

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

In the Matter of:)	
)	
U.S. Department of Energy)	January 15, 2009
)	
(License Application for Geologic Repository at Yucca Mountain))	Docket No. 63-001
)	

**ANSWER OF THE U.S. DEPARTMENT OF ENERGY TO THE
TIMBISHA SHOSHONE TRIBE'S PETITION FOR LEAVE TO INTERVENE
IN THE HEARING**

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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 “Timbisha Shoshone Tribe’s (the Tribe) Petition For Leave to Intervene In the Hearing” (Petition), filed on December 22, 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)

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.

for authorization to construct a 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, the Tribe 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) demonstrate 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 further below, the Tribe has failed to meet its obligation to comply with the NRC's LSN requirements. With regard to standing, as a threshold matter, if the Board determines that the Tribe is the official representative of the Affected Indian Tribe (AIT) that is entitled to standing under the Commission's Hearing Notice, then DOE does not object to its Petition on the basis of standing. *See* 10 C.F.R. § 2.309(d)(2)(iii). However, *both* the Tribe and another entity, the Timbisha Shoshone Yucca Mountain Oversight Project Non-Profit Corporation (YMOP), in separate petitions, claim to be the the official representative of the *same* AIT recognized by the U.S. Department of the Interior (DOI), and entitled to standing pursuant to the NRC's Hearing Notice. The Tribe has not demonstrated that it is the official representative of the AIT, and DOE is not in a position to make the determination as to whether the Tribe or YMOP is the AIT entitled to standing under 10 C.F.R. § 2.309(d)(2)(iii). Applying

the otherwise-applicable standing requirements to both entities (*i.e.*, to the Tribe and YMOP), however, demonstrates that neither entity has standing other than as the official representative of the AIT. *See* 10 C.F.R. § 2.309(a)-(e). Standing arguments aside, DOE does not believe the Tribe has proffered any admissible contentions. Therefore, its Petition should be denied as fully explained below.²

II. COMPLIANCE WITH LSN REQUIREMENTS

As a threshold matter, a petitioner seeking to participate in the licensing proceeding must demonstrate that it is in compliance with the NRC's LSN requirements.³ Specifically, 10 C.F.R. § 2.1012(b) states that:

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.

³ 10 C.F.R. § 2.1003 (a) requires that "each other potential party, interested governmental participant or party shall make available [on the LSN] no later than ninety days after the DOE certification of compliance under 2.1009(b) – an electronic file including bibliographic header for all documentary material . . . generated by, or at the direction of, or acquired by, a potential party, interested governmental participant or party."

Each potential party, interested governmental participant or party is required thereafter to "continue to supplement its documentary material made available to the other participants via the LSN with any additional material created after the time of initial certification in accordance with [§ 2.1003(a)] until the discovery period in the proceeding has concluded." 10 C.F.R. § 2.1003(e).

10 C.F.R. § 2.1009 prescribes the following additional LSN requirements:

- (a) Each potential party, interested government participant, or party shall –
 - (1) Designate an official who will be responsible for administration of its responsibility to provide electronic files of documentary material;
 - (2) Establish procedures to implement the requirements of § 2.1003;
 - (3) Provide training to its staff on the procedures for implementation of the responsibility to provide electronic files of documentary material;
 - (4) Ensure that all documents carry the submitter's unique identification number;
 - (5) Cooperate with the advisory review process established by the NRC under § 2.1011(d).
- (b) The responsible official designated under paragraph (a)(1) of this section shall certify to the [PAPO] that the procedures [specified above] have been implemented and that . . . the documentary material specified in 2.1003 has been identified and made electronically available. The initial certification must be made [within 90 days of the DOE certification of compliance].

Each potential party also is "responsible for obtaining the computer system necessary to comply with the requirements for electronic document production and service." 10 C.F.R. § 2.1011(b).

A person, including a potential party given access to the [LSN] under this subpart, may not be granted party status under [10 C.F.R.] § 2.309 or status as an interested governmental participant under [10 C.F.R.] § 2.315, if it cannot *demonstrate substantial and timely compliance* with the requirements of [10 C.F.R.] § 2.1003 at the time it requests participation in the HLW licensing proceeding under § 2.309 or § 2.315.

Emphasis added.

Section 2.1012(c) additionally provides that the “Presiding Officer *shall not* make a finding of substantial and timely compliance pursuant to paragraph (b) of this section for any person who is not in compliance with all applicable orders of the [PAPO Board].” 10 C.F.R. § 2.1012(c) (emphasis added).⁴

Further, § 2.309(a) states that, in ruling on a petition to intervene in this proceeding, the presiding officer shall consider “any failure of the petitioner to participate as a potential party in the pre-license application phase” governed by 10 C.F.R. Part 2, Subpart J.⁵

The Board should deny the Tribe’s Petition because the Tribe has not demonstrated that it is in substantial and timely compliance with the foregoing requirements. In fact, the Tribe’s Petition is silent about its LSN compliance. The Board cannot make the required finding that the Tribe has demonstrated it is in substantial and timely compliance in light of the Tribe’s silence.

⁴ The PAPO Board has issued a series of Case Management Orders that impose certain requirements regarding privilege claims for documentary material on the LSN. One of those orders also requires each participant to supplement its LSN production each month with newly created or discovered documentary material, and to file a certification with the PAPO Board when the monthly supplement is made. Revised Second Case Management Order § VI(A) (July 6, 2007).

⁵ Compliance with LSN requirements is crucial to the efficient conduct of this proceeding, insofar as the LSN is designed to enable “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.” 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, 14,926 (Apr. 14, 1989) (amending hearing rules for adjudication on application for a license to receive and possess HLW and establishing basic LSN procedures). It also is intended to facilitate the sharing of information between DOE, the NRC Staff, and the admitted parties throughout the licensing process. See 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, 32,840 (June 14, 2004) (“[A]n LSN participant does have an obligation to maintain its existing LSN collection intact and available for the balance of the construction authorization proceeding.”)

Moreover, the record clearly shows that the Tribe is not in compliance. The Tribe did not participate in the pre-license application phase of this proceeding. The Tribe did not make the required certification to the PAPO Board within 90 days after DOE's initial LSN certification, or at any other time. Nor did the Tribe make any monthly supplemental productions and certifications as required by the PAPO Board's Second Case Management Order. *See* SECY-08-0104, Licensing Support Network Administrator Semiannual Report (July 23, 2008) at 3-4 (identifying the potential parties that made LSN certifications and *not* identifying the Tribe). And while the Tribe made a modest number of documents available on the LSN for the first time the week before filing its Petition,⁶ it made no demonstration in its Petition or with the PAPO Board that it is now in compliance with LSN requirements.

The Tribe's failure to comply demonstrates, at a minimum, a lack of diligence. According to the LSN Administrator, an attorney for the Tribe contacted his office in July 2007, "requesting information on how to participate in the LSN and how to get added to the service list for the HLW EHD." SECY-08-0011, Licensing Support Network Administrator Semiannual Report (January 25, 2008) at 7. However, the Tribe initiated no further interaction for the rest of 2007, despite the fact that it faced a January 2008 deadline for its initial LSN certification. *Id.* Nor did the Tribe make any request of the PAPO Board for an extension or other relief with respect to that deadline.

The LSN Administrator thereafter met with representatives of the Tribe in May 2008, as part of an outreach effort coordinated by the NRC. SECY-08-0104, Licensing Support Network

⁶ Based on DOE's review, the Tribe's LSN collection contains 42 bibliographic headers. However, 32 of those headers identify the same document—a Final Legislative EIS for the Timbisha Shoshone Homeland that the Department of Interior issued in 2000. It appears that the Tribe divided that EIS into 32 files on the LSN, meaning that the Tribe's LSN collection actually consists of just 11 documents. Nine of these documents are dated either 1999, 2000 or 2001. One is dated June 2007. The final one is dated January 2008. There are no documents authored by or sent to any of three experts providing affidavits in support of the Tribe's proposed contentions.

Administrator Semiannual Report (July 23, 2008) at 4. As described by the LSN Administrator, in that meeting he provided the Tribe with information about “the technical aspects of establishing an LSN document collection and the technical assistance afforded by the LSN staff.” *Id.* However, the Tribe apparently made no follow-up request for assistance or training as of the end of June 2008 (which was the end of the reporting period for the cited report). *Id.*

Further, when counsel for the Tribe advised DOE in December 2008 that it intended to file an LSN certification -- which it apparently never did -- DOE’s counsel offered to confer with the Tribe’s counsel about the Tribe’s LSN production effort. DOE explained that it wanted to understand the Tribe’s LSN procedures and training to determine whether DOE could agree that the Tribe would be in compliance when it submitted its Petition, or whether DOE could propose any supplemental measures that would enable to it to stipulate that the Tribe would be in compliance once implemented. The Tribe did not follow up on DOE’s offer before filing its Petition.

The Board should deny the Tribe’s Petition in light of this record. The Tribe has not demonstrated that it has substantially and timely complied with LSN requirements, and the record prevents any such finding in the face of the Tribe’s silence.⁷

⁷ 10 C.F.R. § 2.1012(b)(1) is clear that a potential party “may not be granted” party status or participate under 10 C.F.R. § 2.315(c) if it cannot demonstrate substantial and timely compliance “at the time it requests participation.” 10 C.F.R. § 2.1012(b)(2) makes clear that the time to cure any such failure to meet LSN requirements is *after* party status or the right to participate has been “denied,” and not in any such Reply.

The Tribe may not “cure” this or any other defect in its Petition, in its Reply pursuant to 10 C.F.R. § 2.309(h)(2). It is well recognized that “[r]eplies must focus narrowly on the legal or factual arguments first presented in the original petition or raised in the answers to it.” *Nuclear Mgmt Co., L.L.C.* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006)(citing cases); *see Louisiana Energy Servs., L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 225 (2004)(citing Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2203 (Jan. 14, 2004)). Replies cannot be used to “expand the scope of the arguments set forth in the original hearing request,” nor should they be used to introduce new bases for contentions submitted with the original petition. *See Nuclear Mgmt Co., L.L.C.*, CLI-06-17, 63 NRC at 732. Additionally, the Advisory PAPO Board explicitly stated that “[r]eplies shall be limited to addressing points that have been raised in answers.” *U.S. Dep’t of Energy* (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), LBP-08-10, 67 NRC __ (slip op. at 9) (June 20, 2008).

III. LEGAL STANDING

As a threshold matter, if the Board determines that the Tribe is the official representative of the AIT, then DOE does not object to the Petition on the basis of standing. However, if it is determined that the Tribe is not the official representative of the AIT, then the Tribe has failed to demonstrate that it has standing in this proceeding.

The Tribe asserts both organizational and representational standing to intervene in this proceeding, and has further requested discretionary intervention. As discussed below, the Tribe has failed to demonstrate organizational standing because its allegations of injury are vague and hypothetical. Nor has the Tribe demonstrated that it satisfies the criteria governing representational standing. Finally, the Tribe 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 of 1954 (AEA), 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

DOE reserves the right to move to strike any portions of any Replies that fail to adhere to these limitations or to seek other relief as appropriate.

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. U.S. 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); *Reytblatt 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 the 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.” *Ne. 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 Based On Geographic Proximity

a. Proximity to the Facility at Issue

Under the proximity presumption concept, an individual petitioner, or a member of an organization, may assert standing under the AEA based upon a showing that his or her residence, place of work, or frequent activities are within the geographical area that might be affected by a release of fission products from a facility. This approach “presumes a petitioner has standing to intervene without the need specifically to plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm from the nuclear reactor or other source of radioactivity.” *Tenn. Valley Auth.*, LBP-02-14, 56 NRC at 23 (quoting *Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4)*, LBP-01-6, 53 NRC 138, 146 (2001), *aff’d on other grounds*, CLI-01-17, 54 NRC 3 (2001)). As a “rule of thumb,” the NRC generally has applied a presumption of standing in initial power-

reactor construction permit and operating license proceedings for individuals who live within 50 miles of a nuclear power plant. *See Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 75 n.22.

