions on matters of fact or policy." NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed. Reg. 16,131, 16,142 (May 5, 1988). Accordingly, the use of Mr. Gutherman's affidavit to question the assumptions of DOE's experts with regard to the number of truck shipments is unavailing.

In addition, an agency is entitled to rely on reasonable assumptions in its environmental analyses. *Inland Empire Pub. Lands Council v. U.S. Forest Serv.*, 88 F.3d 754, 762 (9th Cir. 1996), citing *Sierra Club v. Marita*, 845 F. Supp. 1317, 1331 (E.D. Wis. 1994), *aff'd*, 46 F.3d 606 (7th Cir. 1995); *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1335-36 (9th Cir. 1992). As in the case of a reviewing court, it is not the role of the NRC “to decide what assumptions ... we would make were we in the Secretary’s position, but rather to scrutinize the record to ensure that the Secretary has provided a reasoned explanation for his policy assumptions” *Wyo. Lodging and Rest. Ass’n v. Dep’t of the Interior*, 398 F. Supp. 2d 1197, 1214 (D. Wyo. 2005), citing *American Iron & Steel Institute v. Occupational Safety and Health Admin.*, 939 F.2d 975, 982 (D.C. Cir. 1991); *S.F. Baykeeper v. U.S. Army Corps of Eng’rs*, 219 F. Supp. 2d 1001, 1015 (N.D. Cal. 2002) (holding that an agency’s reasonable assumptions are entitled to deference).

The NRC has already made clear that the decision to adopt DOE’s environmental analyses “does not necessarily mean that NRC would independently have arrived at the same conclusions on matters of fact or policy.” NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed Reg. 16,131, 16,142 (May 5, 1988). DOE has provided reasonable explanations for the assumptions it has made in its NEPA analyses, and it is not the Commission’s duty to “second guess” those assumptions. *Wyo. Lodging and Rest. Ass’n*, 398 F. Supp. 2d at 1214. DOE made reasonable estimates in Table G-10 of the Repository SEIS to assume that seven commercial reactors will transport SNF to Yucca Mountain by truck. DOE based the information on generator sites that would ship by truck and by rail on the latest *Facility Interface Data Survey* (DIRS 175677-Gillespie 2005, all). However, over time, the capability of generator sites to ship by truck and by rail may change. Based on the impacts described in the

Yucca Mountain FEIS, if the number of truck shipments decreased, the corresponding transportation impacts would also decrease. Repository SEIS, Vol. III at CR-240.

Finally, NEI incorrectly implies that the language of 10 C.F.R. § 51.45 supports its contention. NEI cites to the requirement that environmental reports discuss: “The impact of the proposed action on the environment. Impacts shall be discussed in proportion to their significance.” 10 C.F.R. § 51.45(b)(1). NEI asserts, without legal support, that this language prevents conservative estimates of impacts. A far more natural reading, however, is that the length of discussion of a particular impact in an EIS must be *in proportion* to the significance of the environmental harm. In other words, agencies should not gloss over serious impacts. This regulation does nothing to support NEI’s contention, as DOE’s analysis of the transportation of SNF has been extremely thorough.

9. NEI - NEPA - 03: Over-Conservatism in Sabotage Analysis

The Final Supplemental Environmental Impact Statement (SEIS) for the Yucca Mountain repository, in Section 4.1.8.4, discusses environmental consequences of hypothetical terrorist attacks at the repository site. (The sabotage analysis for a “representative scenario” is also presented in Appendix E of the SEIS.) The SEIS, in Section 6.3.4, also discusses transportation sabotage events and consequences. NEI alleges these discussions of the consequences of highly unlikely and speculative scenarios are unreasonable and unnecessary. NEI also alleges the analyses are based on unrealistic, overly conservative assumptions that result in hypothetical impacts that are significantly over-estimated.

RESPONSE

In this contention, NEI asserts that the Repository SEIS is improperly over-conservative in its estimates of the effects of sabotage, including transportation sabotage.

Before addressing the § 2.309 factors, there is a threshold issue of whether this contention and its supporting affidavit meet the criteria of 10 C.F.R. §§ 51.109 and 2.326. Notwithstanding the clear requirement set forth in § 2.326(b), in the case of NEI’s third environmental contention, NEI chose not to submit an affidavit of any kind. Under 10 C.F.R. § 2.326 and the decisions of licensing boards and the appeals board, this contention must therefore be rejected.

a. Statement of Issue of Law or Fact to be Controverted

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

b. Brief Explanation of Basis

Without prejudice to other positions taken by DOE, DOE expresses no legal objection based upon this requirement.

c. Whether the Issue is Within the Scope of the Proceeding

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding and are also barred under res judicata or finality principles. Those portions of NEI's contention regarding DOE's analysis of potential transportation sabotage events are beyond the scope of this proceeding and are also barred under res judicata or finality principles.

