UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

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

ANSWER OF THE U.S. DEPARTMENT OF ENERGY TO STATE OF CALIFORNIA'S PETITION FOR LEAVE TO INTERVENE IN THE HEARING

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ANSWER OF THE U.S. DEPARTMENT OF ENERGY TO STATE OF CALIFORNIA'S PETITION FOR LEAVE TO INTERVENE IN THE HEARING

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 "State of California's (California) Petition 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) for authorization

[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.

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

As discussed below, DOE has no reason to believe that California is not in substantial and timely compliance with its LSN obligations at this time. As a threshold matter, because the proposed repository is not within the boundaries of the State of California, California is required to show that it meets the NRC's traditional requirements for standing. 10 C.F.R. § 2.309(d)(2)(iii). California has failed to show that it is entitled to standing in this proceeding. Furthermore, it has failed to show that it is entitled to discretionary intervention. Standing arguments aside, DOE does not believe California has proffered any admissible contentions. Therefore, its Petition should be denied.[2]

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[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.

II. COMPLIANCE WITH LSN REQUIREMENTS

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

III. LEGAL STANDING

As a threshold matter, because the proposed repository is not within the boundaries of the State of California, California is required to show that it has standing pursuant to 10 C.F.R. § 2.309(d). 10 C.F.R. § 2.309(d)(2)(iii).

California asserts that it has standing to intervene in this proceeding, and further requests discretionary standing. As discussed below, California has failed to demonstrate that it has standing because its allegations of injury are vague and hypothetical, it fails to adequately demonstrate any link between the injuries claimed and the NRC licensing action, and it fails to show an injury that is redressable in this proceeding. Finally, California has failed to show 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 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." *Northeast Nuclear Energy Co*. (Millstone Nuclear Power Station, Unit 3), LBP-98-22, 48 NRC 149, 155 (1998). If a petitioner cannot show that an alleged injury "flows directly from the challenged action," it must show that the injury flows indirectly from the challenged action and that the "chain of causation is plausible." *Sequoyah Fuels Corp*., CLI-94-12, 40 NRC at 75; *see*, *e.g.*, *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), LBP-98-27, 48 NRC 271, 276-77 (1998) (holding that the petitioner had failed to establish a "plausible nexus" between the challenged decommissioning action and the asserted injury, given the permanent shutdown and defueling of the reactors and petitioner's failure to affirmatively demonstrate how the licensing action "could plausibly lead to the offsite release of radioactivity"), *aff'd*, CLI-99-04, 49 NRC 185 (1999). The relevant inquiry is thus whether petitioner can demonstrate that one of its cognizable interests will be adversely affected by one of the possible outcomes of the proceeding. *Nuclear Eng'g Co., Inc.* (Sheffield, Illinois, Low-Level Radioactive Waste Disposal Site), ALAB-473, 7 NRC 737*,* 743 (1978).

c. Redressability

A petitioner is further required to show that "its actual or threatened injuries can be cured by some action of the tribunal." *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), CLI-01-02, 53 NRC 9, 14 (2001). Furthermore, "it must be 'likely,' as opposed to merely 'speculative' that the injury will be 'redressed by a favorable decision.'" *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 76 (quoting *Lujan*, 504 U.S. at 561). If the NRC cannot take action that would redress the injury being claimed by a petitioner, the petitioner lacks an essential element of the requisite standing to request a hearing. *Westinghouse Elec. Corp.* (Nuclear Fuel Export License for Czech Republic-Temelin Nuclear Power Plants), CLI-94-7, 39 NRC 322, 331-32 (1994). The Commission, like a court, will deny standing if it finds that it

cannot provide relief that will remedy the injury to the petitioner because, *inter alia*, the agency's action would not necessarily redress the alleged injury, or the necessary relief depends upon the actions of third parties that are not assured. *See*, *e.g.*, *id*. at 332 (holding that where an alleged injury does not stem directly from the challenged governmental action, but instead involves predicting the actions of third parties not before the agency, the difficulty of showing redressability is particularly great).

d. Zone of Interests

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

> [T]he "zone of interest" test is a guide for deciding whether, in view of Congress' evident intent to make agency action presumptively reviewable, a particular plaintiff should be heard to complain of a particular agency decision. In cases where the plaintiff is not itself the subject of the contested regulatory action, the test denies a right of review if the plaintiff's interests are so marginally related to or inconsistent with the purposes implicit in the statute that it cannot reasonably be assumed that Congress intended to permit the suit.
>
> *Clarke v. Sec. Indus. Ass'n*, 479 U.S. 388, 399-400 (1987). While a petitioner need not show a specific congressional intent to protect or otherwise benefit him or his class, there must be "some indication" that the petitioner's interest is arguably among those

> interests protected by the relevant statute. *Quivira Mining Co.*, CLI-98-11, 48 NRC at 10.

In NRC licensing actions, the AEA and NEPA typically are the "relevant statutes" that define the applicable "zone of interests." The AEA – the Commission's enabling statute – "concentrates on the licensing and regulation of nuclear materials for the purpose of protecting public health and safety and the common defense and security." *Id*. at 14. Accordingly, the Commission has linked the notion of "injury" to a petitioner to the potential for radiological health and safety harm associated with the proposed action. *See, e.g., Cleveland Elec. Illuminating Co*., CLI-93-21, 38 NRC at 95-96; *Va. Elec. and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-342, 4 NRC 98, 105-06 (1976).

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

In considering whether a NEPA-based contention is within the zone of interests cognizable in an NRC proceeding, it is important to recognize that NEPA is a procedural statute whose principal purpose is "to insure a fully informed and well-considered decision." *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 558 (1978) (NRDC); *see also*

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350-351 (1989). NEPA's "twin aims" are: (1) to ensure that the agency takes a "hard look" at the environmental consequences of the proposed action, and (2) to make information on the environmental consequences available to the public. *Dubois v. U.S. Dep't of Agric.*, 102 F.3d 1273, 1285 (1st Cir. 1996), *cert. denied sub nom.*, *Loon Mountain Recreation Corp. v. Dubois*, 521 U.S. 1119 (1997). While "NEPA does protect some economic interests . . . it only protects against those injuries that result from environmental damage." *Quivira Mining Co.*, CLI-98-11, 48 NRC at 10 (quoting *Sacramento Mun. Util. Dist.* (Rancho Seco Nuclear Generating Station), CLI-92-2, 35 NRC 47, 56 (1992)). A petitioner who suffers only economic injury unrelated to any environmental damage has no standing to bring a challenge under NEPA. *Id*. at 8.

2. Standing 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. 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").

4. Standing of State Government Entities to Participate as Parties to the Proceeding under 10 C.F.R. § 2.309

As a general matter, a State 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 "the State . . . in which [the GROA] is located . . . ." 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].” 10 C.F.R. § 2.309(d)(2)(iii) (emphasis added). As the Commission explained in promulgating this rule, “[a] State, local governmental body, or affected Federally-recognized Indian Tribes[sic] that wishes to be a *party* in a proceeding for a facility which is not located within its boundary must address standing.” Changes to Adjudicatory Process, 69 Fed. Reg. at 2221 (emphasis added).

The proposed site for the repository is in Nevada, not California. As a result, the presumption does not apply and California must affirmatively demonstrate that it has standing in this proceeding.

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

California’s Petition should be denied because it has failed, as explained below, to demonstrate that it has standing. Nor has it met the standards for discretionary intervention under 10 C.F.R. § 2.309(e). While DOE, for the reasons discussed below, does not believe that California has met the standards for standing or discretionary intervention, DOE would not object to the State of California’s participation as an interested state under the provisions of 10 C.F.R. § 2.315(c).

1. California Has Failed to Demonstrate That It Is Entitled to Standing

California has failed to demonstrate that it will suffer an injury-in-fact, caused by the NRC’s authorization for DOE to construct the repository, that can be redressed in this proceeding. In particular, California’s standing argument rests principally on its concern about transportation of SNF and HLW in and through California. It also is concerned about future routing decisions that have not been made. Those concerns do not establish standing for several reasons.

First, transportation related issues are outside the scope of this proceeding for the reasons stated in Section IV.A.5 below and thus cannot provide the basis for standing in this proceeding. A claimed injury that lies outside the scope of the proceeding cannot be used to support causation or redressability. *See Shieldalloy Metallurgical Corp*. (Cambridge, Ohio Facility), 49 NRC 347, 355 (1999). That is because the NRC cannot take action that would redress the injury being claimed by a petitioner, and thus 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 future identification of transportation routes is likewise outside the scope of the proceeding. The NRC will not make those routing decisions.[3] The selection of truck routes will be made by DOE in accordance with DOT routing regulations set forth in Title 49 of the Code of Federal Regulations. *See* Repository SEIS, Appendix H.2.4. The selection of railroad routes will be the responsibility of the carriers in consultation with shippers, as specified in Title 49 of the Code of Federal Regulations. *Id.* Accordingly, any concerns about injuries allegedly associated with the future identification of transportation routes cannot be redressed in this proceeding and, therefore, do not support California's claim of standing. Simply put, the State is not entitled to standing based on the location of the routes because "mere geographical proximity to potential transportation routes is insufficient to confer standing." *Pac. Gas & Elec. Co*., LBP-02-23, 56 NRC at 434 (citing *U.S. Dep't of Energy*, CLI-04-17, 59 NRC at 364 n.11).[4]

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

[4] In its Petition, California also claims that "DOE also fails to analyze how waste at California's reactors can be safely packaged for shipping and how the waste will be transported from reactors in geographically remote locations." Petition at 1. This appears to be a reference to the casks that will be used to transport waste and

In addition to the fact that California's concerns relate to matters outside the scope of the proceeding, California does not identify, much less substantiate, an actual, distinct injury-in-fact associated with any such increased transportation or future routing decisions. Rather, California merely expresses concern about such matters. Those expressions of concern do not meet the requirement that allegations of injury be "distinct and palpable, particular and concrete," not "conjectural or hypothetical." *Int'l Uranium (USA) Corp.*, CLI-98-6, 47 NRC at 117. They are the type of "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. Indeed, they are the same expressions of concern about accidents during transport of hazardous materials that already have been found to be "so speculative . . . they do not amount to cognizable harm for purposes of standing." *U.S. Dep't of Energy*, CLI-04-17, 59 NRC at 365-66.