The NRC has held, however, that there is *no* 50-mile proximity presumption for standing to intervene in materials licensing proceedings (or reactor licensing proceedings involving approvals with less potential for offsite radiological consequences). *See, e.g., Va. Elec. & Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54, 56 (1979); *Commonwealth Edison Co.*, LBP-98-27, 48 NRC at 276, *aff'd*, CLI-99-04, 49 NRC 185 (1999) (in a decommissioning case, denying standing to a petitioner who lived 10 miles and traveled within one mile of a facility several times a week for business trips and personal errands, because the license amendments at issue did not create an “obvious potential for offsite consequences”). Instead, the Commission “determine[s] on a *case-by-case basis* whether the proximity presumption should apply, considering the ‘obvious potential for offsite [radiological] consequences,’ or lack thereof, from the application at issue, and specifically ‘taking into account the nature of the proposed action and the significance of the radioactive source.’” *Consumers Energy Co.* (Big Rock Point Independent Spent Fuel Storage Installation), CLI-07-19, 65 NRC 423, 426 (2007) (quoting *Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 580-81 (2005)) (emphasis added); *see also Ga. Inst. of Tech.*, CLI-95-12, 42 NRC at 116-17; *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 75 n.22; *Armed Forces Radiobiology Inst.* (Cobalt-60 Storage Facility), ALAB-682, 16 NRC 150, 153-54 (1982); *N. States Power Co.* (Pathfinder Atomic Plant Material License No. 22-08799-02), LBP-90-3, 31 NRC 40, 43 n.1, 45 (1990).

The smaller the risk of offsite consequences, the closer the petitioner must reside to be realistically threatened. *See, e.g., Pac. Gas & Elec. Co.* (Diablo Canyon Power Plant

Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 414 (2002), *recons. denied*, LBP-02-25, 2002 WL 31927752 (2002) (in a proceeding for a license to construct and operate an ISFSI at an operating reactor, granting standing to petitioners who lived within 17 miles of the facility, but denying standing to a petitioner who lived 20 miles from the facility); *Tenn. Valley Auth.*, LBP-02-14, 56 NRC at 25 (allowing for the proximity presumption to apply to an organization’s members who lived within 17 miles of the Sequoyah and Watts Bar reactors at which “TVA propose[d] to add tens of millions of curies of highly combustible radioactive hydrogen gas” to the reactors’ core inventory; holding that a closer proximity is required in a spent fuel pool re-racking case than in a power reactor proceeding); *Boston Edison Co.* (Pilgrim Nuclear Power Station), LBP-85-24, 22 NRC 97, 98-99 (1985), *aff’d on other grounds*, ALAB-816, 22 NRC 461 (1985); *accord Sacramento Mun. Util. Dist.*, LBP-92-23, 36 NRC at 129-31 (holding that residence 43 miles from the facility is insufficient to establish standing in a case involving reactor decommissioning).

As the Commission has explained, the burden rests with the petitioner asserting standing based on geographic proximity:

The initial question we need to address is whether the kind of action at issue, when considered in light of the radioactive sources at the [facility], justifies a presumption that the licensing action could plausibly lead to the offsite release of radioactive fission products from . . . [the facilities at issue]. *The burden falls on the petitioner to demonstrate this.* If the petitioner fails to show that a particular licensing action raises *an obvious potential for offsite consequences*, then our standing inquiry reverts to a traditional standing analysis of whether the petitioner has made a specific showing of injury, causation, and redressability.

Exelon Generation Co., LLC, CLI-05-26, 62 NRC at 581 (internal quotation marks and citations omitted) (emphasis added).

To meet this burden, a petitioner must provide “*fact-specific* standing allegations, not conclusory assertions,” because the Commission “cannot find the requisite ‘interest’ based on . . . general assertions of proximity.” *Consumers Energy Co. (Palisades Nuclear Power Plant)*, CLI-07-18, 65 NRC 399, 410 (2007) (emphasis added). “[T]he proximity presumption only applies to petitioners who reside or have frequent contact with a facility’s zone of possible harm.” *Tenn. Valley Auth.*, LBP-02-14, 56 NRC at 26. Such petitioners “must demonstrate that the frequency of their contact with the zone of possible harm occurs on a regular basis that is akin to the kind of contact residency provides.” *Id.* (citing *Ga. Inst. of Tech.*, CLI-95-12, 42 NRC at 116-17).

Accordingly, the Commission has found proximity standing only at “such close distances where a petitioner *frequently* engages in *substantial* business and related activities in the vicinity of the facility, engages in normal everyday activities in the vicinity, has regular and frequent contacts in an area near a licensed facility, or otherwise has visits of a length and nature showing an ongoing connection and presence.” Conversely, the Commission has denied proximity standing where contact has been limited to “mere occasional trips” to areas located near the proposed facilities. *Consumers Energy Co. (Big Rock Point)*, CLI-07-21, 65 NRC 519, 523-524 (2007) (denying standing in ISFSI license transfer proceeding to petitioner who sails and walks within a mile of the facility several times a year) (internal quotation marks and citations omitted) (emphasis in original); *see also Commonwealth Edison Co. (Zion Nuclear Power Station, Units 1 and 2)* LBP-98-27, 48 NRC at 276, *aff’d*, CLI-99-04, 49 NRC 185 (1999) (in a decommissioning proceeding, denying standing to a petitioner who lived 10 miles and traveled within one mile of a facility several times a week for business trips and personal errands, because the license amendments at issue did not create an “obvious potential for offsite consequences”).

The Commission has similarly held that geographic proximity alone is not sufficient to establish standing under NEPA. In *Quivira Mining*, the Commission stated:

the risk that environmental harm will be overlooked—is itself sufficient injury in fact to support standing, provided this injury is alleged by a plaintiff having a *sufficient geographical nexus* to the site of the challenged project [such that they can] expect [] to suffer whatever environmental consequences the project may have.

CLI-98-11, 48 NRC at 8-9 (quoting *Sabine River Auth. v. U.S. Dep’t of Interior*, 951 F.2d 669, 674 (5th Cir. 1992)) (internal quotation marks omitted) (emphasis in original). A petitioner thus must do more than assert geographic proximity to the project; it must show that it is “threatened by environmental harm.” *Id.* at 9. As the D.C. Circuit has further explained:

[G]eographic proximity does not, in and of itself, confer standing on any entity under NEPA or any other statute. Rather, it is the concrete and particularized injury which has occurred or is imminent *due* to geographic proximity to the action challenged that gives rise to Article III standing.

City of Olmstead Falls v. Fed. Aviation Admin., 292 F.3d 261, 267 (D.C. Cir. 2002) (emphasis in original); *see also Comm. to Save the Rio Hondo v. Lucero*, 102 F.3d 445, 449 (10th Cir. 1996) (holding that “[t]o demonstrate that the increased risk of harm injures the plaintiff’s concrete interests, the litigant must establish either a ‘geographic nexus’ to, or actual use of the site” such that it may suffer environmental consequences from the agency’s action). In short, “environmental [petitioners] must allege that they *will suffer harm by virtue of their geographic proximity* to and use of areas that will be affected by the [proposed agency action].” *Citizens for Better Forestry v. U.S. Dep’t of Agric.*, 341 F.3d 961, 971 (9th Cir. 2003) (emphasis added).

b. Proximity to Potential Transportation Routes

Mere geographic proximity to transportation routes is insufficient to support standing for a petitioner. Rather, a petitioner must affirmatively establish a nexus between the licensing

action and the petitioner's alleged injury to be found to have standing. In a recent proceeding involving an export license for the shipment of weapons-grade plutonium by DOE, the Commission refused to admit a group of petitioners who asserted representational standing because certain members resided within five miles of the highways and railroad lines upon which the plutonium shipments would travel, and within an eighth of a mile from the harbor at which the plutonium would be transferred onto ships. *U.S. Dep't of Energy*, CLI-04-17, 59 NRC at 364 n.11. The Commission held that petitioners cannot establish standing solely by alleging proximity to transportation routes; rather, they must affirmatively establish a nexus between the licensing action and the petitioner's alleged injury. *Id.* at 364 n.11, 365-66.

In so ruling, the Commission cited the Licensing Board's 2002 ruling on standing and admissibility of contentions in the *Pac. Gas & Elec. Co.* (LBP-02-03) ISFSI licensing proceeding. In that proceeding, certain petitioners alleged standing based on the geographical proximity of their homes "to transportation routes that could potentially be used to transport spent fuel away from [the ISFSI] to the proposed Yucca Mountain HLW repository facility" and to a proposed away-from-reactor ISFSI in Utah. *Pac. Gas & Elec. Co.*, LBP-02-23, 56 NRC at 433, *recons. denied*, LBP-02-25, 2002 WL 31927752 (2002). The Board held that the petitioners failed to establish standing. Specifically, the Board found that "mere geographical proximity to potential transportation routes is insufficient to confer standing." *Id.* at 434 (citing *U.S. Dep't of Energy*, CLI-04-17, 59 NRC at 364 n.11). Instead, the Board held, petitioners seeking admission as parties under 10 C.F.R. § 2.309 "must demonstrate a causal connection between the licensing action and the injury alleged." *Id.* at 434; *see also U.S. Dep't of Energy*, CLI-04-17, 59 NRC at 377 n.11.

In *Pac. Gas & Elec. Co.*, the Board noted that the substance of what the petitioners had claimed in the declarations of individual members was akin to what petitioners in the earlier *N. States Power Co.* (LBP-90-3) and *Exxon Nuclear Co.* (LBP-77-59) cases had asserted. *Pac. Gas & Elec. Co.*, LBP-02-23, 56 NRC at 434. In *N. States Power Co.*, the Board denied standing to a petitioner who claimed that nuclear materials from decommissioning likely would be transported on an interstate highway within one mile of his house, and that a potential accident would expose him to radiation. LBP-90-3, 31 NRC at 42, 52; see also *Int'l Uranium (USA) Corp.*, CLI-01-18, 54 NRC at 28-9. The Board found that because the petitioner had failed to establish a causal connection between the proposed decommissioning action and any purported injury, “the claim of injury [was] purely speculative and legally insufficient to establish standing.” *N. States Power Co.*, LBP-90-3, 31 NRC at 43. As the Board further explained:

Nuclear waste safely and regularly moves via truck and rail throughout the nation The mere fact that additional radioactive waste will be transported if decommissioning is authorized does not ipso facto establish that there is a reasonable opportunity for an accident to occur [in the vicinity of the petitioner], or for the radioactive materials to escape because of accident or the nature of the substance being transported.

Id.

The *Exxon* proceeding involved the proposed construction of a facility for the storage and reprocessing of SNF. The Board in that case found no standing where the petitioner alleged that a potential accident involving spent fuel rods transported on railroad tracks “very near” her home and rental property “could cause her bodily harm, loss of life or loss of income.” *Exxon Nuclear Co., Inc.* (Nuclear Fuel Recovery and Recycling Center), LBP-77-59, 6 NRC 518, 519-520 (1977). The Board ruled that “allegations of possible physical and/or economic injury are entirely speculative in nature, being predicated on the tenuous assumptions that the spent fuel

will be shipped by the named carrier and that an accident might occur in the area proximate [to her property].” *Id.* at 520.

A recent decision of the U.S. Court of Appeals for the Ninth Circuit reinforces, and elaborates upon, the standing principles discussed above. In *Nuclear Info. and Res. Serv. v. U.S. Nuclear Regulatory Comm’n*, 457 F.3d 941 (9th Cir. 2006) (*NIRS*), the Ninth Circuit rejected the *NIRS*’s NEPA-based challenge to an NRC rulemaking in which the Commission revised certain Part 71 regulations governing exemption standards for the transportation of radioactive material. Although that case involved an NRC rulemaking as opposed to an NRC licensing action, the court’s holding is nonetheless instructive here, and confirms that fact-specific allegations – not vague claims of geographic proximity – are required to show standing. *NIRS*, 457 F.3d at 954.

NIRS members claimed standing by virtue of their interest in protecting the public health from radioactive sources and practices, including the transport of radioactive material. In addition to asserting a “cognizable procedural injury” due to the NRC’s alleged failure to meet its NEPA obligations (by not preparing an EIS), *NIRS* asserted a “geographic nexus because the exemption rules authorize transport of radioactive waste on public roads nationwide.” *Id.* at 949. One *NIRS* member, a truck driver, submitted a declaration stating his concern “that allowing the unregulated transportation of radioactive material may expose me to adverse health consequences without my knowledge or consent and without ability to avoid or reduce these consequences.” *Id.* at 951.

The Ninth Circuit held that *NIRS* lacked standing because *NIRS* failed to show “a concrete and particularized injury.” *Id.* at 955. In particular, the court found that *NIRS* did not explain why the contested regulation posed “a credible threat” to its members’ health:

NIRS fails to show that its members’ concrete interest is threatened by *the challenged regulation*, rather than by “unregulated

transportation of radioactive material” in the abstract. The declarations simply express undifferentiated “concerns” – the same concerns about nuclear hazards shared by the public at large – and speculate that unregulated transportation of radioactive material in general – *not this regulation in particular* – may present unspecified threats to their health As the members here have not shown that their interests are directly affected or threatened, they are in the same position as plaintiffs “raising only a generally available grievance about the government” and “seeking relief that no more directly and tangibly benefits [them] than it does the public at large” that *Lujan [v. Defenders of Wildlife]*, 504 U.S. at 573-74] indicates do not satisfy Article III’s case and controversy requirement.