First, as addressed in Section IV.A.5 above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5 above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 114 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS upon which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. NEI has failed to

identify any issue relating to transportation sabotage for which the approach specified in Section 114 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of transportation sabotage, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 114 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

d. Whether the Issue is Material to the Findings that the NRC Must Make

To the extent this contention deals with transportation it does not present an issue material to the findings that NRC must make, because challenges to DOE's transportation decisions and the environmental impact statements on which those decisions are based are outside the scope of this proceeding and instead within the exclusive jurisdiction of the court of appeals, and which are barred by finality principles. The contention also fails to raise a material issue because, as demonstrated in section f. below, it does not demonstrate any violation of NEPA.

e. Statement of Alleged Facts or Expert Opinion Supporting Petitioner's Position and Supporting References

For the reasons discussed above with respect to the requirements of 10 C.F.R. §§ 51.109 and 2.326, and as addressed in Section IV.A.3 regarding the legal standards under 10 C.F.R. § 2.309(f)(1)(v), NEI has failed to provide the requisite supporting facts, expert opinion and references.

f. Existence of a Genuine Dispute on a Material Issue of Law or Fact, With Supporting References to the License Application

For the reasons discussed in section c. above, there is no genuine dispute on any material issue of law or fact to the extent this contention deals with transportation because challenges to DOE's transportation decisions are outside the scope of this proceeding and because NEI failed to raise its claim within 180 days of issuance of the April 2004 ROD. Moreover, the contention also fails to raise a genuine dispute on a material issue because it is not a cognizable complaint under NEPA to argue that an agency has overstated an environmental impact. An agency is entirely within its discretion to estimate the reasonably foreseeable upper bound of an action's impacts, and in doing so, fully comports with NEPA's requirements. *See Natural Res. Def. Council, Inc. v. U.S. Nuclear Regulatory Comm'n*, 685 F.2d 459 (D.C. Cir. 1982) (noting that "[i]f, after considering [the upper bound] of environmental damage, the decisionmakers conclude that the proposed action is worth its societal costs, full account will have been taken of the action's environmental impact"), *rev'd on other grounds, Baltimore Gas and Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87 (1983); *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 539 (8th Cir. 2003) (finding that using a conservative estimate "did not undermine the purposes of NEPA").

Furthermore, NEI fails to present a genuine material dispute because it argues only that DOE's sabotage analysis is not *required* by NEPA, rather than that it is not *permitted*. Petition at 55. NEI argues that the Ninth Circuit's decision in *San Luis Obispo Mothers for Peace v. NRC*, 449 F. 3d 1016 (9th Cir. 2006), *cert. denied* 127 S. Ct. 1124 (2007), "does not compel" the evaluation conducted by DOE. Petition at 50. NEI later argues that "presenting the results of an

overly conservative consequence analysis is not appropriate.” *Id.* at 54.³⁵ Such statements may express NEI’s preferences, but they are not legally relevant complaints. To say that DOE has done a more thorough or conservative environmental analysis than the statute mandates is not a legitimate complaint for resolution by the NRC. Moreover, DOE clearly states in the Repository SEIS that the occurrence, nature and consequences of an act of sabotage is inherently uncertain and that DOE evaluated the consequences of a major sabotage event in response to public comments. *See* Repository SEIS, S-37.

In addition, even if the Board were to conclude that this contention involved disputed expert opinion, it is well-settled law that a petitioner does not raise a material issue under NEPA simply by presenting a battle of experts. In *Price Road Neighborhood Association, Inc. v. Dep’t of Transportation*, 113 F. 3d 1505 (9th Cir. 1997), the Court of Appeals affirmed a district court’s grant of summary judgment to the agency. The Ninth Circuit stated that the appellant had:

sought to engage in a battle of the experts with regard to several impacts, including air quality and noise, offering their own studies to contradict those of the agencies. We have consistently rejected such attempts, noting that “when specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts”

Id. at 1511, *citing Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (*quoting Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989). *Accord Havasupai Tribe v. Robertson*, 943 F.2d 32, 34 (9th Cir. 1991) (affirming district court decision based on the administrative record that no supplementation of an EIS was required because “disagreement among experts does not invalidate an EIS”).