In fact, California's concern is predicated in large measure on a mistaken premise. California expresses significant concern about the transportation of SNF and HLW by rail along the Mina corridor. Petition at 11-12. However, DOE has issued a Record of Decision selecting a different rail corridor—the Caliente corridor—in lieu of the Mina corridor. 69 Fed. Reg. 18,557 (Apr. 8, 2004). That California is concerned about potential transportation through a rail corridor that DOE has *not* selected highlights the speculative nature of that concern and further demonstrates why California has not shown it has standing.

California's passing references to concern over groundwater contamination do not establish standing either. California's references are wholly conclusory and fail to establish any

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their alleged potential to leak radioactive waste during transport. *See id*. Certification of the design of the casks, under 10 C.F.R. Part 71, is a separate and distinct process from this one. *See* 42 U.S.C. § 10175. Because the cask design is outside the scope of this proceeding, this injury does not demonstrate causation, is not redressable in this proceeding, and cannot be used to show standing.

actual, distinct injury-in-fact. California makes no showing of whether any such groundwater contamination will occur, when it will occur, and what adverse effects it would have, even assuming it were to occur. Like its concerns regarding transportation, California's concern regarding groundwater does not constitute an actual, specific threat sufficient to establish standing.

Moreover, California's general assertion that it "has an interest in protecting the people, economy, and natural resources of the state from hazards posed by radioactive waste," Petition at 8, does not overcome the deficiencies in its Petition either. California may have that interest, but it nonetheless must show that it satisfies the elements of standing in order to intervene in this proceeding as a party. California has failed to carry that burden, and accordingly, California has not demonstrated its right to legal standing.

2. California Has Failed to Show That It Should Be Granted Discretionary Intervention

In addition to failing to demonstrate that it is entitled to standing as of right, California has failed to adequately address the six factors set forth in 10 C.F.R. § 2.309(e) for discretionary intervention. Discretionary intervention has been granted by NRC tribunals sparingly. *See*, *e.g.*, *Va. Elec. & Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-363, 4 NRC 631, 633 (1976) (finding the petitioner "well equipped to make a 'genuinely significant' contribution" on the safety issue in question—integrity of steam generator and reactor coolant pump supports—because it had fabricated the supports for the facility in question and sought to present related design and construction information); *see also Andrew Siemaszko*, CLI-06-16, 63 NRC 708, 716-717 (2006) (Commission notes that discretionary intervention is an extraordinary procedure and only eight petitions have ever been granted, without reversal, during the 30 years the six factor test has been applied); Changes to Adjudicatory Process, 69 Fed. Reg. at 2201

("discretionary intervention is an extraordinary procedure, and will not be allowed unless there are compelling factors in favor of such intervention."). Given the large number of contentions raising a broad spectrum of safety and environmental issues submitted by the numerous petitioners in this proceeding, and the rigorous statutory schedule governing the proceeding, only a very compelling showing should support a grant of discretionary intervention. As explained below, California has failed to make any such showing.

First, there is no evidence that California'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). "If the Board cannot identify specific contributions it expects from Petitioners, then the Board should deny their request to intervene as parties, absent other 'compelling' factors favoring intervention." *Andrew Siemaszko*, CLI-06-16, 63 NRC at 722. California broadly claims that it "has unique expertise in its groundwater resources," but fails to describe that expertise. Furthermore, it states that it will "provide expert testimony to NRC demonstrating" that DOE's "environmental documents" should not be adopted by the NRC, because they fail to address risks specific to California, and that the license application does not contain information regarding the health and welfare of Californians. Petition at 15-16. California does not, however, provide the identities or qualifications of any purported experts it will present. Based on the record before it, the Board cannot conclude that California will significantly contribute to the creation of a sound record. In addition, as set forth below, California has failed to make a compelling showing with regard to the other factors. Thus, the request for discretionary intervention must be denied.

Second, the nature of California's property, financial or other interests in the proceeding does not favor allowing intervention. *See* 10 C.F.R. § 2.309(e)(1)(ii). A petitioner must present

more than just “broad and unspecific information” to support this factor. *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-98-12, 47 NRC 343, 358 (1998). In support of this factor, California simply refers the Board and other parties to a seven page portion of its Petition (*see* Petition at 8-14). Petition at 16. California has failed to meet its burden on this factor by doing so.

Third, to show the possible effect of an NRC decision on its interests pursuant to 10 C.F.R. § 2.309(e)(1)(iii), California points the Board and other parties to Section II.A.4 of its Petition. Petition at 16. In that section, California claims that if an order is issued, it will be impacted because “radioactive waste destined for Yucca Mountain will travel through California . . . .” Petition at 14. It also makes general claims of “threats to groundwater . . . .” Petition at 15.

California’s issues with respect to 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). Moreover, with regard to both threats from transportation and to groundwater, California has failed, in its discussion on standing, to allege any specific and concrete injuries it or its citizens will experience as a result of the licensing action at issue here. Under these circumstances, California has not adequately addressed the effect of the proceeding on its interests.

Fourth, pursuant to 10 C.F.R. § 2.309(e)(2)(i), California asserts that no other party will represent its interests because “no other state or party is subject to the same risks from the repository and radioactive waste transportation.” Petition at 17. California, however, does not substantiate its assertion with facts.

Fifth, and contrary to California's assertion above, other petitioners can be expected to adequately represent California's asserted interests. Other petitioners (particularly the State of Nevada) have the resources to oppose the license application vigorously. Accordingly this factor does not favor discretionary intervention under 10 C.F.R. § 2.309(e)(2)(ii).

Sixth, California's participation may inappropriately broaden the issues in the event certain of California's contentions were admitted. However, the mere possibility that California's participation might not expand or delay the proceeding provides no basis for the extraordinary grant of discretionary standing, especially where California has failed to demonstrate that it would bring unique value to the licensing proceeding and that the other participants are inadequate to protect its interests. Accordingly, 10 C.F.R. § 2.309(e)(2)(iii) does not favor intervention either. Rather, a balancing of the relevant factors warrants denial of discretionary intervention.

In short, California has failed to demonstrate standing to intervene in this proceeding and has failed to meet the requirements for discretionary intervention. Therefore, its request to intervene as a party should be denied.

IV. ADMISSIBILITY OF CONTENTIONS

A. Applicable Legal Standards and Relevant NRC Precedent

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

To be admitted as a party in the Yucca Mountain licensing proceeding, a petitioner must proffer at least one admissible contention. *See* 10 C.F.R. §§ 2.309(a), 2.309 (d)(2)(iii). The NRC will deny a petition to intervene from a petitioner who has complied with the LSN requirements and has demonstrated standing to intervene, but who has not proffered at least one admissible contention. *See generally Fla. Power & Light Co.*, 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). As discussed below, the State has failed to proffer any admissible contention and the petition should be denied.

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* ADAMS Accession No. 9506280652 (emphasis added).

In issuing the final LSN rule nearly a decade later, the Commission noted that "the history of the LSN and its predecessor . . . makes it apparent it was the Commission's expectation that the LSN, among other things, would provide potential participants with the opportunity to frame focused and meaningful contentions" and avoid potential discovery-related delays. Final Rule, Licensing Proceeding for a High-Level Radioactive Waste Geologic Repository: Licensing Support Network, Submissions to the Electronic Docket, 69 Fed. Reg. 32,836, 32,843 (June 14, 2004) (Final Rule, LSN, Submissions to the Electronic Docket). The Commission added that "[t]hese objectives are still operational." *Id*. In fact, in a recent adjudicatory order related to this proceeding, the Commission reaffirmed these objectives:

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

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

And in fact, DOE's production of documentary material on the LSN fulfilled those objectives. DOE first made documentary material available on the LSN in 2004, when it publicly released approximately 1.3 million documents. Transcript of Record at 540, *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters), ASLBP No. 04-8239-01-PAPO (July 12, 2005). DOE made another 2.1 million documents publicly available on the LSN

in April, 2007—more than a year before it submitted the LA. Policy Issue Information Memorandum, SECY-07-0130, August 7, 2007, *available at* ADAMS No. ML071930440 at 5. DOE regularly added documents to the LSN each month thereafter, and in October, 2007, DOE certified that all its extant documentary material was available on the LSN. The Department of Energy submitted its Certification of Compliance on October 19, 2007. DOE has since then updated its LSN production each month with new documentary material that it has generated, received, or identified. *See*, *e.g.*, The Department of Energy's Certification of Licensing Support Network Supplementation (November 1, 2007); *see also* Revised Second Case Management Order, ASLBP No. 04-829-01-PAPO (July 6, 2007) at 21 (requiring monthly supplemental production on LSN of documentary material created or discovered after party's initial LSN certification).