Id. at 954 (emphasis in original).

3. 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.

4. 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) (emphasis added) (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”).

5. Standing of Affected Indian Tribes to Participate as Parties to the Proceeding under 10 C.F.R. § 2.309

As a general matter, a Federally-recognized Indian Tribe that wishes to be a party in this licensing proceeding must affirmatively demonstrate standing. The presumption of standing codified at 10 C.F.R. § 2.309(d)(2)(iii) is limited to “any affected Federally-recognized Indian Tribe” as defined in Parts 60 and 63. Part 63 defines an “Affected Indian Tribe” as follows:

[A]ny Indian Tribe within whose reservation boundaries a repository for high-level radioactive waste or spent fuel is proposed to be located; or whose Federally-defined possessory or usage rights to other lands outside of the reservation’s boundaries

arising outside of Congressionally-ratified treaties or other Federal law may be substantially and adversely affected by the location of the facility if the Secretary of the Interior finds, on the petition of the appropriate government officials of the Tribe, that the effects are both substantial and adverse to the Tribe.

10 C.F.R. § 63.2. Section 2.309(d)(2)(iii) explicitly states: “All other petitions for intervention in [this] proceeding must be reviewed under the provisions of paragraphs (a) through (f) of this section [*i.e.*, the general standing provisions discussed above].” *Id.*

The Timbisha Shoshone Tribe has been determined by the DOI to be an AIT for purposes of the NWPA. However, two entities in this proceeding (*i.e.*, the Tribe and the Timbisha YMOP) have filed petitions on behalf of the Timbisha Shoshone Tribe. The petitioner, whether it be the Tribe or the Timbisha YMOP, that is found to be the official representative of the AIT is entitled to standing as a matter of right in accordance with Section 2.309(d)(2)(iii). The entity that is found not to be the official representative of the AIT, however, must demonstrate that it has standing.

B. DOE’s Answer Regarding the Tribe’s Legal Standing

Should the Board determine that the Tribe is not the official representative of the AIT, the Tribe’s Petition should be denied because it has failed, as explained below, to demonstrate that it has organizational or representational standing. Nor has it met the standards for discretionary intervention under 10 C.F.R. § 2.309(e).

1. The Tribe Has Failed to Demonstrate That It Is Entitled to Organizational Standing If It Is Not the AIT

The Tribe’s asserted basis for standing rests on the predicate that it is the official representative of the AIT recognized by the DOI. Petition at 4 (“The Tribe, as an affected Federally-recognized Tribe, has a right to intervene in the proceeding.”). As such, the Tribe claims “inherent sovereign rights to protect its ancestral homelands” (Petition at 5) and “to

protect the interests of its people and lands” Petition at 6. *See also* Petition at 7 (“The Tribe represents a jurisdiction of sovereign territory.”).

The Tribe’s assertions of injuries to the Timbisha Shoshone and its Homeland are not the “distinct and palpable, particular and concrete” injuries required to establish standing for a non-AIT. *Int’l Uranium (USA) Corp.*, CLI-98-6, 47 NRC at 117. They are, at best, “unsupported general references to radiological consequences [that] are insufficient to establish a basis for injury” for standing purposes. *Sacramento Mun. Util. Dist.*, LBP-92-23, 36 NRC at 130.

Following are some excerpts from the Petition that are indicative of the vagueness of these allegations:

- “In general . . . the threats to the Tribe interests are of two types: those threats posed by transportation of radioactive waste through or adjacent to the Tribe Homeland from sites within and outside California, and those threats posed by migration of radioactive material from the repository to the Tribe’s groundwater.” Petition at 9.
- According to the Tribe, the transportation threats result from the transportation of thousands of cases of radioactive waste from facilities from California and throughout the country through or adjacent to the Tribe’s Homeland en route to the repository. Petition at 10.
- “The Tribe has an interest as a party to the proceeding in order to insure protection from pre-closure impacts and post-closure impacts of the proposed repository at Yucca Mountain. Some of those adverse impacts include possible contamination of groundwater/drinking water sources, radioactive releases, rail and highway transport routes through or adjacent to the Tribe’s Homeland, and economic loss.” Petition at 7.
- “The Tribe’s land faces the threat of contamination of groundwater/drinking water sources, radioactive releases, rail and highway transport routes through or adjacent to the Tribe’s Homeland, and economic loss.” Petition at 8.

As a result, the Tribe’s right to standing is dependent on being the official representative of the AIT recognized by the DOI. Without that status, the Tribe lacks any recognized sovereign interest on behalf of the Timbisha Shoshone members and their land. However, those types of “general environmental and policy interests [are] of the sorts the [federal courts and NRC]

repeatedly have found insufficient for organizational standing.” *Consumers Energy Co.*, CLI-07-18, 65 NRC at 411-12.

2. The Tribe Has Failed to Demonstrate That It Is Entitled to Representational Standing

The Tribe has similarly failed to demonstrate representational standing on behalf of any purported members of its organization because it has not made any of the required showings. *Consumers Energy Co.*, CLI-07-18, 65 NRC at 408-10 (setting forth requirements of representational standing). In this regard, it fails to identify the name and address of any of its members, fails to allege that any one of its members has standing in his or her own right, and fails to show, by affidavit or otherwise, that the organization is authorized by one of its members to intervene on his or her behalf. These failures preclude the Tribe from intervening in this proceeding on the basis of representing any of its purported members.

3. The Tribe Has Failed to Show That It Should Be Granted Discretionary Intervention

As discussed earlier, 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* 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”). The Tribe has not demonstrated that it is entitled to this extraordinary relief under the six factors set forth in 10 C.F.R. § 2.309(e) for discretionary intervention.

First, there is no evidence that the Tribe's participation in this proceeding will assist in the development of a sound record, despite its unsupported claim to the contrary. *See* 10 C.F.R. § 2.309(e)(1)(i). All the Tribe states is that it "will provide expert testimony" without providing any explanation of the identities or qualifications of its experts. Petition at 15. It does not allege, and there is no evidence in the Petition, that it has particular expertise, specialized education, or pertinent experience that will enable it to contribute to the development of the record.

Second, the nature of the Tribe's property, financial or other interests in the proceeding does not favor allowing intervention. *See* 10 C.F.R. § 2.309(e)(1)(ii). Insofar as the Petition shows, any interest that the Tribe has flows from its alleged status as the official representative of the AIT. If that predicate is incorrect, the Tribe has not identified any interest that warrants its intervention.

Third, pursuant to 10 C.F.R. § 2.309(e)(1)(iii), the Tribe claims that if an order is issued, it will be impacted by shipments of radioactive waste traveling to the repository. Petition at 15. The Tribe alleges that the "decisions DOE makes about transportation in Nevada will determine the routes used in or near the Tribe's Homeland, the area of the Tribe's Homeland at risk, and the degree of that risk." *Id.* As set forth above, the Tribe's issues regarding alleged threats from transportation routes are outside the scope of this proceeding. 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). Thus, the Tribe has failed to show that it has an interest within the scope of this proceeding that will be impacted by any order issued by the NRC.

Fourth, the Tribe claims that no other person can represent its interests. Petition at 16. Contrary to its unsupported assertion, however, the Tribe's claimed interests will be adequately

represented by the official representative of the AIT that has standing to intervene, if it is an entity other than the Tribe.

Fifth, as explained above, the official representative of the AIT can be expected to adequately represent the interests of the Tribe pursuant to 10 C.F.R. § 2.309(e)(2)(ii), should that other petitioner be admitted as a party.

Sixth, the Tribe's participation is likely to inappropriately delay the proceeding per 10 C.F.R. § 2.309(e)(2)(iii). The Tribe has already demonstrated its unwillingness or inability to timely comply with NRC requirements governing this proceeding, including but not limited to, its failure to comply with LSN requirements and PAPO Board orders during the lengthy pre-license application phase.

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.*, CLI-01-17, 54 NRC at 5. 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, LSN, Submissions to the Electronic Docket, 69 Fed. Reg. at 32,843. 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 (High-Level Waste Repository: Pre-Application Matters), CLI-08-12, 67 NRC __ (slip op. at 8) (June 17, 2008).

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 the Petitioner'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.

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*, 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 NWPAs 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).⁸ That Order imposes numerous format requirements for proffered contentions. Failure to adhere to these format requirements may provide an additional 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.

⁸ 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 __ (September 29, 2008).

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.” *Public 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.” *Public 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. U.S. 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.*, CLI-98-21, 48 NRC at 204 n.7. 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).

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.*, LBP-01-6, 53 NRC at 159, *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 NWPAA 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.⁹ These statements make clear that, while 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.¹⁰ 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,”¹¹ 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.”¹² 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

⁹ See Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 66 Fed. Reg. 32,074, 32,101-32,103 (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, 49,020-49,021 (August 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, 61,271-61,273 (October 15, 2008) (section III.A.4 titled “How Did We Consider Uncertainty and Reasonable Expectation?”).

¹⁰ See Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 66 Fed. Reg. at 32,101.

¹¹ Proposed Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 70 Fed. Reg. at 49,021.

¹² Final Rule, Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV, 73 Fed. Reg. at 61,271, n.22.

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.

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

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 regulatory limits* 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*, LBP-98-7, 47 NRC at 181, *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.¹³ 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:

¹³ 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 rail alignment within the Caliente corridor. 73 Fed. Reg. 60,247.

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;¹⁴ 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).
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).¹⁵

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. Nat’l 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

¹⁴ 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.

¹⁵ In addition, evidence in the affidavits must meet NRC admissibility standards and each criterion in 10 C.F.R. § 2.326 must be addressed separately.

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.

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

‘flyspeck’ an agency’s environmental analysis, looking for any deficiency no matter how minor.”
Id. (citing *Fuel Safe Wash. v. FERC*, 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.¹⁶

Sys. Energy Res., Inc. (Early Site Permit for Grand Gulf ESP 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) (2001) (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. 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

¹⁶ See also *Duke Energy Corp.*, (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 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, 1989) (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.*

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 v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). 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, 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(d), “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.” NEPA Review Procedures for Geologic Repositories

for High-Level Waste, 53 Fed. Reg. at 16,136; *see also* NEPA Review Procedures for Geologic Repositories for High-Level Waste, Fed. Reg. at 27,865 (“[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 Plant, Units 3 and 4), LBP-87-21, 25 NRC 958, 963-64 (1987) (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), ALAB-462, 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, 63 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 [] 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 § 2.326.¹⁷ For example, the Commission emphasized "a high threshold" for reopening a record as established by "longstanding NRC 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

¹⁷ 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).

“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 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, 28.

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 Relating to 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 Energy Reorganization Act (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. at 72,527. DOE is required by the NWPA to use NRC certified casks for shipment of SNF or HLW to the repository.¹⁸ 42 U.S.C. § 10175. That certification, however, is separate and distinct from

¹⁸ 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

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 NWPAA, 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 119 of the NWPAA 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 part.” 42 U.S.C. § 10139(a)(1)(B). 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

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.

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. 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 *Nev. 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, the State of Nevada filed a petition for review with the D.C. Circuit pursuant to Section 119 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 the State of 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 Rail Corridor for the Disposal of Spent Nuclear Fuel and High-Level Radiation Waste at Yucca Mountain, Nye County, NV, 69 Fed. Reg. 18,557 (Apr. 8, 2004). The State 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.