³⁵ Without explanation, NEI argues that the "overly conservative" discussion of sabotage events diminishes the EIS's value as a communication tool because it "could" raise concerns that are not justified, increase licensing uncertainty, and delay licensing of the repository. None of NEI's "concerns" support admission of this contention.

As the Supreme Court stated in *Marsh*, an agency must have the discretion to rely on the reasonable opinions of its own experts “even if, as an original matter, a court might find contrary views more persuasive.” *Marsh*, 490 U.S. at 378. This is because, as the Supreme Court explained in *Kleppe v. Sierra Club*, 427 U.S. 390,410 n.21 (1976), “[n]either the statute nor its legislative history contemplates that a court should substitute its judgment for that of the agency as to the environmental consequences of its actions.” The NRC has indicated that it would adhere to this same tenet in deciding whether to adopt DOE’s EIS. Specifically, in promulgating 10 C.F.R. § 51.109, the NRC stated that “the adoption of the [DOE] statement does not necessarily mean that NRC would independently have arrived at the same conclusions on matters of fact or policy.” NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed. Reg. 16,131, 16,142 (May 5, 1988). Accordingly, it is of no help to NEI to cite its previous comments to the NRC regarding its disputes with DOE’s sabotage analysis methodology.

In addition, an agency is entitled to rely on reasonable assumptions in its environmental analyses. *Inland Empire Pub. Lands Council v. U.S. Forest Serv.*, 88 F.3d 754, 762 (9th Cir. 1996), citing *Sierra Club v. Marita*, 845 F. Supp. 1317, 1331 (E.D. Wis. 1994) (finding it permissible to assume that population trends affecting one species in a particular habitat will similarly affect other species in the same habitat), *aff’d*, 46 F.3d 606 (7th Cir. 1995); *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1335-36 (9th Cir. 1992) (finding it permissible for Service to assume that declines in the Stellar sea lion population would be the same for the harbor seal population, given their similarities). As in the case of a reviewing court, it is not the role of the NRC “to decide what assumptions . . . we would make were we in the Secretary’s position, but rather to scrutinize the record to ensure that the Secretary has provided a reasoned explanation

for his policy assumptions” *Wyo. Lodging and Rest. Ass’n v. Dep’t. of Interior*, 398 F. Supp. 2d 1197, 1214 (D. Wyo. 2005), citing *American Iron & Steel Institute v. Occupational Safety and Health Admin.*, 939 F.2d 975, 982 (D.C. Cir. 1991); *San Francisco Baykeeper v. U.S. Army Corps of Engineers*, 219 F. Supp. 2d 1001, 1015 (N.D. Cal. 2002) (agency’s reasonable assumptions entitled to deference).

The NRC has already made clear that the decision to adopt DOE’s environmental analyses “does not necessarily mean that NRC would independently have arrived at the same conclusions on matters of fact or policy.” NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed Reg. 16,131, 16,142 (May 5, 1988). DOE has provided reasonable explanations for the assumptions it has made in its NEPA analyses and it is not the Commission’s duty to “second guess” those assumptions. *Wyo. Lodging and Rest Ass’n v. Dep’t of Interior*, 398 F. Supp. 2d at 1214. NEI questions many of DOE’s assumptions, such as the assumption that the population affected by sabotage will not evacuate until after 24 hours, Petition at 54, but provides the NRC with no basis to question the reasonableness of these assumptions. Simply calling an assumption unreasonable does not give the NRC grounds to overturn the analysis of DOE’s experts. Therefore, this contention should be dismissed.

V. CONCLUSION

DOE has no reason to believe that NEI is not in substantial and timely compliance with its LSN obligations at this time. However, it has not demonstrated legal standing or a right to discretionary intervention. Nor has it proffered any admissible contentions. Therefore, NEI's Petition should be denied.

Respectfully submitted,

Signed electronically by Donald J. Silverman

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Dated in Washington, D.C.
this 16th day of January 2009.

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

In the Matter of:)	
)	
U.S. Department of Energy)	January 16, 2009
)	
(License Application for Geologic Repository at Yucca Mountain))	Docket No. 63-001
)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the “**ANSWER OF THE U.S. DEPARTMENT OF ENERGY TO THE NUCLEAR ENERGY INSTITUTE’S PETITION TO INTERVENE**” have been served on the following persons this 16th day of January, 2009 by the Nuclear Regulatory Commission’s Electronic Information Exchange.

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