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

DOE's extensive production substantially heightens California's ability—*and its corresponding obligation*—to proffer focused and adequately supported contentions in this

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

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

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

Section 2.309(f)(1) requires a petitioner to "set forth with particularity the contentions sought to be raised," and to satisfy the following six criteria: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the licensing action that is the subject of the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(i)-(vi). *A failure to comply with any one of the six admissibility criteria is grounds for rejecting a proffered contention*. *See* Final Rule, Changes to

Adjudicatory Process, 69 Fed. Reg. at 2221 (emphasis added); *see also Private Fuel Storage L.L.C.*, CLI-99-10, 49 NRC at 325.

The purpose of these six criteria is to "focus litigation on concrete issues and result in a clearer and more focused record for decision." Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2202. The current contention admissibility standards are "strict by design," *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *recons. denied*, CLI-02-1, 55 NRC 1 (2002), and were intended to "raise the threshold for the admission of contentions." Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168 (Aug. 11, 1989); *see also Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999). As explained above, the availability of the LSN further raises this threshold for the admission of a contention in this proceeding. In revising its Part 2 rules in 2004, the Commission reiterated that the standards are "necessary to ensure that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues." Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2189-90 (stating that the NRC "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing"); *id*. at 2202.

Strict application of these contention admissibility criteria in this proceeding is critically important. The vast number of contentions submitted and the "rigorous schedule" imposed by the NWPA and Appendix D to Part 2 present unprecedented challenges to the conduct of a timely, effective, and focused adjudication. Recognizing these challenges, the Advisory PAPO Board, with the Commission's express approval, issued its Case Management Order "to help

both potential parties and licensing boards address the admissibility of contentions in any HLW proceeding effectively and efficiently." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), LBP-08-10, 67 NRC __ (slip op. at 3) (June 20, 2008) (Case Management Order).[5] 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.

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,

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[5] 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).

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. Moreover, Nevada challenged the EPA rule in federal court and thus this proceeding is the wrong forum to once again raise such a challenge.

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.

In addition, 10 C.F.R. § 63.305(c) makes clear that, in the context of reasonable expectation, conservative means the use of cautious but reasonable assumptions consistent with present knowledge.

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

promulgating the standards required by EPACT.[6] 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.[7] 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,"[8] 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."[9] Identifying postclosure uncertainties, without specifying their impact on whether the reasonable expectation standard is met, does not provide an adequate basis to admit a contention.

Therefore, in formulating its contentions, the initial burden is on the petitioner to explain the implications of alleged uncertainties and show why, if true, they exceed the range of acceptable (and unavoidable) uncertainties clearly reflected in the regulations, particularly the reasonable expectation standard set forth in 10 C.F.R. § 63.101. Any contention attempting to shift that burden to the applicant is an improper challenge to 10 C.F.R. § 2.309. *See Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Power Station), LBP-06-

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

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

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

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

23, 64 NRC 257, 358-59 (2006). DOE's responses to specific contentions identify where these pleading requirements have been violated.

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

Furthermore, "an expert opinion that merely states a conclusion (*e.g.*, the application is 'deficient,' 'inadequate,' or 'wrong') without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion" alleged to provide a basis for the contention. *See USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181). Conclusory statements cannot provide "sufficient" support for a contention, simply because they are proffered by an alleged expert. *See USEC*, CLI-06-10, 63 NRC at 472. In summary, a contention "will be ruled

inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits', but instead only 'bare assertions and speculation.'" *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *Gen. Pub. Utils. Nuclear, Inc*. (Oyster Creek Nuclear Generating Station), CLI-00-06, 51 NRC 193, 208 (2000)).

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

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

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

allegedly missing information is, in fact, contained in the license application, then the contention does not raise a genuine dispute.

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

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

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

   "(1)(i) The action proposed to be taken by the Commission differs from the action proposed in the license application submitted by [DOE]; and (ii) the difference may significantly affect the quality of the human environment;[11] or

   (2) Significant and substantial new information or new considerations render such [EIS] inadequate." 10 C.F.R. § 51.109(c).

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[10] 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.

[11] 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.

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).[12]

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 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

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

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. Fed. Energy Regulatory Comm'n*, 389 F.3d 1313, 1323 (10th Cir. 2004); *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 508 (9th Cir. 1988)).

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

> NEPA's twin goals are to inform the agency and the public about the environmental effects of a project. At NRC licensing hearings, petitioners may raise contentions seeking correction of *significant inaccuracies and omissions* in the [applicant's environmental report ("ER") or agency's EIS]. Our boards do not sit to 'flyspeck" environmental documents or to add details or nuances. If the ER (or EIS) on its face "comes to grips with all important considerations" nothing more need be done.[13]

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. Envtl. 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 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

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13 *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 NWPA. 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 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.*

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(c), "such adoption shall be deemed to satisfy all responsibilities of the Commission under NEPA and no further consideration under NEPA or this subpart shall be required."

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

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

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

By explicitly directing presiding officers to use the criteria and procedures contained in § 2.326, the Commission reaffirmed its longstanding intent to avoid, in accordance with the NWPA, "the wide-ranging independent examination of environmental concerns that is customary in NRC licensing proceedings." NEPA Review Procedures for Geologic Repositories for High-Level Waste, 53 Fed. Reg. at 16,136; *see also* 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) ("[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 *Kan. 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, 61 NRC 345, 350 (2005).

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

789 F.2d 26 (1986), *cert. denied*, 479 U.S. 923 (1986)). An intervenor's mere "belief" is insufficient to satisfy § 2.326(b). *Fla. Power & Light Co.*, LBP-87-21, 25 NRC at 963.

In short, "the Commission expects its adjudicatory boards to enforce the [§ 2.326] requirements rigorously—*i.e.*, to reject out-of-hand reopening motions that do not meet those requirements within their four corners." *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 432 (1989) (citing *La. Power & Light Co.* (Waterford Steam Electric, Unit 3), CLI-86-1, 23 NRC 1 (1986); *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), CLI-86-7, 23 NRC 233 (1986), *aff'd sub nom. Ohio v. U.S. Nuclear Regulatory Comm'n*, 814 F.2d 258 (6th Cir. 1987)).

In the *Private Fuel Storage* decision (CLI-06-3) discussed above, the Commission applied the § 2.326 standard in ruling on a motion to reopen the record (after the Commission had rendered its final adjudicatory decision and authorized license issuance) to litigate a proposed environmental contention. The Commission's ruling is illustrative and underscores the heavy burden imposed by § 2.326.[14] 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 also id.* at 25 (stating that the NRC does "not lightly reopen [its] adjudicatory proceedings"). The Commission found that the intervenor had failed to meet substantive and evidentiary requirements of § 2.326, stating that "we cannot say on the current record that a materially different result in our licensing proceeding is so 'likely' that we must reopen the adjudicatory proceeding for additional hearings and

[14] 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).

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. 72,522, 72,527 (Dec. 20, 2007). DOE is required by the NWPA to use NRC certified casks for shipment of SNF or HLW to the repository. 42 U.S.C. § 10175.[15] That certification, however, is

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

> If DOE takes custody of the spent fuel at the licensee's site, *DOE regulations would control the actual spent fuel shipment*. Under such circumstances, the NRC's primary role in transportation of spent fuel to a repository would be certification of the packages used for transport.
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separate and distinct from the repository licensing action being undertaken by the NRC under Part 63. The requirements for such a certification are set forth not in Part 63, but instead in 10 C.F.R. Part 71.

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

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

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

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> 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 J. Durbin at 2 (May 10, 2002), *available at* ADAMS Accession No. ML21060662 (emphasis added). DOE's plan is to take custody of the spent fuel at the reactor site.

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

In *Nevada v. Dep't of Energy* and *NEI v. EPA*, the D.C. Circuit anticipated that DOE would in the future be issuing transportation related decisions. For example, in *NEI*, 373 F.3d at 1312, the Court stated:

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

Emphasis added.

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

corridor for the movement of waste to Yucca, DOE violated NEPA and NEPA implementing regulations" and acted in an arbitrary and capricious manner and contrary to law. Petitioner's Final Opening Brief at 2-4, *Nevada v. Dep't of Energy*, 457 F.3d 78 (D.C. Cir. 2006) (No. 04-1309).

The D.C. Circuit took jurisdiction of the State's petition for review and rejected the State's claims on their merits (with the exception of certain contingency plans which the court held were not ripe for review).[16] 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 as to Nevada and the preclusive effect of this decision applies not only to those NEPA claims decided by the court of appeals but also to those which could have been raised. *W. Radio Servs. Co. v. Glickman,* 123 F. 3d 1189 (9th Cir. 1997) (concluding that "any cognizable claims should have been raised in *Western Radio I*, and are thus barred by res judicata"). Of course, any party (such as California) 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,

[16] 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.

certain environmental organizations stated that "affected parties may decide for reasons of litigative strategy" to raise environmental issues "in NRC licensing proceedings rather than by going to court." Final Rule, 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.* (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 25 (1978), and affirmed by the court of

appeals in *New England Coalition on Nuclear Pollution v. 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. Contentions Relating to the Proposal by DOE to Accept SNF in TADs Are Beyond The Scope of This Proceeding

Certain California contentions relate to DOE's proposal to accept a substantial amount of commercial SNF for transportation and disposal in Transportation, Aging and Disposal canisters (TADs) rather than dual purpose canisters (DPCs). These contentions would have NRC second-guess DOE's management decision to accept up to as much as 90% of commercial SNF in TADs and, in effect, would require DOE to accept a smaller percentage of commercial SNF in TADs. DOE will make its decisions concerning how to accept commercial SNF pursuant to contracts

mandated by the NWPA, and NRC has no statutory or regulatory authority over those contractual decisions. While NRC can consider the effects of DOE's proposal to accept up to 90% of commercial SNF in TADs, it cannot go behind that proposal and, in effect, specify how much commercial SNF DOE can accept in TADs. Thus, any contention premised on such a change is beyond the scope of this proceeding.