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).¹⁹ 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, 1196 n.8 (9th Cir. 1997) (concluding that “any cognizable claims should have been raised in *Western Radio I*, and are thus barred by res judicata”). Of course, any party who failed to appeal would be time barred pursuant to NWPA Section 119(c) among other defenses. Further, as the Commission has recognized, a party does not have the option of postponing judicial review under Section 119 of the NWPA, by instead trying to raise transportation-related environmental issues before the NRC. In particular, the NRC rejected this approach when it was raised in comments to the proposed 10 C.F.R. § 51.109 in 1989. In their comments to the Commission, certain environmental organizations stated that “affected parties may decide for reasons of litigative strategy” to raise environmental

¹⁹ 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.

issues “in NRC licensing proceedings rather than by going to court.” NEPA Review Procedures for Geologic Repositories for High-Level Radioactive Waste, 54 Fed. Reg. at 27,866. 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 119 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 119 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.*, 7 NRC 1, 25 (1978), and affirmed by the court of appeals in *New England Coalition on Nuclear Pollution v. U.S. 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. DOE’s Answer Regarding the Admissibility of Petitioner’s Proposed Contentions

1. TIM-NEPA-01: DOSES RELATED TO INGESTION OF PARTICULATE MATTER

Dose calculations presented in the FEIS and SFEIS, based on a “reasonably maximally exposed individual” (RMEI) as defined in 73 Fed. Reg. 61,256, 61,256-61, 289 (Oct. 15, 2008), fails to consider doses attributable to the full diet and associated particulate contamination of dietary components during the postclosure period, and doses related to airborne dust and sand containing radionuclides derived from the repository and had these deficiencies been remedied the disclosure of impacts would have been materially different, therefore the FEIS and FSEIS can not be adopted by the NRC.

RESPONSE

In this contention, the Tribe contends that the 2002 FEIS and Repository SEIS failed to consider “doses attributable to the full diet and associated particulate contamination of dietary components during the postclosure period and doses related to airborne dust and sand containing radionuclides derived from the repository.” Petition at 19. In the following paragraph describing the basis of the contention, the Tribe inconsistently claims – not that DOE failed to consider particulate contamination – but instead that such materials will be ingested “in quantities exceeding DOE’s estimates.” *Id.* The contention further claims that a groundwater flow and transport model “calibrated to replicate past-discharge conditions at Crater Flat is needed to support adequate analysis of the environmental impacts of radionuclide releases from the repository.” *Id.* at 23.

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. The Tribe fails to meet (or even attempt to meet) the express requirements of 10 C.F.R. §§ 2.326 and

51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4 the Tribe 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No demonstration or even claim is made in its Petition or in its experts’ affidavits that the contention raises a significant environmental issue. With regard to the most difficult and important showing—a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true—the Tribe’s Petition and the affidavit of its experts, Dr. Johnson and Dr. Mifflin are silent. Equally important, Drs. Johnson and Mifflin never provide the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” *Id.* The Tribe ignored all of these requirements and its contention must, therefore, be rejected.

Apart from the failure to meet the requirements of §§ 51.109 and 2.326, both Dr. Johnson's and Dr. Mifflin's affidavits are flawed in a number of respects. Both Dr. Johnson and Dr. Mifflin simply adopt sections of the contention. Dr. Johnson adopts only Paragraph 5 of the contention, while Dr. Mifflin adopts both Paragraphs 5 and 6. In Paragraph 5—the statement of the expert basis for the contention—Drs. Mifflin and Johnson do nothing more than present a hypothetical, vague, and unsubstantiated theory of possible groundwater rejuvenation at Crater Flat that might occur and that might have concentrations of radionuclides greater than that calculated at the RMEI. As stated in Paragraph 5, “concentrations of radionuclides in a downstream location selected for ground water abstraction *could* be higher than those calculated by abstraction for the RMEI.” Petition at 22 (emphasis added).

It is not enough for an expert in supporting a contention to offer hypothetical possibilities without demonstrating the likelihood of occurrence and the significance of any resulting environmental impact. Here, Drs. Mifflin and Johnson string together a series of possible occurrences – the possible rejuvenation of a groundwater discharge source where one does not now exist, the possibility that at this rejuvenated source the concentrations could be higher than at the RMEI, the possibility that the area could be more heavily populated, the possibility that in the area around the rejuvenated discharge there are concentrations of chemical precipitates that would absorb the radionuclides which would then become airborne and ingested by inhabitants of the area, and the possibility that the upward gradient is exhausted – and yet fail to show any likelihood of any of this occurring or that it would make the slightest difference in the current analysis of ground water discharges of radionuclides at the RMEI. Petition at 20-23.

For all the reasons set forth above, this contention must 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

As stated above, the explanation of the basis for the contention is inconsistent with the statement of the contention itself.

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

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

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

This contention does not raise a material issue because the Tribe fails to demonstrate any violation of NEPA. As demonstrated in Section IV.A.4 above, to present an admissible contention, a petitioner cannot simply repeat the comment it made to DOE on a draft EIS, but must demonstrate, through affidavits that comply with the requirements of 10 C.F.R. §§ 51.109 and 2.326, why DOE's resolution of the comment fails to comply with NEPA. 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). The Tribe has failed to make the required demonstration in this contention, but persists in simply disagreeing with DOE without identifying any facts indicating that DOE's analyses are inadequate. For example, the assertion that particulate materials will be ingested in "quantities

exceeding DOE's estimates" is unaccompanied by any facts as to what those quantities are or whether the allegedly greater quantities will be environmentally significant. Petition at 19. Similarly, the Tribe criticized use of the RMEI in its comments on the SEIS, stating that it did not reflect Shoshone Indians' traditional lifestyles. *E.g.*, Repository SEIS, Vol. III at CR-490. DOE responded that the RMEI concept was intended to "cover those few persons most at risk from releases from a repository." *Id.* Moreover, DOE did address traditional lifestyle issues including ingestion of foods such as wild game, and even pine nuts. 2002 FEIS, Vol III at CR7-617, 618, 731, 733. The contention does not demonstrate that DOE's analysis is wrong. It simply expresses a preference for an "alternative RMEI boundary." Petition at 21.

Finally, simply stating that radionuclide concentrations "could be higher" at a possible rejuvenated groundwater location, Petition at 22, than those calculated for the RMEI does not raise a material factual issue. Therefore, this contention should be dismissed.

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), the Tribe 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 d. above, there is no genuine dispute on any material issue of law or fact because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

2. TIM-NEPA-02: ANALYSIS OF ALTERNATIVES TO THE PROPOSED ACTION

DOE's discussion of alternatives the [sic] proposed repository at Yucca Mountain is inadequate in the context of the National Environmental Policy Act (40 CFR 1502.14), which indicates that the discussion of alternatives is "...the heart of the EIS"; DOE presents only a single, "No-action" alternative that does not include Yucca Mountain as a component in an alternative waste-management strategy that utilizes the site as Congress intended.

RESPONSE

In this contention, the Tribe appears to contend that notwithstanding the NWPA's prohibition against consideration of alternatives to a repository at Yucca Mountain, that DOE should nonetheless consider "site-specific alternatives to the proposed Mined Geologic Disposal System (MGDS)," Petition at 24, specifically "a surface-based storage facility" or a "near-surface storage" facility at Yucca Mountain. Petition at 26-27.

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. The Tribe fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, the Tribe 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 [§ 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. In particular, neither the contention nor the affidavits of Dr. Cady Johnson and Dr. Martin Mifflin contain any analysis or other information to satisfy the requirements of demonstrating that these criteria have been met. Dr. Johnson and Dr. Mifflin simply adopt the language in Paragraph 5 of the contention as the substance of the affidavit. Nowhere in the affidavits is there a discussion of the technical basis for the contention or a discussion of why this contention raises a significant environmental issue or why, if proven to be true, it would likely lead to a materially different outcome.

The affidavits do not meet the regulatory requirements for additional reasons. Dr. Johnson holds a B.S. in geology and a Ph.D. in geology and hydrology/hydrogeology. Dr. Mifflin similarly holds degrees in geology, applied science and hydrogeology. Neither claims to have any expertise on the law generally or on the statutory construction of the NWPA. Therefore the contention is not supported by any expert opinion. Nor is it supported by adequate facts, since Paragraph 5 rests on the mere assertion that “an alternative, surface-based storage facility should be available to decision-makers.” Petition at 26. The Commission is only required to consider deep geologic disposal at Yucca Mountain. 42 U.S.C. § 10101(18). If the Tribe intends to refer to some other alternative than a “near-surface” or “surface-based” storage facility in its statement that DOE should have “broaden[ed] the definition of Yucca Mountain,” Petition at 26, the contention identifies no facts that would support a claim that a repository for “deep, geologic disposal” could be built anywhere else at Yucca Mountain.

In summary, the Tribe has failed to meet any of the requirements of §§ 51.109 and 2.326 for the admission of this environmental contention and it should 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

“Any contention that amounts to an attack on applicable statutory requirements must be rejected by a licensing board as outside the scope of the proceeding.” *Carolina Power & Light* (Shearon Harris Nuclear Power Plant Unit 1), LBP-07-11, 65 NRC 41, 57-58 (1974). The Tribe’s contention must be rejected on this ground because the NWPA, as amended, expressly provides that an environmental impact statement prepared for the Yucca Mountain site need not “consider the need for a repository, the alternatives to geological disposal, or alternative sites to the Yucca Mountain site.” 42 U.S.C. § 10134(a)(1)(D). The term “repository” is defined in the NWPA as “any system licensed by the Commission that is intended to be used for, or may be used for the permanent *deep geologic disposal* of high-level radioactive waste and spent nuclear fuel” 42 U.S.C. § 10101(18) (emphasis added). The Tribe’s argument that DOE’s FEIS and SEIS should have analyzed as alternatives a “surface-based storage facility” or a “near surface storage” facility is in direct conflict with this statutory requirement and hence outside the scope of the proceeding.

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

For the reasons set forth in section c. above, the issue is not material to the findings the NRC must make, because the NWPA expressly provides that alternatives to deep geological disposal at Yucca Mountain need not be considered.

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), the Tribe 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 set forth in sections c. and e. above, there is no genuine dispute on any material issue of law or fact because the NWPA expressly provides that alternatives to deep geologic disposal at the Yucca Mountain site need not be considered.

3. TIM-NEPA-03: REPOSITORY THERMAL EFFECTS

DOE's use in the FEIS and FSEIS of a constant-temperature boundary condition at land surface, combined with material-property and thermodynamic assumptions that limit heat-pipe effects in their Multiscale Thermohydrologic Model (MTHM; SNL, 2008 [LSN # DOC.20080201.0003]) results in non-conservative estimates of mechanical strains resulting from repository heating by minimizing the horizontal components of thermal gradients in the subsurface, prevents thermal effects on the biosphere from being rigorously assessed, and underestimates the magnitude of gaseous radionuclide releases. Had these deficiencies been remediated the disclosure of impacts in the FEIS and SFEIS would have been materially different, therefore the FEIS and SFEIS can not be adopted by NRC.

RESPONSE

In this contention, the Tribe alleges that DOE's thermal effects analysis was faulty, resulting in underestimates of mechanical strains, releases of radon-222 doses, and ground surface temperature rise, as well as misrepresentation of other associated impacts.

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. The Tribe fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, the Tribe 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 [§ 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No demonstration or claim is made in its Petition or in its experts’ affidavits that the contention raises a significant environmental issue. With regard to the most difficult and important showing—a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true, the Tribe’s experts, Dr. Johnson and Dr. Mifflin, are silent. Equally important, Drs. Johnson and Mifflin never provide the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” The Tribe ignored all of these requirements and its contention must, therefore, be rejected.

Apart from the failure to meet the requirements of §§ 51.109 and 2.326, both Dr. Johnson and Dr. Mifflin simply adopt sections of the contention. Dr. Johnson adopts only Paragraph 5 of the contention, while Dr. Mifflin adopts both Paragraphs 5 and 6. Drs. Mifflin’s and Johnson’s attempt to support this contention is flawed. First, the entire basis for this contention (which essentially argues that Radon-222 *could* be released into the atmosphere contrary to the analysis in the FEIS) is that two studies, one in 1999 and another in 2000 “may” undercut a 1995 study prepared at Lawrence Berkeley National Laboratory that demonstrated that there would be no human effects from Radon-222 due to its short half-life and the time it would take for the Radon

to travel to the surface. In pointing to two studies that *may* undercut the 1995 study, Petition at 30. Drs. Mifflin and Johnson do not assert that they have thoroughly analyzed and reached their own independent conclusion about any of the studies. They simply report a possible disagreement between scientists. Nor do they suggest that even if Radon-222 could be released into the atmosphere that it would have any impact on the analysis of radiological impacts. They make no prediction or estimate of the amount of Radon-222 that might be released or the precise mechanism. They simply offer bare speculation as support for the contention.