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

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

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

DOE's decisions on how much commercial SNF to accept in TADs are not subject to review by NRC. Section 302 of the NWPA is explicit that the acceptance by DOE of

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

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

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

For the same reasons discussed in Sections 5.a.(2) and (3), challenges to DOE's proposal to accept up to as much as 90 percent of commercial SNF in TADs and DOE's analysis of the environmental impacts of that proposal are not appropriately a part of this proceeding. Put simply, NRC must take DOE's proposal to accept up to as much as 90 percent of commercial SNF in TADs and DOE's analysis of the environmental impacts of that proposal as a given in deciding whether to issue a construction authorization for the repository. *See Pub Serv. Co. of N.H.*, CLI-78-1, 7 NRC at 25-26.

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

1. CAL-NEPA-1 - DOE's NEPA Documents Impermissibly Segment the Project by Deferring Analysis of the Environmental Impacts of Transportation of Spent Nuclear Fuel and High-Level Waste Through California to Yucca Mountain

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that these NEPA documents segment the Yucca Mountain repository project by failing to analyze and disclose the possible and reasonably foreseeable significant route-specific environmental impacts on California—as DOE's NEPA documents purport to do for Nevada—of transport of spent nuclear fuel and high-level radioactive waste through California, do not analyze or disclose the reasonably foreseeable non-radiological environmental impacts of such transport, and do not compare the alternative routes through California that would need to be used to connect to the Mina or Caliente rail routes in Nevada.

RESPONSE

In this contention, California alleges that DOE impermissibly segmented the project under NEPA by failing to analyze the reasonably foreseeable route specific or route-comparative environmental impacts of transportation of high-level radioactive waste and spent nuclear fuel through the State of California to Yucca Mountain.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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).

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth the factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention should therefore be rejected.

There are a number of additional flaws in Paragragh 5 and Dr. Dilger's affidavit. Paragraph 5 of this contention is based on the erroneous premise that "DOE seeks approval for a license for the entire Yucca Mountain project, including transport, in this Proceeding." Petition at 21. Dr. Dilger, by adopting the statement in Paragraph 5, states that this proceeding involves the licensing of the repository and transportation. Petition at 21. Dr. Dilger's adoption of this section misstates the scope of this proceeding, which only involves the licensing of the

repository under Part 63. As discussed in Section IV.A.5, NRC does not have regulatory authority over DOE's transportation of spent nuclear fuel and high-level radioactive waste to Yucca Mountain.

In addition, Paragraph 5 of this contention merely sets forth a series of conclusory statements about issues that California alleges were improperly omitted from DOE's NEPA analysis. These bare assertions regarding the "feasibility of analysis" of transport routes, "deleterious effects" of truck shipments in the State of California, and the "huge potential environmental consequences" of the choice of rail routes are entirely unsupported. *See* Petition at 22. Dr. Dilger provides no explanation of the magnitude, causes, location, or timing of these supposed consequences, nor does he provide any basis for his sweeping conclusions. The impact of these alleged omissions is never discussed. This contention should, therefore, be rejected.

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

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

b. Brief Explanation of Basis.

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

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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the April 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding specific transportation routes in the State of California is objectionable on both jurisdiction and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen,* 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 114 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to DOE's selection and analysis of specific transportation routes through the State of California for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's timing of selection and analysis of

specific transportation routes through California, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this contention does not raise an issue that is material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and because it is barred under principles of finality. In addition, this contention does not present a material issue because DOE did not impermissibly segment the project under NEPA. Segmentation occurs when an agency "avoid[s] the [NEPA] requirement that [an EIS] be prepared for all major federal action with significant environmental impacts by segmenting an overall plan into smaller parts involving action with less significant environmental effects." *West Chicago v. NRC,* 701 F.2d 632, 650 (7th Cir. 1983). That did not occur here. DOE has not sought to avoid NEPA's requirements by segmenting portions of the project to minimize the environmental effects, nor has it sought to divide the project to avoid preparation of an EIS.

Under NEPA, DOE is required to take a "hard look" at environmental consequences. *See Kleppe v. Sierra Club,* 427 U.S. 390, 410 n.21 (1976). In its NEPA documents, DOE has analyzed the environmental impacts of transporting spent nuclear fuel and high-level radioactive waste along representative routes to the Yucca Mountain repository, and has also analyzed the risk of accidents, transportation sabotage considerations and consequences of potential sabotage

events.[17] *See* 2002 FEIS, Vol. II, App. J at Table J-74 at J-62; Repository SEIS, Vol. II, App. G at Table G-25 at G-67. These impacts were based on route-specific distances and population densities for representative routes in California. *See* DOE, Calculation Package for the Transportation Impacts for 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 (2008) (LSN# DEN001600380), and DOE, Special Instruction Sheet For Calculation Package For The Transportation Impacts For The Final SEIS (LSN# DEN001598031) (2008). In addressing accidents, DOE evaluated both rural and urban areas. For urban areas, DOE estimated population densities based on the projected population densities of twenty urban areas in the United States, including three locations in California: Los Angeles-Long Beach-Santa Ana, San Diego, and San Francisco-Oakland. *See id.*

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[17] The impact analyses included:

- Radiological impacts to people 800 meters (0.5 mile) from the transportation route and to people sharing the route.
- Radiological exposures at stops en route to the repository. For truck transportation, these stops would include stops for refueling, food, and rest, and for brief inspections at regular intervals. For rail transportation, stops would occur in rail yards at the beginning and end of the trip and along the route to change crews and equipment. Stops would also include the intermodal transfers of rail casks for shipments from generator sites without direct rail access.
- Impacts to workers such as truck drivers, escorts, inspectors, and workers at rail yards. Engineers and conductors would be in the train locomotives at least 46 meters (150 feet) from the closest rail cask, shielded from radiation exposure by the locomotives; therefore, there would be no radiation doses for these workers en route to the repository.
- Impacts to workers exposed during intermodal transfers of rail casks for shipments from generator sites without direct rail access.
- Impacts from vehicle emissions in urban, suburban, and rural areas by transportation vehicles, including escort vehicles. Because the impacts would occur equally for trucks and railcars transporting loaded or unloaded transportation casks, the analysis used round-trip distances. Because escorts would be present in all areas, escort vehicle emission impacts were also estimated based on round trips.
- Impacts from transportation accident risks in California, including radiological and nonradiological impacts for representative routes in California and state-specific escalation factors.
- Impacts from severe transportation accidents in context of transporting spent nuclear fuel and high-level radioactive waste to Yucca Mountain.

See, e.g., 2002 FEIS, Vol. II, App. J at J-133 to -187, Tables J-24 at J-62, J-34 at J-93; Repository SEIS, Vol. II, App. G at G-35 to -40, G-45 to -48, Tables G-9, G-25.

California's claim that DOE falls short of NEPA's requirements by failing to discuss "route-specific environmental impacts on California – as DOE's NEPA documents purport to do for Nevada" is equally without merit. "[F]ederal agencies are assigned the primary task of defining the scope of NEPA review and their determination is given considerable discretion . . . ." *Wetlands Action Network v. U.S. Army Corps of Eng'rs,* 222 F.3d 1105, 1118 (9th Cir. 2000); *see also Benton County v. DOE,* 256 F. Supp. 2d 1195, 1200 (E.D.Wa. 2003) ("DOE's determination of the appropriate scope of the environmental review process . . . is entitled to deference, unless it is arbitrary and capricious."). It was reasonable for DOE to use representative routes at this stage in the process. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, App. G at G-5; App. A at A-5 to -8. To identify these representative routes DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices. Repository SEIS, Vol. II, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high quality track, and the minimum number of interchanges between railroads. *Id.*, Vol. II, App. G at G-5 to -6; 2002 FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, Vol. II, App. G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to Yucca Mountain. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases).

In addition, California's further assertion that DOE's FEIS and its supplements are inadequate because of the unavailability of the actual transportation routes to be used is inconsistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. Moreover, with respect to situations in which only preliminary design plans had been prepared, courts have held that "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crounse Corp. v. ICC,* 781 F.2d 1176, 1194 (6th Cir. 1986). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of representative national, regional and local transportation routes, is sufficient to satisfy NEPA's requirements.

There are processes for DOE to determine if there is a need for additional NEPA review prior to beginning shipments to Yucca Mountain. DOE may determine that additional analysis is necessary if it proposes substantial changes to a proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. 40 C.F.R.