Drs. Mifflin and Johnson also point to a Differing Professional View (DPV) processed in 1996-97 by the OCRWM Concerns Program. According to Drs. Mifflin and Johnson, DOE's disposition of the DPV "was sharply at odds with recommendations . . . of the Technical Professional Review Team (TPRT) convened to address the specific issue . . ." Petition at 30-31. They also claim that DOE's disposition was inconsistent with programmatic guidance provided by the National Research Council. *Id.* at 30. They strongly imply by this that the release of Radon-222 was the subject matter of the DPV, the Technical Professional Review Team report and the National Research Council's report and further call into question DOE's position on the release of Radon-222 as supported by the 1995 study. In fact, the subject of the release of Radon-222 was not even discussed in the DPV, the Technical Review Team report or the National Research Counsel Report, and these reports have little to no relevance to this contention. Although not mentioned by Drs. Mifflin and Johnson, the Technical Review Team Report stated that "the release of radionuclides in the gas phase is not considered a major concern for performance assessment at this time. . . ." (LSN# DN2002470900 at 19). Radon-222 and its possible release are never mentioned. Again not mentioned by Drs. Mifflin and Johnson, the DPV involved only whether DOE would invest in research and development of thermal

imaging techniques to better discover and understand pneumatic pathways. Because the science was untested DOE chose not to expend its limited resources on an untested technique.

In summary, Drs. Mifflin's and Johnson's affidavits are unreliable, misrepresent the documents to which they refer and reach conclusions that are unsupported. Their affidavits should be disregarded and the contention 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

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

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

This contention is not material to the findings NRC must make because DOE's thermal effects analysis was reasonable. 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 *Am. Iron & Steel Inst. 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) (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.” Proposed Rule, 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 made in its thermal effects analyses. DOE fully explained its reasoning behind its finding that it does not anticipate human effects from atmospheric release of Radon-222, Repository SEIS, Vol. I at 5-32, for its impacts to biological resources and soil from temperature changes, Repository SEIS, Vol. I at 5-38 to 5-39, and for impacts of thermal effects to its water flow model, Repository SEIS, Vol. II, App. F at F-9 to F-10. The Tribe argues that DOE has made several flawed assumptions in its thermal estimates, including assuming a “constant-temperature boundary condition” at the surface, and assumptions with regard to pneumatic pathways. Petition at 28. But it is not the Commission’s duty to “second guess” DOE’s reasonable assumptions. *Wyo. Lodging and Rest. Ass’n*, 398 F. Supp. 2d at 1214. Since DOE has provided a reasonable explanation for the assumptions it chose, this contention does not raise a material issue of law or fact.

DOE performed a thorough evaluation of the possible release of Radon-222 in the 2002 FEIS, Vol. II, App. I at I-66 to I-67, and in the Repository SEIS, Vol. I at 5-32. Based on studies performed at Lawrence Berkeley National Laboratory, DOE conducted a screening evaluation for Radon-222. Radon-222 was chosen because it is the longest lived radon isotope with a half-

life of 4 days. DOE then calculated the time it would take for air to travel to the repository horizon up through 200 meters of overlying rock and concluded that the radioactive decay would reduce the amount of radon by 90 orders of magnitude by the time it was released to the atmosphere. As a result there would be no human effects from the release. 2002 FEIS, Vol. II, App. I at I-66 to I-67. DOE again reviewed this issue in the Repository SEIS and concluded that the original analysis remained valid and reiterated its position that “DOE anticipates no human effects from the atmospheric release of radon-222 in the waste package.” Repository SEIS, Vol. I at 5-32.

The Tribe and its experts do not directly challenge DOE’s analysis but instead point to two studies that they alleged demonstrate that “fault zone permeabilities *may* be orders of magnitude higher than assumed in 1995.” Petition at 30 (emphasis added). Pointing out that other studies “may” have some impact on the analysis is meaningless. It is simply a conclusion that a different result might be possible. That conclusion cannot support the admission of this contention. Rather, it was incumbent on the Tribe to show that this is a significant issue and, if proven true, would have a material impact on the outcome.

In addition, 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 Association, Inc. v. DOT*, 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. Or. 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.”

As discussed above, the Tribe cites several studies to support its case, Petition at 28 (citing studies by Rousseau and LeCain in comparison to DOE’s study by Wu, et al.), but fails to back them up with valid expert affidavits. However, even if the Tribe were to offer the authors of the studies as experts in an attempt to contradict DOE’s expert thermal effects study, this contention would not create a triable issue as it would be premised on a mere disagreement between experts.

Moreover, it is settled law under NEPA that an agency is entitled to deference in determining which methodologies to use in making decisions. *See, e.g., Wyo. Lodging & Rest. Ass’n*, 398 F. Supp. 2d at 1213 (citing cases). NEPA does not require that an EIS be “based on the best scientific methodology available,” *Lands Council v. McNair*, 537 F.3d 981, 1002 (9th Cir. 2008); *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (9th Cir. 1985), as long as the agency acted reasonably, as DOE did here. The Tribe argues that DOE should not

have based their analysis on a “dual-continuum modeling” approach. Petition at 28. The NRC is not required to resolve disagreements regarding methodology, *see Friends of Endangered Species*, 760 F.2d at 986, and the Tribe’s preference for a different methodology for projecting thermal effects accordingly does not raise a material issue.

The Tribe also offers a piece of pure speculation in their hypothesis that “repository-induced ‘blowholes’” could lead to aboriginal communities developing around such holes and presumably receiving higher exposure. Petition at 30. The Tribe offers no support for this conjecture. Therefore, this contention should be dismissed.

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), the Tribe 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 d. above, there is no genuine dispute on any material issue of law or fact because the contention fails to demonstrate any inadequacy in DOE’s NEPA analyses. The contention therefore should be rejected.

4. TIM-NEPA-04: SATURATED ZONE FLOW MODEL

Abstractions from the Site Scale Saturated-Zone Flow Model to support Performance Assessment (PA) in the FEIS and FSEIS are invalid because process-level analyses incorporated in the Model are not representative of physical evidence from aquifer tests and groundwater temperatures, nor do they honor evidence from paleo-discharge deposits in the region. Were these deficiencies to be remedied, the disclosure of impacts would be materially different, and therefore the FEIS and FSEIS can not be adopted by the NRC.

RESPONSE

In this contention, the Tribe alleges that the saturated zone flow model is deficient, thereby rendering the 2002 FEIS and Repository SEIS invalid because “process-level analyses incorporated in the model are not representative of physical evidence from aquifer test and groundwater temperatures.” Petition at 33. The contention accuses the 2002 FEIS and Repository SEIS of presenting “specious arguments,” *id.* at 34, of “obfuscation” and “distortions,” *id.* at 35, of “fail[ing] to analyze a groundwater flow regime that is representative of pluvial conditions,” and of “erroneous, misleading, or incomplete statements throughout Section 2.3.9 of the LA Safety Analysis Report,” *id.* at 35, 36. The contention concludes that “[i]n summary, these simple and relatively transparent scoping analyses illustrate the extent to which DOE has failed to capture conceptual uncertainty related to the saturated-zone groundwater system in modeling analyses that directly support their License Application.” *Id.* at 41.

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. The Tribe fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, the Tribe

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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No demonstration or even claim is made in its Petition or in its experts’ affidavits that the contention raises a significant environmental issue. With regard to the most difficult and important showing – a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true, the Tribe’s experts, Dr. Johnson and Dr. Mifflin, are silent. Equally important, Drs. Johnson and Mifflin never provide the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” The Tribe ignored all of these requirements and its contention must, therefore, be rejected.

Apart from the failure to meet the requirements of §§ 51.109 and 2.326, both Dr. Johnson and Dr. Mifflin simply adopt sections of the contention. Dr. Johnson adopts only Paragraph 5 of

the contention, while Dr. Mifflin adopts both Paragraphs 5 and 6. In Paragraphs 5 and 6, Drs. Mifflin and Johnson allege that results from the Site Scale Saturated-Zone Model do not correlate well with actual physical evidence in the region. As with many of Drs. Mifflin and Johnson's claims of error on DOE's part, they fail to deal with the only important issue – the impact on the environmental analysis. In this contention, the Tribe's experts provide a long list of alleged errors without ever discussing their significance in the environmental analysis. Instead, they reach bare conclusions without demonstrating the conclusion's importance. For example, they state that "DOE has failed to capture conceptual uncertainty related to the saturated-zone groundwater system modeling analyses" without describing the impact, if any, on the environmental analyses. Petition at 41. At the same time, they suggest that the alleged problems they see in the DOE analysis can be fixed through "[s]imple approximations of uniform flow under modern and expected pluvial conditions..." without ever providing those "simple approximations" which presumably would both fix the problems in their view and demonstrate that the issue is a material one. Petition at 35.

In summary, Drs. Mifflin's and Johnson's affidavits do not meet the standards established by the Commission for supporting the admissibility of a contention. This contention should 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

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

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

This contention challenges the Site Scale Saturated-Zone Flow Model from the SAR and contends that the Repository FEIS and SEIS are invalid because of their reliance on abstractions from the SAR. Petition at 34-35. Contrary to the contention's arguments, the Site Scale Saturated Zone Flow Model used in the performance assessment adequately represents the available hydrogeologic information, including the aquifer test results. The model has been calibrated with a range of site-specific test information including hydraulic characteristics, water level elevations and estimates of specific discharge, as well as information derived from the regional model which has been constrained by regional recharge and discharge estimates. The model has been validated with the results of aquifer testing in multiple borehole tests (including the C-wells and alluvial testing complex) and tracer tests as well as geochemistry observations. Uncertainty in the model and model parameters has also been considered and incorporated in the analysis of postclosure performance as indicated in SAR Table 2.3.9-4.

Moreover, the results of the DOE site scale flow and transport model are conservative in comparison to the alternative model results presented in Figures 1 and 2 of the contention. The alternative model results illustrated in Figure 1 indicate that less than 20 percent of particle transport times from the repository to the accessible environment are less than 1000 years for the

“modern conditions”. An equivalent analysis presented in SAR Figure 2.3.9-48 using the results of the site scale flow model indicates that about 50 percent of unretarded particles would be expected to reach the accessible environment boundary in less than 1000 years. Therefore, the DOE model results are more conservative than those indicated in the contention.

Similarly, the alternative model results illustrated in Figure 2 for full pluvial conditions (assumed to be equivalent to full glacial conditions) indicate less than 5 percent of the particle transport times from the repository to the accessible environment are less than 500 years. An equivalent analysis presented in SAR Figure 2.3.9-42 using the results of the site scale flow model indicates that more than 50 percent of the unretarded particles would be expected to reach the accessible environment boundary in less than 500 years. Therefore, the DOE model results are more conservative than those indicated in the contention.

Second, 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 Association, Inc. v. DOT*, 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. Or. 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, this contention which is largely premised on a disagreement between the Tribe’s experts and DOE’s expert analysis, does not create a triable issue and should not be admitted.

Finally, the contention fails to raise a genuine dispute because the Tribe’s experts do not demonstrate that any of their complaints would actually make any difference regarding the potential impacts of the repository. Although they claim that “the disclosure of impacts would be materially different, Petition at 33, they do not demonstrate what those differences would be. Thus, the contention is in effect just a claim that the 2002 FEIS and Repository SEIS are inadequate, and it is beyond dispute that a mere complaint that an environmental analysis is inadequate does not raise a claim under NEPA. *City of Los Angeles v. Nat’l Highway Safety Admin.*, 912 F.2d 478, 488 (D.C. Cir. 1990).

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), the Tribe 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 d. above, this contention does not raise a genuine dispute on a material issue of law or fact because the contention is of a type that the courts and Commission have rejected as impermissible under NEPA. Therefore, this contention should be dismissed.

5. TIM-NEPA-05: INFILTRATION FLUX

DOE's infiltration model has not been validated using available site and analogue information, and does not represent the range of probable infiltration fluxes, rendering the consequence estimates presented in FEIS Section 5.4 and SEIS Section 5.5 non-conservative and therefore invalid; had these deficiencies been remedied the disclosure of impacts would have been materially different, therefore the FEIS and FSEIS can not be adopted by the NRC.

RESPONSE

In this contention, the Tribe contends that because certain moisture profiles, implied minimum fluxes, and observations from the Rainier Mesa site were not incorporated in DOE's validation process for its infiltration model, the model is "non-conservative" thereby rendering the impacts analysis in the SEIS "non-conservative and invalid." Petition at 44. The Tribe also complains that a model (MASSIF) used by DOE was unable to incorporate site information for validation purposes and that there was a "complete lack of reference to surficial responses during the winter of 2004-2005." Petition at 47. The Tribe concludes by arguing that "if one wet season can induce seepage to the repository, expectations for site suitability have not been met." Petition at 49

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. The Tribe fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, the Tribe 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 [§ 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No demonstration or even claim is made in its Petition or in its experts’ affidavits that the contention raises a significant environmental issue. With regard to the most difficult and important showing – a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true, the Tribe’s experts, Dr. Johnson and Dr. Mifflin, are silent. Equally important, Drs. Johnson and Mifflin never provide the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” The Tribe ignored all of these requirements and its contention must, therefore, be rejected.

Apart from the failure to meet the requirements of §§ 51.109 and 2.326, both Dr. Johnson and Dr. Mifflin simply adopt sections of the contention. Dr. Johnson adopts only Paragraph 5 of the contention, while Dr. Mifflin adopts both Paragraphs 5 and 6. In Paragraph 5 – the statement of the expert basis for the contention – Drs. Mifflin and Johnson merely quibble with the DOE’s choice of a model which did not use certain site-specific information and argue only that DOE “has not incorporated a reasonable measure of conservatism in its estimates of unsaturated-zone

flux for the current climate.” Petition at 46. Drs. Mifflin and Johnson do not, however, provide any information that had DOE used a different model and current data that there would be a materially different result. It was incumbent on Drs. Mifflin and Johnson to do more than point to other models or other information that could have been used and which they favor. The crucial question is whether it would make a valid and material difference in the results. Drs. Mifflin and Johnson never answer that question and their affidavits fail therefore to provide any basis for the contention. The contention should 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

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

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

The contention does not raise a material issue because the Tribe fails to demonstrate any violation of NEPA. The allegation in this contention is that DOE’s infiltration estimates were derived from an infiltration model, MASSIF, that was not properly validated and therefore the estimates from the model are non-conservative. Petition at 44. According to the Tribe, the model failed to take into account (1) 99 site specific shallow boreholes were not used as

calibration targets in the validation of the model; and (2) analogue data on the Nevada Test Site were not considered in the validation process.

Contrary to the contention, several analogue sites in Nevada and the Southwestern U.S. (MDL-NBS-HS-000023 REV 01 AD 01, Section 7.2.1.2) were used to validate the MASSIF model. These sites were identified for validation applications because of the availability of reliable data representing processes and properties relevant to infiltration at Yucca Mountain. For infiltration, Rainier Mesa is not in this category. Analogue data at Rainier Mesa were used to constrain estimates of groundwater flow paths and percolation fluxes in the unsaturated zone at Yucca Mountain, and to provide insight into processes controlling future fracture and matrix flow under unsaturated conditions (“Natural Analogue Synthesis Report” May 2004 TDR-NBS-GS-000027 Rev 1 ERD, Sections 8 to 10, LSN# DN2002078971). In addition, the observations of seepage into tunnels at Rainier Mesa referred to in this contention, although indirectly related to infiltration, are not suitable for infiltration model validation because seepage does not directly represent infiltration processes. Seepage into tunnels is dependent not only on net infiltration at the ground surface, but also dependent on two additional complex, coupled processes including 1) unsaturated zone flow; and 2) flow diversion around the tunnels by capillary pressure processes.

Further, the moisture profiles in 99 boreholes referred to in the contention are actually derived moisture profiles developed from 99 neutron logging boreholes (MDL-NBS-HS-000023 REV 01 AD 01, Section 7.2.1.2). As described in this report, this dataset was deemed to be of limited use for validation (or calibration) of the 2007 SNL net infiltration model for several reasons. First, the errors associated with water content (and therefore moisture profiles) derived from these measurements make direct comparison with simulated water contents problematic,

especially since conditions at each borehole (such as soil depth and properties) are likely to differ from the average values assigned to the soil depth class and soil group assigned to the cell. Second, the field capacity modeling approach is a “lumped” approach and is therefore not intended to be used to match moisture profiles with depth in the soil. Third, flux estimates using the change in water content over an interval require an estimate of the root-zone depth, which is likely to vary for each location. Despite this limitation, fluxes were estimated assuming a constant root-zone depth and compared with net infiltration calculated over the same time interval. The resulting comparisons between measured and modeled infiltration provide justification for its exclusion from model validation.

Second, with the seepage event being only one of several instances, and 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 Association, Inc. v. DOT*, 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. Or. 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, this contention, which is largely premised on a disagreement between the Tribe’s experts and DOE’s expert analysis, does not create a triable issue and should not be admitted.

Third, the contention’s complaint regarding DOE’s selection of a model is similarly unavailing. Under NEPA, an agency is entitled to deference in determining which methodologies to use in making decisions. *See, e.g., Wyo. Lodging & Rest. Ass’n v. U.S. Dep’t of the Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases). NEPA does not require that an EIS be “based on the best scientific methodology available,” *Lands Council v. McNair*, 537 F.3d 981, 1002 (9th Cir. 2008); *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (9th Cir. 1985), as long as the agency acted reasonably, as DOE did here. The NRC is not required to resolve disagreements regarding methodology, *see id.*, 760 F.2d at 986, and DOE’s choice of the MASSIF model is entitled to deference.

Finally, the contention fails to raise a genuine dispute because the Tribe's experts do not demonstrate that any of their complaints regarding, *e.g.*, modeling and validation of models would actually make any difference regarding the potential impacts of the repository. It is beyond dispute that a mere complaint that an environmental analysis is inadequate does not raise a claim under NEPA. *City of Los Angeles v. Nat'l Highway Safety Admin.*, 912 F.2d 478, 488 (D.C. Cir. 1990). Therefore, this contention should be dismissed.

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), the Tribe 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 d. above, there is no genuine dispute on any material issue of law or fact because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

6. TIM-NEPA-06: ECONOMIC ANALYSIS

The FSEIS, Subsections 3.1.7 and Table 3-1 define the Region of Influence for socioeconomic effects as “The two-county (Clark and Nye) area in which repository activities could most influence local economies and populations (Section 3.1.7).” This definition is a value judgment [sic] that is not supported by the analysis contained in the FSEIS.

RESPONSE

In this contention, the Tribe alleges that the socioeconomic region of influence in the Repository SEIS should have included the Timbisha Shoshone village in Death Valley National Park, and that it was a “value judgment” unsupported by analysis to focus on Clark and Nye Counties. Petition at 51. The Tribe further claims that DOE’s use of the RMEI computer model “establishes artificial boundaries on impacts.” *Id.* at 52.

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. The Tribe fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4 the Tribe 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 [§ 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No claim is made that the contention raises a significant environmental issue. With regard to the most difficult and important showing—a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true—the Tribe’s Petition and the affidavit of its expert, Dr. Dilger, are silent. Equally important, Dr. Dilger never provides the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” Dr. Dilger never performed that analysis. The Tribe ignored all of these requirements and its contention must, therefore, be rejected.

There are a number of additional flaws in Dr. Dilger’s affidavit. As he has done in support of other contentions, Dr. Dilger simply adopts Paragraph 5 of the contention. A principal point of the discussion in Paragraph 5 and adopted by Dr. Dilger is that the computer model used to model socio-economic effects “establishes artificial boundaries on impacts....” Petition at 52. Dr. Dilger provides no support for this assertion, fails to explain what the artificial boundaries might be, and never explains why his vague conclusion is even material. In fact, Dr. Dilger makes no representation that he conducted any study or investigation regarding the model or even has an understanding of how it works and clearly does not provide the “reasoned basis or explanation” for his conclusion. *See USEC, Inc., (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006).*

Finally, based on Dr. Dilger's resume, he has no training or background in assessing socio-economic impacts. While he has a background in transportation and has experience in quantitative analysis, there is nothing in his resume to suggest that he has the training or experience to render scientifically valid opinions on the socio-economic impacts of the Yucca Mountain Repository. His affidavit and this contention should 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

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

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

This contention does not raise an issue material to the findings that the NRC must make because it was reasonable for DOE to use Clark and Nye Counties as the region of influence for its socioeconomic analysis. 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 *Am. Iron & Steel Inst. 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) (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).

Here, the NRC should defer to DOE’s reasonable selection of a two-county region of influence. DOE explained that it selected Clark and Nye counties because over 98% of the expected repository workforce would reside in these counties. Repository SEIS, Vol. III at CR-360. As such, these counties represent the “area in which repository activities could most influence local economies and populations.” Repository SEIS, Vol. I at 3-3.²⁰ DOE has

²⁰ The Repository SEIS further details the process used for selection of the region of influence for socioeconomic resources:

In 1994, when the total Yucca Mountain site employment was approximately 1,600 workers, about 98 percent of the workers, including those assigned to the Nevada Test Site location, lived in Clark and Nye counties. Since late 1995, Yucca Mountain site employment numbers have dropped significantly. DOE assumed that the historical pattern of residential distribution of onsite workers in 1994 reflects the projected residential distribution for the Proposed Action because 1994 is the most recent year in which onsite employment most nearly reflects expected employment for the Proposed Action. The migration patterns of Yucca Mountain Project workers who moved to Nevada from 1986 to March 2005 reinforce this expected pattern. Of the 3,866 individuals (1,740 workers and 2,126 dependents) who moved to Nevada as a direct result of Project employment, 3,808 chose to live in Clark County and 56 chose to live in Nye County, primarily in Pahrump and Mercury (DIRS 180788-BSC 2005, pp. 3-20 and 3-21). Therefore, DOE selected Clark and Nye counties as the region of influence for socioeconomic resources for this Repository SEIS (Figure 3-14). The Yucca Mountain FEIS included Lincoln County although less than 1 percent of the workforce lived in Lincoln County. Lincoln County is not a part

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.

As for DOE's use of the RMEI computer model, it is settled law under NEPA that an agency is entitled to deference in determining which methodologies to use in making decisions. *See, e.g., id.* at 1213 (citing cases). NEPA does not require that an EIS be "based on the best scientific methodology available," *Lands Council v. McNair*, 537 F.3d 981, 1002 (9th Cir. 2008); *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (9th Cir. 1985), as long as the agency acted reasonably, as DOE did here. The Tribe argues, without any explanation as to the significance or basis of their statement, that DOE's use of the RMEI to evaluate employment effects created "artificial boundaries on impacts." Petition at 52. They offer no substantive reason for the NRC to doubt the use of the RMEI model as a reasonable method for determining socioeconomic impacts. In any case, the NRC is not required to resolve disagreements regarding methodology, *see Friends of Endangered Species*, 760 F.2d at 986, and DOE's choice of the REMI model is reasonable and entitled to deference.

Further, NEPA does not require additional socioeconomic analysis. Under NEPA, socioeconomic impacts need only be analyzed where they are closely related to the environmental impact of a project. *See* 40 C.F.R. § 1508.14 ("economic or social effects are not intended by themselves to require preparation of an environmental impact statement"); *Hammond v. Norton*, 370 F.Supp.2d 226, 243 (D.D.C. 2005), *citing Metro. Edison Co. v. People*

of the Repository SEIS region of influence because so few Yucca Mountain Project workers lived there in 1994 and so few recent project migrants chose to live there.

Repository SEIS, Vol. I at 3-64. This process demonstrates that defining the region of influence was not a mere "value judgment" as asserted by the Tribe.

Against Nuclear Energy, 460 U.S. 766, 771-72 (1983) (holding that whether impacts on the “human environment” must be addressed depends on “the closeness of the relationship between the change in the environment and the ‘effect’ at issue”). This is precisely what DOE’s internal guidelines recommend. See DOE, Memorandum, “NEPA Guidance: Revised Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements,” at 18 (Dec. 23, 2004) (recommending that preparers “[c]onsider environmental impacts within geographic boundaries appropriate for each resource reviewed”). Using employment data parallels the scope of many environmental impacts, including new housing and public service demands. Repository SEIS, Vol. I at 3-70 to 3-74. DOE has set appropriate geographic boundaries for the socioeconomic analysis based on the impacts of the project.

To the extent the Tribe claims economic impact as a result of increased risk perception or stigma, referencing the impacts to tourism caused by “9/11,” Petition at 52, these are not effects on the physical environment and therefore do not need to be considered under NEPA. As the Supreme Court held in *Metropolitan Edison Co. v. People Against Nuclear Energy*, “NEPA does not require the agency to assess every impact or effect of its proposed action, but only the impact or effect on the environment.” 460 U.S. at 772. The People Against Nuclear Energy argued that the NRC had to consider under NEPA the prospect that psychological health damage would flow directly from the risk of a nuclear accident. The Court rejected the argument on the ground that “a risk of an accident is not an effect on the physical environment.” *Id.* at 775. Here, the contention argues that Yucca Mountain could decrease tourism in Death Valley National Park, impliedly as a result of stigma, and is thus not subject to review under NEPA.