§ 1502.9(c). DOE would conduct supplemental NEPA review if DOE makes substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

Accordingly, this contention does not present a material issue because DOE's NEPA documents do not impermissibly segment the project under NEPA and adequately address potential evironmental impacts of transportation to Yucca Mountain.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because this contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

2. CAL-NEPA-2 - DOE's NEPA Documents Impermissibly Segment the Project as to Route Selection and Route-Specific Impact Analysis

It is not practable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that these NEPA documents segment and piecemeal the NEPA analysis of the Yucca Mountain project by postponing the identification and disclosure of reasonably foreseeable transportation routes within and through California until an unspecified time in the future, and do not analyze or disclose the possible and reasonably foreseeable significant route-specific impacts on the environment of California of the transportation of spent nuclear fuel or of high-level radioactive waste over these routes through California.

RESPONSE

In this contention, California alleges that DOE impermissibly segmented the project as to route selection and route-specific impact analysis within the State of California.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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).

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth the factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention should therefore be rejected.

There are a number of additional flaws in Paragraph 5 and Dr. Dilger's affidavit. Paragraph 5 of this contention is based on the erroneous premise that "DOE seeks approval for a license for the entire Yucca Mountain project, including transport, in this Proceeding." Petition at 21. Dr. Dilger, by adopting the statement in Paragraph 5, states that this proceeding involves the licensing of the repository and transportation. Petition at 25. Dr. Dilger's adoption of this paragraph misstates the scope of this proceeding. As discussed in Section IV.A.5, NRC does not have regulatory authority over DOE's transportation of spent nuclear fuel and high-level radioactive waste to Yucca Mountain.

In addition, Paragraph 5 of this contention (adopted by Dr. Dilger) merely sets forth a series of conclusory statements about issues that California alleges were improperly omitted from DOE's NEPA analysis. These bare assertions regarding the project's timing, DOE's

decision-making process, and the "environmental harm the whole project may do" are unsupported. *See* Petition at 26. Dr. Dilger provides no explanation of the magnitude, causes, location, or timing of these supposed harms, nor does he provide any basis for his sweeping conclusions. The impact of these alleged omissions is never discussed. This contention should, therefore, be rejected.

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

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

b. Brief Explanation of Basis

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

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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the April 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred under principles of finality. California's contention regarding DOE's selection of specific transportation routes in the State of California is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the

cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen,* 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to DOE's selection and analysis of specific transportation routes through the State of California for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's timing of selection and analysis of specific transportation routes through California, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008

ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this contention does not raise an issue that is material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and because it is barred under principles of finality. In addition, this contention does not present a material issue because DOE did not impermissibly segment the project under NEPA. Segmentation occurs when an agency "avoid[s] the [NEPA] requirement that [an EIS] be prepared for all major federal action with significant environmental impacts by segmenting an overall plan into smaller parts involving action with less significant environmental effects." *West Chicago v. NRC,* 701 F.2d 632, 650 (7th Cir. 1983). That did not occur here. DOE has not sought to avoid NEPA's requirements by segmenting portions of the project to minimize the environmental effects, nor has it sought to divide the project to avoid preparation of an EIS.

Under NEPA, DOE is required to take a "hard look" at environmental consequences. *See Kleppe v. Sierra Club,* 427 U.S. 390, 410 n.21 (1976). In its NEPA documents, DOE has analyzed the environmental impacts of transporting spent nuclear fuel and high-level radioactive waste along representative routes to the Yucca Mountain repository, and has also analyzed the risk of accidents, transportation sabotage considerations and consequences of potential sabotage events.[18] *See* 2002 FEIS, Vol. II, App. J at Table J-74 at J-62; Repository SEIS, Vol. II, App. G

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[18] The impact analyses included:

- Radiological impacts to people 800 meters (0.5 mile) from the transportation route and to people sharing the route.
- Radiological exposures at stops en route to the repository. For truck transportation, these stops would include stops for refueling, food, and rest, and for brief inspections at regular intervals. For rail

at Table G-25 at G-67. These impacts were based on route-specific distances and population densities for representative routes in California. *See* DOE, Calculation Package for the Transportation Impacts for 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 (2008) (LSN# DEN001600380), and DOE, Special Instruction Sheet for Calculation Package For The Transportation Impacts For the Final SEIS (LSN# DEN001598031) (2008). In addressing accidents, DOE evaluated both rural and urban areas. For urban areas, DOE estimated population densities based on the projected population densities of twenty urban areas in the United States, including three locations in California: Los Angeles-Long Beach-Santa Ana, San Diego, and San Francisco-Oakland. *See id.*

California's claim that DOE falls short of NEPA's requirements by failing to discuss "route-specific environmental impacts on California – as DOE's NEPA documents purport to do for Nevada" is equally without merit. "[F]ederal agencies are assigned the primary task of defining the scope of NEPA review and their determination is given considerable discretion …."

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transportation, stops would occur in rail yards at the beginning and end of the trip and along the route to change crews and equipment. Stops would also include the intermodal transfers of rail casks for shipments from generator sites without direct rail access.

- Impacts to workers such as truck drivers, escorts, inspectors, and workers at rail yards. Engineers and conductors would be in the train locomotives at least 46 meters (150 feet) from the closest rail cask, shielded from radiation exposure by the locomotives; therefore, there would be no radiation doses for these workers en route to the repository.
- Impacts to workers exposed during intermodal transfers of rail casks for shipments from generator sites without direct rail access.
- Impacts from vehicle emissions in urban, suburban, and rural areas by transportation vehicles, including escort vehicles. Because the impacts would occur equally for trucks and railcars transporting loaded or unloaded transportation casks, the analysis used round-trip distances. Because escorts would be present in all areas, escort vehicle emission impacts were also estimated based on round trips.
- Impacts from transportation accident risks in California, including radiological and nonradiological impacts for representative routes in California and state-specific escalation factors.
- Impacts from severe transportation accidents in context of transporting spent nuclear fuel and high-level radioactive waste to Yucca Mountain.

See, e.g., 2002 FEIS, Vol. II, App. J at J-133 to -187, Tables J-24 at J-62, J-34 at J-93; Repository SEIS, Vol. II, App. G at G-35 to -40, G-45 to -48, Tables G-9, G-25.

Wetlands Action Network v. U.S. Army Corps of Eng'rs, 222 F.3d 1105, 1118 (9th Cir. 2000); *see also Benton County v. Dep't of Energy,* 256 F. Supp. 2d 1195, 1200 (E.D.Wa. 2003) ("DOE's determination of the appropriate scope of the environmental review process . . . is entitled to deference, unless it is arbitrary and capricious."). It was reasonable for DOE to use representative routes at this stage in the process. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, Vol. II, App. G at G-5; App. A at A-5 to -8. To identify these representative routes DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices. Repository SEIS, Vol. II, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high quality track, and the minimum number of interchanges between railroads. *Id.*, Vol. II, App. G at G-5 to -6; 2002 FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, Vol. II, App. G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to Yucca Mountain. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases).

In addition, California's further assertion that DOE's FEIS and its supplements are inadequate because of the unavailability of actual transportation routes to be used is inconsistent

with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. Moreover, with respect to situations in which only preliminary design plans had been prepared, courts have held that "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crounse Corp. v. ICC,* 781 F.2d 1176, 1194 (6th Cir. 1986). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of representative national, regional and local transportation routes, is sufficient to satisfy NEPA's requirements.

There are processes for DOE to determine if there is a need for additional NEPA review prior to beginning shipments to Yucca Mountain. DOE may determine that additional analysis is necessary if it proposes substantial changes to a proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. 40 C.F.R. § 1502.9(c). DOE would conduct supplemental NEPA review if DOE makes substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

Accordingly, this contention does not present a material issue because DOE's NEPA documents do not impermissibly segment the project under NEPA and adequately address potential environmental impacts of transportation to Yucca Mountain.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, and because the contention is barred on finality grounds. Moreover, for the reasons discussed in section d. above, this contention does not raise a genuine dispute on a material issue of fact or law that DOE did not improperly segment its analysis of the project as to route selection and route-specific impact analysis within the State of California.

3. CAL-NEPA-3 - DOE's NEPA Documents Impermissibly Fail to Analyze and Disclose Different Environmental Impacts from the Mina and Caliente Routes

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that the NEPA documents do not analyze or disclose the possible and reasonably foreseeable significant impacts on the environment of California of the choice between rail transportation in Nevada of spent nuclear fuel and high-level radioactive waste using the Mina route, as opposed to the Caliente rail route.

RESPONSE

In this contention, the State of California alleges that DOE did not analyze or disclose the "possible and reasonably foreseeable significant impacts on the environment in California of the choice between rail transportation in Nevada of spent nuclear fuel and high level radioactive waste using the Mina route as opposed to the Caliente route." Petition at 28.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavit. In particular, the affidavit of Fred C. Dilger contains no analysis or other information to satisfy the requirements of demonstrating that these criteria have been met. First, his affidavit fails to demonstrate that a "materially different result would be or would have been likely" if the contention were proven to be true. Nor does he "set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) [of § 2.326] have been satisfied." Rather, Dr. Dilger's affidavit does nothing more than adopt Paragraph 5 of the contention without further explanation or analysis. Paragraph 5 suggests that there would be greater adverse impacts to the State of California associated with the Mina rail corridor than the Caliente rail corridor because of the increased number of rail shipments through California if the Mina route had been chosen. *See, e.g*., Petition at 30 (755 rail casks for Caliente versus 1,963 for Mina). Even if Paragraph 5 of the contention is considered to be Dr. Dilger's affidavit, it fails to provide any analysis, studies or data that would support a finding that the contention raises a significant environmental issue.