NEPA is first and foremost an environmental statute. See *Ass’n Concerned About Tomorrow, Inc. v. Dole*, 610 F.Supp. 1101, 1111 (N.D. Tex. 1985) (noting that “economic and

social impacts clearly occupy a lesser tier of importance in an EIS than do purely environmental or ecological concerns”). Thus, even if NRC finds that DOE in part incorrectly set the socioeconomic region of influence, reviewing courts have found that the mere identification of a deficiency does not necessarily render that EIS “inadequate.” Indeed, the D.C. Circuit so held in denying Nevada’s challenge to the transportation-related portions of DOE’s 2002 FEIS. *Nevada v. DOE*, 457 F.3d 78, 93 (D.C. Cir. 2006). There, the court rejected alleged inadequacies in the FEIS relating to environmental impacts on cultural resources, floodplains and archaeological and historic impacts. The court stated that “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.” *Id.* The D.C. Circuit emphasized that courts “will not ‘flyspeck’ an agency’s environmental analysis, looking for any deficiency no matter how minor.” *Id.* (citing *Fuel Safe Wash. v. FERC*, 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.

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). See also *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003) (“NRC

adjudicatory hearings are not EIS editing sessions. Our busy boards do not sit to parse and fine-tune EISs.”).

Finally, the Tribe’s claim that DOE “does not acknowledge that there will be economic effects from the use of the road network in the area or the increase in traffic caused by the construction of the repository” is simply incorrect. Petition at 52. DOE evaluated the impacts of increased traffic in the Yucca Mountain Region as a result of the construction and operation of the repository. Repository SEIS, Vol. I at 6-60. Moreover, there is no indication that transportation impacts from the Yucca Mountain Project will even affect the Tribe. DOE clearly demonstrates that it has no plans to use State Route 127 through Death Valley as an overweight truck route.²¹ Also, since the vast majority of the workforce will likely originate in Clark and Nye Counties, as addressed earlier, the additional traffic on Tribal roads would be negligible.

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), the Tribe 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 d. above, there is no genuine dispute on any material issue of law or fact because the contention fails to demonstrate any inadequacy in DOE’s NEPA analyses. The contention therefore should be rejected.

²¹ “The representative truck routes that DOE presented in the Repository SEIS follow U.S. Department of Transportation routing regulations (49 CFR 397, Part D) for highway-route-controlled quantities of radioactive material, which limit shipments to preferred routes such as Interstate Highways and bypasses and beltways around cities. DOE does not intend to use State Route 127 unless the State of California designates it as an alternate preferred route.” Repository SEIS, Vol. III at CR-442.

7. TIM-NEPA-07: MITIGATION

The FSEIS' discussion of mitigation is contradictory and suggests that the DOE has failed to consider its responsibilities to mitigate the hazards of these shipments in a meaningful way.

RESPONSE

In this contention, the Tribe alleges that DOE has failed to describe how it will implement its mitigation program, what impacts it intends to mitigate, and who will be eligible to participate in mitigation.

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. The Tribe fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, the Tribe 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 [§ 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No claim is made in its Petition or in its expert's affidavit that the contention raises a significant environmental issue. With regard to the most

difficult and important showing—a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true—the Tribe’s Petition and the affidavit of its expert, Dr. Dilger, are silent. Equally important, Dr. Dilger never provides the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” Dr. Dilger never performed that analysis. Since the Tribe ignored all the requirements of § 2.326 its contention must be rejected.

Apart from the failure to meet the requirements of §§ 51.109 and 2.326, there are a number of additional flaws in Dr. Dilger’s affidavit. Dr. Dilger simply adopts Paragraph 5 of the contention. Paragraph 5, in turn, merely provides a list of alleged omissions in the FSEIS involving mitigation of impacts that might be felt outside the state of Nevada due to the operation of the repository and the transportation of SNF. However, Paragraph 5 provides no description of what these impacts might be, how and why these unstated impacts would be felt in California, or whether these impacts would even be significant. Simply stating that the Repository SEIS should have listed mitigation measures for “impacts” that are not even described and saying that the Repository SEIS is therefore deficient does not provide the kind of reasoned basis or explanation that is demanded by the NRC Boards. As noted earlier, “an expert opinion that merely states a conclusion (*e.g.*, the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing a reasoned explanation for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion.” *USEC, Inc. (Am. Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006). Dr. Dilger’s

assertions that the FSEIS is inadequate in its discussion of mitigation fail to provide a basis for this contention and should be rejected along with the contention.

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

This contention does not provide a specific statement of the issue of law or fact to be raised, because the contention neither specifies the mitigation measures it challenges nor the specific requirements that such measures allegedly do not meet.

Sections 2 and 5 of the contention refer to “Chapter 9” in the Repository SEIS, which encompasses DOE’s full discussion of mitigation. Petition at 54-55. This description is unduly broad, since there is no attempt to specify *which* mitigation measures in particular the Tribe is challenging.

The Tribe also fails to articulate the legal requirements for the specific mitigation measures that it claims are lacking. They do not clarify which impacts occurring “outside the state of Nevada” concern them, which mitigation measures they wish to be “eligible to participate in,” or what “mitigation program” they claim DOE has inadequately described. *Id.* As a result, the contention does not alert DOE to the provisions that it seeks to challenge.

Not only does this contention fail to give DOE sufficient notice of the issues of law or fact the Tribe seeks to dispute, but it also does not comply with the direction of the June 20, 2008, Case Management Order for this proceeding that contentions be “narrow, single-issue contentions” that are “sufficiently specific as to define the relevant issues for eventual rulings on the merits, and do not require” extensive narrowing or clarification by the parties or boards. *U.S. Dep’t of Energy*, (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), LBP-08-10, 67 NRC __ (slip op. at 6) (June 20, 2008). For these reasons, this contention should be dismissed.

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 may also be barred under res judicata or finality principles and for lack of jurisdiction. The Tribe's contention regarding DOE's analysis of mitigation is objectionable on jurisdictional and finality grounds. 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., DOT 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 the ROD set forth in Section 119 of the NWPA. In the 2004 ROD, DOE committed to implementing measures to avoid or minimize harm related to the shipment of SNF

and HLW, identified specific measures, and committed to following current and future Department of Transportation and NRC transportation rules. ROD: Mode of Transportation and Nevada Rail Corridor for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, 69 Fed. Reg. 18,557, 18,561 (Apr. 8, 2004). 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. The 2008 ROD contained similar commitments to the 2004 ROD regarding mitigation. ROD: Nevada Rail Alignment for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada. 73 Fed. Reg. 60,247, 60,258 (Oct. 10, 2008). The Tribe has failed to identify any issue relating to mitigation for which the approach specified in § 119 was or is not available.

Further, in the ROD, DOE expressly stated that "DOE will prepare a Mitigation Action Plan in accordance with its NEPA regulations (10 C.F.R. 1021.331)." *Id.* at 60,255. That provision provides that DOE shall prepare a Mitigation Action Plan "[f]ollowing completion of each EIS and its associated ROD" but "before DOE takes any action directed by the ROD that is the subject of a mitigation commitment." 10 C.F.R. § 1021.331(a). To the extent that the Tribe's argument is that such a plan must be included as part of the EIS, it is in direct conflict with 10 C.F.R. § 1021.331. As noted above, a challenge to agency regulations is beyond the scope of this proceeding and raises an issue that is not material to a finding the NRC must make.

In summary, any challenge by the Tribe to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including its treatment of mitigation, is 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 119 of the NWPA. Even if not time-barred, any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD 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. Finally, challenges to agency regulations are beyond the scope of this proceeding.

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

For the reasons discussed in section c. above, this contention does not raise an issue material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and because they are barred under finality principles and jurisdictional grounds. This contention also does not present a material issue because DOE's NEPA documents adequately address potential mitigation measures. The Tribe cannot demonstrate that DOE failed to provide "a reasonably complete discussion of possible mitigation measures" in satisfaction of NEPA's requirements. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).

It is well established that NEPA "does not impose any substantive requirements on federal agencies – it exists to ensure a process." *The Lands Council v. McNair*, 537 F.3d 981, 1000 (9th Cir. 2008). NEPA requires only that possible mitigation measures "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." *City of Carmel-by-the-Sea v. DOT*, 123 F.3d at 1142, 1150 (9th Cir. 1997).

The Tribe claims that DOE fails to describe "what impacts it intends to mitigate." Petition at 54. This broad and baseless assertion is easily refuted. DOE describes in detail the mitigation measures it would implement should the Yucca Mountain Project be approved, listing them by environmental resource and dividing them between repository and transportation effects.

See, e.g., Repository SEIS, Vol. I at 9-4 to 9-7. DOE has more than fulfilled its obligation under NEPA to provide a “reasonably complete discussion of possible mitigation measures.” *N. Alaska Env. Ctr. v. Kempthorne*, 457 F.3d 969, 979 (9th Cir. 2006) (quoting *Methow Valley*, 490 U.S. at 352).

It is similarly unavailing to claim that DOE has not described “how it will implement” its mitigation program. Petition at 54. DOE has sufficiently specified the means by which it would implement its possible mitigation measures. *See* Repository SEIS, Vol. I at 9-8 (noting that DOE will develop a Mitigation Action Plan that will include the impacts DOE would mitigate, specific mitigation measures for those impacts, and a monitoring plan and a schedule of actions).²² To the extent the Tribe seek specific implementation plans, this is not required under NEPA. The Supreme Court has rejected the notion that NEPA contains a “substantive requirement” that “a complete mitigation plan be actually formulated and adopted.” *Methow Valley*, 490 U.S. at 352. A discussion of “possible mitigation measures” is enough. *Id.* Further, as noted above, an argument for a mitigation action plan is directly at odds with DOE’s regulation 10 C.F.R. § 1021.331.

The Tribe also does not present a material issue in claiming that DOE does not define “eligibility for mitigation” or “who will be eligible to participate in mitigation.” Petition at 53-54. Despite the obvious flaw that the contention does not specify the mitigation efforts for which the Tribe hopes to be eligible or with which it wishes to participate, even if such specificity were included this would not raise a valid issue under NEPA. NEPA does not require a discussion of

²² Section 9.2.2 of the Repository SEIS also specifies numerous specific mitigation actions DOE intends to take, including how it will implement these actions. *See, e.g.*, Repository SEIS, Vol. I at 9-10 (“Before any ground-disturbing activities, DOE would identify geodetic control monuments in areas that could be disturbed. The Department would notify [NOAA] no less than 90 days before planned activities that could disturb or destroy a monument. If a geodetic control monument required relocation, DOE would consult with the Administration to develop a mitigation measure that could include compensation for the cost of monument relocation.”)

the eligibility of individual stakeholders for mitigation. The regulations contemplate only a discussion of the “means to mitigate adverse environmental impacts.” *See* 40 C.F.R. § 1502.16. Moreover, NEPA does not require that an agency take unreasonable steps to finalize a mitigation plan that is reasonably complete. *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 205-06 (D.C. Cir. 1991); *see also Laguna Greenbelt, Inc. v. U.S. Dep’t of Transp.*, 42 F.3d 517, 528 (9th Cir. 1994). In any case, DOE has fully committed to directly involving affected parties in the development of the Mitigation Action Plan, and has directly stated its intention to maintain the Native American Interaction Program throughout the implementation of the proposed action. *See* Repository SEIS, Vol. I at page 9-3 & 9-9.

Further, the Tribe’s claim that DOE’s mitigation analysis ignores impacts outside of Nevada also fails. First, DOE does discuss proposed mitigation measures to deal with the effects of national transportation, including technical assistance and funds for states to train safety officials, as well as its commitment to follow or exceed all applicable safety rules and compensatory requirements. Repository SEIS, 9.3.1. DOE’s description is more than adequate to satisfy the requirements of NEPA. “NEPA demands no fully developed plan or detailed explanation of specific measures which will be employed to mitigate adverse environmental effects.” *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), 58 NRC 419, 431 (2003) (quotations omitted).