As an initial matter, DOE did analyze the potential impacts associated with both the Mina and Caliente rail corridors, including potential impacts to California. In particular, contrary to the allegations in the contention, the Repository SEIS does analyze transportation impacts in California associated with the Caliente or Mina routes. *See* Repository SEIS, Vol. II, App. G at G-67 to -68 (estimated impacts of radiation doses received by involved workers and members of the public, latent cancer fatalities for the same groups, vehicle emission fatalities, traffic fatalities

and radiological accident risks). This contention and the supporting affidavit fail to provide any analysis or studies demonstrating that DOE's estimates are not accurate or that there would be more significant impacts in the State of California associated with the Mina or Caliente corridors. The contention only points to the number of trains that will pass through California for both the Mina route and the Caliente route and the population centers these different routes will be near, and speculates that the Mina route (which was neither the preferred alternative nor ultimately selected by DOE) would have more severe impacts for California. The contention and supporting affidavit do not address those impacts or demonstrate that this contention raises a significant environmental concern.

Further, the allegations in this contention would not lead to a materially different outcome in this proceeding. While DOE concluded that the Mina corridor was the environmentally preferable alternative to the Caliente rail corridor, DOE concluded that the Caliente rail corridor was the preferred alternative because of the objection of the Walker River Paiute Tribe to the transportation of SNF and HLW through its reservation. Rail Corridor SEIS at CR 2-17. A different analysis of potential adverse environmental impacts associated with the Mina corridor would not have led to any different result given the unavailability of the Mina route.

Under § 2.326, the contention must raise information so "substantial" that the alleged inadequacy in the DOE EIS 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 19, 28 (2006). For the foregoing reasons, 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

This contention is directed to the possible environmental impacts related to the choice of the transportation route. Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. Accordingly, California's claim that DOE failed to adequately analyze the impacts of the choice between the Mina and Caliente rail routes, even if true, would be outside the scope of the proceeding on this ground.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g.*, *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue for which the approach specified in Section 119 was or is not available.

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

Because the contention raises issues that are outside the scope of this proceeding and instead within the exclusive jurisdiction of the courts of appeals, the contention does not present an issue material to the findings the NRC must make.

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

For the reasons discussed above with respect to the requirements of 10 C.F.R. §§ 51.109 and 2.326, California 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 any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding. Even assuming this contention addresses an issue within the scope of the proceeding, however, it still fails as a matter of law to raise a material issue under NEPA because DOE did analyze and compare the environmental impacts to the State of California associated with the Mina and Caliente rail corridors, because the State of California has identified no issues or information indicating that that analysis was not adequate, and because even if proven the contention would not lead or would not likely lead to a materially different outcome in the proceeding.

4. CAL-NEPA-4 - DOE'S NEPA Documents Fail to Adequately Discuss or Analyze Mitigation in California Adequately

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that the NEPA documents' discussion of mitigation is internally inconsistent and inadequate: they [sic] analyzes, discusses, and provides mechanisms for mitigating the hazards of spent nuclear fuel shipments and high-level radioactive waste shipments through Nevada, but fail to do so for the same types of hazards from shipments in and through California.

RESPONSE

In this contention, California alleges that DOE has failed to describe, analyze, or commit to mitigation measures for the potential environmental impacts of transport within the State of California.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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).

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326. 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 – California's petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention must therefore be rejected.

There are a number of additional flaws in Dr. Dilger's affidavit. Dr. Dilger simply adopts Paragraph 5 of the contention as the substance of his affidavit. Paragraph 5 of this contention merely sets forth a list of alleged omissions in the Repository SEIS involving mitigation of impacts that might be felt in California as a result of transportation of SNF and HLW through California. Paragraph 5 and Dr. Dilger's affidavit fail to provide any evidence to support their assertion that "there will be a plethora of areas where larger-than-average incident-free radiation doses will occur," instead pointing only to two locations in California where intermodal handling and rail yard shipments may occur if the project is approved. Petition at 35. Neither of these examples provides any support for the allegation that there would be a "plethora" of areas facing "larger-than-average" radiation doses, and the potential impacts and mitigation of the effects of intermodal transfer and rail yard shipments have already been addressed on a national level by DOE. *See* Repository SEIS, Vol. II, App. G at G-35 to -40; G.5; 2002 FEIS, Vol. I at §§ 6-72 to

-156, 9-19 to -28. Dr. Dilger does not discuss why these examples are any different from the impacts that DOE has already discussed. Even if "larger than average" doses are experienced at particular locations in California, DOE's analysis demonstrates that the total number of fatalities over 30 years from both rail and truck transportation through California using the Mina corridor would be .40 and .18 using the Caliente corridor. Repository SEIS, Vol. II, App. G, Table G-25 at G-67. In addition, Dr. Dilger does not provide any explanation of the magnitude, causes, locations, or timing of any "significant location-specific impacts" for which Paragraph 5 alleges the omission of mitigation plans. Petition at 35. The impact of the alleged omissions is never discussed. This contention should, therefore, be rejected.

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

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

b. Brief Explanation of Basis

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

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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the April 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are also barred on finality grounds. California's contention regarding mitigation plans for specific transportation routes in the State of California is objectionable on both grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's

transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's timing of selection and analysis of specific transportation routes through California, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

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

California alleges that DOE failed to satisfy NEPA's requirements because it did not provide analysis of actual mitigation measures for primarily transportation-related effects within California. Petition at 33. 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 does not require an agency to provide specific measures for any particular portion of a project; it 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. U.S. Dep't of Transp.*, 123 F.3d 1142, 1150 (9th Cir. 1997).

California's allegation that DOE has not provided a commitment to mitigation measures or "projected mechanism for mitigating impacts that will occur outside of the State of Nevada" is untrue. Petition at 34. DOE has sufficiently specified best management practices and mitigation measures for national and regional transportation activities, including detailed discussions of transportation regulations, operational practices, cask safety and testing, emergency response,

training of state and local officials, occupational health and safety, technical assistance, transportation security and liability. *See, e.g.*, Repository SEIS, Vol. I at 9-19 to -28; Vol. II, App. H at H-1 to -36. *See also* ROD: Mode of Transportation for the Disposal of Spent Nuclear Fuel and High Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, 69 Fed. Reg. 18557, 18561 (April 8, 2004). To the extent that California seeks specific plans for actual mitigation measures within the State of California, 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." *Robertson*, 490 U.S. at 352. A discussion of "possible mitigation measures" is sufficient to satisfy NEPA's requirements. *Id*.

California also does not present a genuine issue that "DOE has failed to provide a framework for mitigating the routine and non-routine impacts of this program in California, and has failed [to provide] specific actions needed to mitigate the impacts of the program in California." Petition at 36. "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), CLI-03-17, 58 NRC 419, 431 (2003) (quotations omitted). DOE adequately describes the mitigation measures that it would implement should the project be approved, listing them by environmental resource and dividing them between repository and transportation effects and discussing the means by which it would implement possible mitigation measures. *See, e.g.*, Repository SEIS, Vol. I at Table 9-1 at 9-4 to -7; and Vol. I at 9-7 to -10. NEPA requires only a reasonable analysis of the "means to mitigate adverse environmental impacts." *See* 40 C.F.R. § 1502.16. 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). California's demand for a fully-developed state-specific mitigation plan is not reasonable under NEPA, nor could such a plan be practically completed at this early stage.

Further, California's allegation that DOE should have provided a "detailed analysis of mitigation" for areas affected by transportation through California also fails. Petition at 36. There is no requirement under NEPA that an agency propose mitigation plans 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 procedural requirements. At this early stage, it would be premature and speculative for DOE to provide a detailed plan for mitigation of transportation effects in California when actual shipments will not begin until years in the future. *See* Repository SEIS, Vol. II, App. H-9 to-13. DOE has committed to "build on and borrow from the experience and successes of" other federal programs, including the Naval Nuclear Propulsion Program, to manage possible transportation effects and "ensure that its record of safety, environmental compliance, public involvement, and operations merits public confidence." *Id.*, Vol. III at CR-437. At this early stage in planning for shipments that will not be conducted until many years in the future, an EIS containing even "merely conceptual" mitigation plans satisfies NEPA. *Robertson*, 490 U.S. at 339, 352-53.

Similarly, general mitigation measures are sufficient to satisfy NEPA when it is impossible to know which specific locations are most likely to be affected by a project. *N. Alaska Env. Ctr.*, 457 F.3d at 979. Although DOE has provided an extensive review of incident-

free transportation by railroad, highway, and barge; intermodal transfer; transportation accidents; and the impacts of loading operations, *see* 2002 FEIS, Vol. II, App. J at J-1 to -30, it would be impossible for DOE to provide exact mitigation plans for actual transportation effects for shipments that will not occur until many years in the future. At this early stage in the process, years before a potential first shipment, DOE has adequately described the potential mitigation measures it will use to address potential impacts due to transportation.

Finally, California makes the unsupported claim that "there will be a plethora of areas where larger-than-average incident-free radiation doses will occur" as a result of transportation of SNF and HLW through California. Petition at 35. California does not provide any evidence in support of this claim, and instead points to two locations where intermodal transfers and rail yard shipments are likely to occur. *Id*. (stating that "there will be substantial intermodal handling required near San Luis Obispo" and "at least 1332 shipments will go through the Barstow, California rail handling yard, also causing worker and possibly public exposures") (citing Repository Supplemental EIS, Vol. II, App. G at Table G-10 at G-16 to -18 and Figure G-1 at G-7). California's citation of 1332 shipments is incorrect. As shown on Table G-26, Repository SEIS, App. G at G-69, DOE estimates there would be 755 rail casks that would be shipped through California (and Barstow specifically) to the Caliente rail line. This amounts to about 251 train shipments. Repository SEIS, Vol. I at 6-3 ("For commercial spent nuclear fuel, the Department based transportation impacts on three casks per train."). DOE has provided extensive analysis of incident-free radiation doses and impacts for members of the public, involved transportation workers, and maximally exposed involved workers, as well as detailed analysis of potential accidents and severe accidents associated with transportation of SNF and HLW. *See, e.g*., Repository SEIS, Vol. I at 6-15 to -32; Vol. II, App. G at G-35 to -151. In

addition, DOE has provided state-specific analyses for 44 states, including California, of the estimated impacts of representative transportation routes and potential exposure to transportation workers and the general public. *See id.*, Vol. II, App. G at G-60 to -151, Table G-25 at G-67, Figure G-6 at G-68. As noted above, DOE's analysis demonstrates that the total number of fatalities over 30 years from both rail and truck transportation through California would be .40 for the Mina corridor and .18 using the Caliente corridor. California does not provide any evidence that additional effects will occur in these or a "plethora" of other locations within the State. California also does not provide any explanation as to why examples it provided are any different from the potential effects and possible mitigation measures that DOE has already addressed. Accordingly, these examples do not provide any support for California's allegation that DOE has failed to adequately address possible mitigation measures for transportation activities within the State of California.

In sum, DOE has provided a "reasonably complete" analysis of possible measures to satisfy NEPA's procedural requirements with respect to mitigation and potential transportation effects. *Robertson*, 490 U.S. at 352. Moreover, DOE's analysis fully meets the requirement that an agency take a "hard look' at potential environmental effects. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). California's allegation that DOE failed to meet NEPA's requirements by not providing completed state-specific mitigation plans to address actual impacts within California is entirely unsupported by the facts and relevant NEPA caselaw. This contention should therefore be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analysis.

5. CAL-NEPA-5 - DOE's NEPA Documents Are Based on an Incomplete and Inaccurate Project Description, Since a Doubling or Tripling of Yucca Mountain's Capacity Is Reasonably Foreseeable Due to DOE's Request to Congress to Authorize Such a Capacity Increase

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that they present an incomplete and inaccurate project description that describes Yucca Mountain as having only a capacity of 70,000 metric tons heavy metal being stored and/or disposed of at Yucca Mountain (e.g., Repository SEIS at S-7), with only that amount being transported (including transportation through California), while it is now reasonably foreseeable that Congress, at DOE's request and upon DOE's recommendation (DOE/RW-0595, LSN CEC000000613), may authorize the storage and/or disposal of up to four times that total, or even more; in the alternative, the NEPA documents impermissibly segment the project if DOE plans to issue a supplement to the NEPA documents addressing this reasonably foreseeable capacity increase, either during or after the completion of the Licensing Proceeding.

RESPONSE

In this contention, California claims that the 2002 FEIS and its supplements "present an incomplete and inaccurate project description that describes Yucca Mountain as having only a capacity of 70,000 metric tons heavy metal (MTHM)." Petition at 37. California further claims that DOE's "NEPA documents impermissibly segment the project if DOE plans to issue a supplement to the NEPA documents addressing this reasonably foreseeable capacity increase." *Id.*

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. California

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. It does not show that its contention raises a significant environmental issue. With regard to the most important and difficult showing—a demonstration that a "materially different result would be or would have been likely" if the contention were proven to be true – California's Petition and the affidavit of its expert are silent, other than the vague and insufficient assertion that "such a project expansion affects every aspect of the transportation portion of the project." Petition at 40. Equally important, California's expert, Dr. Dilger, does not provide the analysis that is explicitly called for by the terms of § 2.326(b). This regulation requires California'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 that "[e]ach of the criteria must be separately addressed, with a

specific explanation of why it has been met." Here, California has failed to meet these requirements and its contention should be rejected.

Apart from its failure to comply with the requirements of §§ 2.326 and 51.109, California has also failed to submit an affidavit that provides a reasoned explanation of the basis for its expert's opinions and more importantly why the issue raised by the contention is of any significance. California's expert, Dr. Dilger, merely adopts the one paragraph contained in Paragraph 5 of this contention as the entire substance of his testimony.

Dr. Dilger's assertion that NEPA requires that DOE describe the project "it proposes to build," although accurate, is irrelevant. DOE's proposal, as reflected in its license application, is limited to a repository "for the disposal of up to 70,000" MTHM. *See, e.g.,* Repository SEIS, Vol. I at 2-1. As Dr. Dilger acknowledges, this limitation is congressionally imposed by the Nuclear Waste Policy Act, as amended. 42 U.S.C. § 10134(d). Moreover, Part 63 reflects this Congressional limitation in defining the scope of the NRC's authority to licensing of DOE to possess nuclear material at a Yucca Mountain repository "in accordance with the Nuclear Waste Policy Act of 1982, as amended." 10 C.F.R. § 63.1. Given these limitations, there is no basis for Dr. Dilger's assertion that "removal of the current legal limit of 70,000 MTHM is now within the scope of the project DOE desires and plans to construct." Petition at 40.

Dr. Dilger complains that California and its residents cannot know whether the shipments that will be made through California will increase or how long those shipments will last. Petition at 40. That is not a complaint that DOE can address without Congressional action. It does not render DOE's analysis of its proposed action inadequate under NEPA.

Moreover, DOE did address in its environmental analyses the prospect that greater quantities of SNF or HLW might someday be shipped to Yucca Mountain. Dr. Dilger does not

address DOE's analysis other than to dismiss it as "a cursory acknowledgment," "lack[ing] any detail whatsoever." Petition at 39. To the contrary, DOE examined as "Inventory Module 1" in its cumulative impacts analysis, in both the 2002 FEIS and Repository SEIS, the possibility that all commercial SNF (about 130,000 MTHM) projected to be generated by existing U.S. reactors (assuming a 60-year operating life) could be shipped to Yucca Mountain. In the 2002 FEIS, DOE set forth in detail the potential impacts of Inventory Module 1 environmental resource/subject area. *See, e.g.,* 2002 FEIS, Vol. I at 8-6 to -8; 8-21 to -74. DOE also discussed Inventory Module 1 and its impacts in detail in the Repository SEIS. *See, e.g.* Repository SEIS, Vol. I at 8-4 to -7, 8-16 to -33 (preclosure impacts); 8-33 to -35 (postclosure impacts); 8-39 to -51 (transportation impacts). Dr. Dilger's characterization of this effort as a mere acknowledgment lacking detail reflects a fundamental lack of knowledge of DOE's environmental analyses on Dr. Dilger's part.

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

This contention is outside the scope of this proceeding because the NRC's authority in this proceeding is limited by the NWPA to authorizing construction of a repository "for the disposal of up to 70,000" MTHM, and DOE's license application is similarly limited. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality

grounds. California's contention regarding DOE's analysis of shipments potentially greater than 70,000 MTHM (Inventory Module I) is objectionable to the extent it addresses transportation of SNF and HLW through California on jurisdiction and finality grounds.

First, as addressed in Section IV.A.5(a)(1), above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) 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. 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. California has failed to identify any issue relating to Inventory Module I for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, 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. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, the contention does not raise an issue that is material to the findings the NRC must make because the NRC's licensing authority in this proceeding is limited by the NWPA to authorizing construction of a repository for the receipt of 70,000 MTHM, because challenges to DOE's transportation decisions are outside the scope of this proceeding, and because it is barred under principles of finality. In addition, this contention does not raise a material issue because, as demonstrated above, the record demonstrates that DOE did examine receipt of greater quantities of material (up to 130,000 MTHM) in the Inventory Module I scenario in both the 2002 FEIS and Repository SEIS.

With respect to California's claim of improper segmentation, segmentation occurs when an agency "avoid[s] the NEPA requirement that an EIS be prepared for all major federal actions with significant environmental impacts by segmenting an overall plan into smaller parts involving action with less significant environmental effects." *West Chicago v. NRC*, 701 F.2d 632, 650 (7th Cir. 1983). That did not occur here. DOE has not sought to avoid NEPA's requirements by segmenting portions of the project to minimize the environmental effects, nor has it sought to divide the project to avoid preparation of an EIS. Indeed, as demonstrated above,

DOE analyzed potential impacts of Inventory Module I involving shipment of up to 130,000 MTHM even though that option is not currently legally permissible.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

6. CAL-NEPA-7 - DOE'S NEPA Documents Fail to Adequately Describe Transportation Impacts on Emergency Services in San Bernardino County

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that the Repository SEIS, in Chapter 6 and in Appendices A and G, fails to analyze impacts associated with repository transportation on emergency management agencies, fire services, police departments, emergency medical services, hospitals, emergency communications centers, public health and public works in San Bernardino County, California.

RESPONSE

In this contention, California alleges that DOE has failed to adequately describe transportation impacts on emergency management services in San Bernardino County.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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).

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention must therefore be rejected.

There are a number of additional flaws in Paragraph 5 and Dr. Dilger's affidavit. Paragraph 5 is based on the erroneous premise that the current proceeding encompasses transportation issues. Dr. Dilger's adoption of this paragraph misstates the scope of this proceeding.