Second, there is no requirement under NEPA to propose mitigation for effects that are not currently known. In *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 477 (9th Cir. 2000), the Ninth Circuit found that, where “[t]he exact environmental problems that will have to be mitigated are not yet known,” general consideration of “potential effects and mitigation processes” is sufficient to satisfy NEPA’s requirements. In the early stages of a project’s

development, an EIS containing “merely conceptual” mitigation plans satisfies NEPA. *Methow Valley*, 490 U.S. at 339, 352-53. Similarly, general mitigation measures are sufficient to satisfy NEPA when it is impossible to know which locations were most likely to be affected by a project. *N. Alaska Env. Ctr.*, 457 F.3d at 979. DOE has not yet selected specific transportation routes to bring SNF and HLW to the proposed Nevada corridors. As such, it is impossible to make any specific mitigation determinations for particular locations. At this early stage in the process, years before a potential first shipment, DOE has adequately described the “mitigation processes” it will use to address potential harm due to transportation of nuclear waste from outside of Nevada.²³

Finally, the Tribe makes the unsupported claim that there will be a need for pre-shipping mitigation in areas that will be affected by incident-free radiation doses. They make no statement as to what type of mitigation they seek, nor do they point to any specific inadequacy regarding pre-shipping mitigation in the NEPA documents. They also do not specify where such “incident-free radiation doses” will occur. It is therefore impossible to respond to this claim.

In sum, DOE has provided a “reasonably complete” analysis of possible mitigation measures to satisfy NEPA’s requirements with respect to mitigation. *Methow Valley*, 490 U.S. at 352. The Tribe cites no facts, caselaw, regulations, or statutes to the contrary. This contention’s vague and unsupported claims should therefore be rejected.

²³ DOE has also committed to involving stakeholders in the route planning process, including tribal governments, State Regional Group committees, transportation associations, industry, and federal agencies. Repository SEIS, Vol. II, App. H at H-9.

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. Sections 51.109 and 2.326, the Tribe has failed to provide the requisite supporting facts, expert opinions 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 sections c. and d. above there is no genuine dispute on a material issue of law or fact regarding the adequacy of DOE's mitigation analysis because challenges to DOE's transportation decisions and supporting NEPA analyses – as well as challenges to DOE's regulations – are outside of the scope of this proceeding, because the Tribe's transportation-related claims are barred by finality, and because it has failed to raise a material issue. Therefore this contention should be dismissed.

8. TIM-NEPA-08: FUTURE CLIMATE

DOE has failed to conservatively incorporate the full range of likely future climates in their analyses of system response to climate change, on that basis their FEIS (Section 5.4) and SEIS (Section 5.5) are deficient, and had these deficiencies been remedied the disclosure of impacts would have been materially different; therefore the FEIS and FSEIS can not be adopted by the NRC.

RESPONSE

In this contention, the Tribe alleges that DOE's climate analysis that was the basis for its postclosure radiological impact estimates did not adequately account for the potential for earlier climate cooling episodes and therefore was insufficiently conservative.

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. The Tribe fails to meet (or even attempt to meet) the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that this contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, the Tribe 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).

The Tribe fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. No demonstration is made in its Petition or in its experts' affidavits that the contention raises a significant environmental issue. With regard to the most difficult and important showing—a demonstration that a “materially different result would be or would have been likely” if the contention were proven to be true—the Tribe’s Petition and the affidavit of its experts, Dr. Johnson and Dr. Mifflin are silent. Equally important, Drs. Johnson and Mifflin never provide the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require the Tribe’s expert 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.” Neither Dr. Johnson nor Dr. Mifflin performed that analysis. The Tribe ignored all of the requirements of § 2.326 and its contention must, therefore, be rejected.

Apart from the failure to meet the requirements of §§ 51.109 and 2.326, both Dr. Johnson’s and Dr. Mifflin’s affidavit are flawed in a number of respects. Both Dr. Johnson and Dr. Mifflin simply adopt sections of the contention. Dr. Johnson adopts only Paragraph 5 of the contention. Section 5 – which is the entirety of Dr. Johnson’s affidavit supporting this contention – consists of the following two sentences: “Average global temperatures and greenhouse-gas concentrations obtained from Vostok (Petit et al. 1999) and Dome C (Lüthi et. al., 2008) in Antarctica demonstrate a cyclical behavior that does not support a direct cause-and-effect relationship to astronomical influences.²⁴ There appears, instead, to be terrestrial feedback mechanisms that limit global temperature rise and initiate cooling episodes sooner than would be

²⁴ There is no evidence presented that Dr. Johnson has independently verified the accuracy of the cited references have concluded. The affidavit should be rejected on that ground as well.

predicted by the Milankovich theory.” Petition at 58, 59. Dr. Johnson’s two sentence affidavit supporting the contention says absolutely nothing about DOE’s EIS. The affidavit does not point out a deficiency in the EIS much less indicate its significance. At best it is a short statement about two competing theories without even stating which theory Dr. Johnson believes is correct. The affidavit fails to meet the standard necessary to support a contention.

Dr. Mifflin adopts Paragraphs 5 and 6 of the contention as his affidavit. As noted above the two sentences comprising Paragraph 5 are meaningless as support for this contention. Paragraph 6, while slightly longer is of no more value than 5. Paragraph 6 simply states that there is some evidence “that a full-glacial climate is imminent” citing the same references as appear in Paragraph 5. What this has to do with the environmental impacts of the repository is never explained. Nor is it explained how or why this should somehow be taken into account in the EISs prepared by DOE. Paragraph 6 concludes with the statement that the FEIS and SEIS are “non-conservative” but never describes the basis for this conclusion. It is precisely the kind of unexplained assertion rejected by the Commission in *USEC, Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006). Like Dr. Johnson’s affidavit, Dr. Mifflin’s affidavit provides no support for the admission of this contention and it should 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

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

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

This contention is not material to the findings NRC must make because DOE's climate analysis was reasonable. 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 Am. Iron & Steel Inst. 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) (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 made in its climate change analyses. In modeling climate for its projections of long-term postclosure hydrology impacts, DOE based its analysis on historical data from the U.S. Geological Survey and fully

explained the rationale behind the assumptions it used to predict future climate cycles. *See* Repository SEIS, Vol. I at 3-16 & App. F, F.2.2.1; Sharpe (2003), at 13-14 (LSN # DN2001637950).²⁵ The Tribe suggests that certain ice-core data “can be interpreted to suggest” that faster cooling is possible, Petition at 59, but the mere existence of potential alternative assumptions is not reason to overturn DOE’s analysis. It is not the Commission’s duty to “second guess” DOE’s reasonable assumptions. *Wyo. Lodging and Rest. Ass’n*, 398 F. Supp. 2d at 1214. Climate science depends on interpreting complex interactions among orbital, solar, marine, and terrestrial climate-forcing functions that operate in different ways. DOE is “making predictions . . . at the frontiers of science” and therefore the review must be “at its most deferential.” *Baltimore Gas and Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983).

There is also no requirement, as the Tribe implies, to create an EIS that is as conservative as possible. If this were so, then the analysis would be driven by the most extreme scientific predictions available, rather than by the best science. NEPA instead requires only a “full and fair discussion of significant environmental impacts.” 40 C.F.R. § 1502.1. DOE’s analysis was, in any event, healthily conservative. For instance, DOE “assumed the current climate is the driest it will ever be at Yucca Mountain,” resulting in a conservative estimate of the hydrological impact of the Project. Repository SEIS, Vol. III at CR-337. DOE also fully explained the uncertainty of its climate prediction, including uncertainty related to “factors influencing the timing of climate

²⁵ DOE explains its assumptions as follows: “The primary assumption to predict future climatic conditions in the Yucca Mountain region is that climate is cyclical and, therefore, a study of past climates provides an insight into potential future climates. Studies indicate that past climatic conditions at Yucca Mountain, which therefore could occur in the future, fall into the following categories: (1) a warm and dry interglacial period similar to the present-day climate, (2) a warm and wet monsoon period characterized by hot summers and increased summer rainfall, and (3) a cool and wet glacial-transition period (DIRS 170002-BSC 2004, all).” Repository SEIS, Vol. I at 3-16. DOE explains further that this is “generally accepted as a valid approach.” Repository SEIS, Vol. I at 3-16 & App. F, F.2.2.1.

cycles.” Sharpe, S. (2003), S., “Future Climate Analysis—10,000 Years to 1,000,000 Years After Present” (LSN # DN2001637950 at 14). As courts have acknowledged, “One of the costs that must be weighed by decision-makers [in a NEPA analysis] is the cost of uncertainty”. *Alaska v. Andrus*, 580 F.2d 465 (D.C. Cir. 1978) *vacated in non-pertinent part sub nom. W. Oil & Gas Ass’n v. Alaska*, 439 U.S. 922 (1978). DOE has fully and fairly discussed the limitations inherent in projecting climate thousands of years into the future, including whether “full-glacial climates” may occur 38,000 years in the future or at some earlier point.

In addition, 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. DOT*, 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. Or. 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.”

As discussed above, the Tribe cites several studies to support its case, Petition at 59 (citing studies by Petit, Lüthi, and Clark in comparison to DOE’s study by Sharpe), but fails to back them up with valid expert affidavits. However, even if the Tribe were to offer the authors of the studies as experts in an attempt to contradict DOE’s expert climate study, this contention would not create a triable issue as it would be premised on a mere disagreement between experts.

Moreover, it is settled law under NEPA that an agency is entitled to deference in determining which methodologies to use in making decisions. *See, e.g., Wyo. Lodging & Rest. Ass’n*, 398 F. Supp. 2d at 1213 (citing cases). NEPA does not require that an EIS be “based on the best scientific methodology available,” *Lands Council v. McNair*, 537 F.3d 981, 1002 (9th Cir. 2008); *Friends of Endangered Species*, 760 F.2d 976, 986 (9th Cir. 1985), as long as the agency acted reasonably, as DOE did here. The Tribe appears to argue that DOE should not have based their analysis on the “Milankovich theory” of climate projection and should have instead used the cyclical models projected by studies by Petit and Lüthi. Petition at 58-59. The NRC is not required to resolve disagreements regarding methodology, *see Friends of Endangered Species*, 760 F.2d at 986, and the Tribe’s preference for a different methodology for projecting climate change accordingly does not raise a material issue.²⁶

²⁶ Science supports DOE’s position. The Milankovitch theory of orbital forcing is widely accepted. Also, the Tribe has misstated DOE’s scientific analysis in saying that it used a “direct cause-and-effect relationship [for] astronomical influences.” Petition at 58. Instead, DOE had assumed that using paleoclimatic proxy records at Devil’s Hole, which provides the most robust information for the Yucca Mountain region, can create a “clock” that can be used to estimate future climate and may be based on a number of non-astronomical factors. Sharpe, S., “Future Climate Analysis—10,000 Years to 1,000,000 Years After Present” (LSN # DN2001637950 at 13-14).

In addition, even if NRC finds fault with DOE's climate analysis, reviewing courts have found that the mere identification of a deficiency does not necessarily render that EIS "inadequate." Indeed, the D.C. Circuit so held in denying Nevada's challenge to the transportation-related portions of DOE's 2002 FEIS. *Nevada v. DOE*, 457 F.3d 78, 93 (D.C. Cir. 2006). There, the court rejected alleged inadequacies in the FEIS relating to environmental impacts on cultural resources, floodplains and archaeological and historic impacts. The court stated that "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." *Id.* The D.C. Circuit emphasized that courts "will not 'flyspeck' an agency's environmental analysis, looking for any deficiency no matter how minor." *Id.* (citing *Fuel Safe Wash. v. FERC*, 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.

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). See also *Duke Energy Corp.*, CLI-03-17, 58 NRC at 431 ("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 NWPA. 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 to the responsibility of DOE, under the NWPA, the NRC’s NEPA-related responsibility in this proceeding is limited to determining whether adoption of DOE’s EIS, as supplemented, is “practicable.” *Id.* Even if a “full glacial climate” were assumed to occur earlier than 38,000 years in the future, there would still be no impact on the projections until thousands of years after closure. DOE has already considered the impacts of a “full glacial climate,” simply not on the timeframe suggested by the Tribe. NEPA contentions such as this one do not preclude the NRC from adopting the DOE 2002 FEIS and its supplements. Therefore this contention should be dismissed.

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), the Tribe fails 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 d. above, there is no genuine dispute on any material issue of law or fact because the contention fails to demonstrate any inadequacy in DOE’s NEPA analyses. The contention therefore should be rejected.

V. CONCLUSION

The Tribe has failed to meet its LSN requirements, and absent status as the official representative of the AIT, it has not demonstrated standing or a right to discretionary intervention. Furthermore, it has submitted no admissible contentions. Accordingly, the Tribe's Petition should be dismissed.

Respectfully submitted,

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Dated in Washington, D.C.
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**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of:)	
)	
U.S. Department of Energy)	January 15, 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 TIMBISHA SHOSHONE TRIBE’S PETITION FOR LEAVE TO INTERVENE IN THE HEARING**” have been served on the following persons this 15th day of January, 2009 by the Nuclear Regulatory Commission’s Electronic Information Exchange.

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