In addition, Paragraph 5 of this contention merely sets forth a list of alleged omissions regarding impacts that might be felt in San Bernardino County as a result of transportation of spent nuclear fuel and high-level radioactive waste through California. Paragraph 5 and Dr. Dilger's affidavit fail to provide any evidence to support their assertion that "[a]ny accident or terrorist incident occurring within San Bernardino County could have enormous environmental consequences that could overwhelm the County's emergency agencies and first-responders." Petition at 44. Instead, Paragraph 5 points only to potential transportation impacts that have already been addressed by DOE. *See, e.g.*, Repository SEIS, Vol. II, App. G at G-40 to -68

(analyzing potential impacts of transportation accident risks and transportation sabotage, including analysis of potential impacts within the State of California). Dr. Dilger does not discuss why any potential impacts in San Bernardino County differ from the impacts that DOE has already analyzed, nor does he provide any evidence to suggest that DOE's description of measures to fund and train local emergency management services would not equally apply in San Bernardino County. Repository SEIS, Vol. II, App. H at H-18 to -19. The impact of the alleged omissions is never discussed. This contention should therefore be rejected.

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

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

b. Brief Explanation of Basis

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

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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding impacts on local emergency management from transportation-related incidents is objectionable on both grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the

cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to impacts on local emergency management responsibilities for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and the contention is barred on finality grounds. In addition, this contention does not present a material issue because DOE's NEPA documents adequately address issues of local emergency management.

California alleges that DOE failed to satisfy NEPA's requirements because it did not specifically address impacts associated with the provision of emergency management services in San Bernardino County, California. Petition at 42. Under NEPA, DOE is required to take a "hard look" at potential environmental consequences. *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). In its NEPA documents, DOE analyzed the potential effects of transporting spent nuclear fuel and high-level radioactive waste along representative routes in California, including the potential impacts of transportation accidents and support for state and local emergency management services in the event of a transportation emergency. *See, e.g.*, 2002 FEIS, Vol. I at 6-32 to -52.

DOE analyzed the coordination and assistance of local officials in the event of an emergency, including the provision of technical support and response management in cooperation with federal, state, and local officials. *See, e.g.*, Repository SEIS, Vol. II, App. H at H-16 to -17. DOE maintains eight Regional Coordinating Offices staffed 24 hours a day, 365 days a year with "teams of nuclear engineers, health physicists, industrial hygienists, public affairs specialists, and other professionals" to provide support to local officials in the event of an emergency. *Id.* at H-16. In addition, DOE would "support the Department of Homeland Security as the coordinating agency for incidents that involve the transportation of radioactive

materials by or for DOE," and would otherwise be "responsible for the radioactive material, facility, or activity in the incident," including coordination of "federal radiological response activities as appropriate." *Id.* at H-17. DOE would support the Department of Homeland Security in coordinating "security activities for federal response operations," and would maintain national and regional coordination offices to manage emergency responses with state and local officials. *Id.* at H-18.

In addition, DOE discussed its obligations under Section 180(c) of the NWPA, which requires DOE to provide technical assistance and funding to States and Tribes for training of local public safety officials on safer routine transportation and emergency response procedures through whose jurisdictions DOE would plan to transport spent nuclear fuel and high-level radioactive waste to Yucca Mountain. *See, e.g.*, 2002 FEIS, Vol. I at 6-46, Vol. II, App. M at M-20 to -21; Repository SEIS, Vol. II, App. H at H-18 to -19, H-33 to -35. Pursuant to DOE's proposed policy for implementing Section 180(c), *see* 73 Fed. Reg. 64,933 (Oct. 31, 2008), "DOE would work with states and tribes to evaluate current preparedness for safe routine transportation and emergency response capability and would provide funding as appropriate to ensure that State, Tribal, and local officials are prepared for such shipments." Repository SEIS, Vol. II, App. H at H-19. DOE anticipates that an initial grant for preparation and training in specific jurisdictions through which shipments would occur "would be available approximately 4 years prior to the commencement of shipments through a state or tribe's jurisdiction." *Id.* at H-19. DOE anticipates subsequent "training grants in each of the 3 years prior to a scheduled shipment through a state or tribe's jurisdiction and every year that shipments are scheduled." *Id.* At this early stage, many years before shipments would begin, it would therefore be premature to

predict which jurisdictions would be affected or attempt to provide a specific plan for any particular location.

California's allegation that DOE's NEPA documents are inadequate because of the unavailability of completed emergency management plans is inconsistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. NEPA analysis of environmental consequences must be made "as soon as it can reasonably be done." *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1072 (9th Cir. 2002) (citing *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1246 n.9 (9th Cir. 1984) ("Reasonable forecasting and speculation is . . . implicit in NEPA.") (internal citation omitted)). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided a reasonably thorough analysis of transportation issues associated with the project, including a discussion of emergency management issues, is sufficient to satisfy NEPA's requirements.

In sum, DOE has provided a "reasonably complete" analysis of possible measures to satisfy NEPA's procedural requirements with respect to potential transportation effects on local emergency management services. *Methow Valley*, 490 U.S. at 352. The allegation that DOE failed to meet NEPA's requirements by not providing a county-specific emergency management plan for San Bernardino County is entirely unsupported by the facts and relevant caselaw.

Accordingly, this contention does not present a material issue and should therefore be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

7. CAL-NEPA-8 - DOE'S NEPA Documents Fails to Describe the Maximum Reasonably Foreseeable Accident

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that the NEPA documents do not contain project-specific estimates of the costs of cleanup of the release of radioactive materials resulting from the maximum reasonably foreseeable accident during transport of spent nuclear fuel or high-level radioactive waste in and through California on its way to Yucca Mountain (calculations DOE's computerized models are capable of producing), but instead present cost estimates based on reports on and analyses of hypothetical releases, not directly related to or calculated for Yucca Mountain or the maximum reasonably foreseeable accident, making the NEPA documents' analysis inadequate and not practicable for adoption by NRC.

RESPONSE

In this contention, California asserts DOE's NEPA documents are inadequate because they do not contain project specific estimates of the costs of cleanup of the release of radioactive materials resulting from the maximum reasonably foreseeable accident during transport of SNF and HLW to the repository.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California must (1) raise a significant environmental issue; and (2) demonstrate that its contention, if proven to be true, would or would likely result in a materially different outcome in this

proceeding. Moreover, its environmental contention must be supported by the affidavit of a qualified witness that sets forth the factual and/or technical basis supporting the claim that these two criteria have been met, including "with a specific explanation of why it has been met." 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).

California fails to address mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavit. Specifically, neither the contention nor the supporting affidavit "set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) [of § 2.326] have been satisfied." 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 true – California's Petition and the affidavit of its expert, Dr. Dilger, are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's expert does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention must therefore be rejected.

There are a number of additional flaws in Dr. Dilger's affidavit. Dr. Dilger's affidavit does nothing more than adopt Paragraph 5 of the contention without further explanation or analysis. Paragraph 5 asserts that DOE should have provided estimates for the cost to cleanup or recover from the possible transportation accidents occurring during the life of the Yucca Mountain Project, particularly the maximum reasonably foreseeable accident. Paragraph 5

further references, without any detailed factual or technical discussion, computer software which DOE allegedly could have used to calculate costs, as well as the conclusions regarding cleanup costs in two additional reports which were not referenced in the Repository SEIS.[19] Even if the software did include the ability to address cleanup costs, its application for the hypothetical accident and sabotage scenarios evaluated in the Repository SEIS would be inappropriate. For example, the Department of Homeland Security has stated that "cleanup criteria should be derived through a site-specific optimization process" and lists a large number of such site-specific factors. Notice of Final Guidance: Planning Guidance for Protection and Recovery Following Radiological Disposal Device (RDD) and Improvised Nuclear Device (IND) Incidents, 73 Fed. Reg. 45,029, 45,036 (Aug. 1, 2008). DOE reasonably concluded in the 2002 FEIS that "the restoration that would be necessary following an accident cannot be predicted. It would depend on the environmental factors involved – 1) the levels of contamination from the accident, 2) cleanup levels and decontamination methods used, and 3) location and ecology of the affected land areas—and the restoration goal that was used." *See* 2002 FEIS, Vol. II, App. J at J-73. Under such circumstances, Dr. Dilger does not demonstrate that DOE's approach was unreasonable or that any different approach would lead or would be likely to lead to a different result.

Finally, Dr. Dilger claims that indirect costs due to contamination were not taken into account through a bounding analysis. Petition at 49. Such an analysis would not be appropriate because of the numerous factors involved as discussed above. Moreover, nowhere in the discussion in Paragraph 5 does Dr. Dilger explain why the studies and estimates of cleanup costs in the event of an accidental release of radioactive material that DOE did present in the 2002

[19] In fact, the reference upon which Dr. Dilger relies is to a superseded version of RADTRAN. DOE used RADTRAN 5.5, not RADTRAN 5 as Dr. Dilger states. *See* Special Instruction Sheet For Calculation Package For The Transportation Impacts For The Final SEIS, Attachment 07B (LSN# DEN001598031).

FEIS and Repository SEIS are inaccurate and do not reasonably reflect the possible cleanup costs. *See* 2002 FEIS, Vol. II. App. J at J-72 to -74; Repository SEIS, Vol. II, App. G at G-55 to -57. Paragraph 5 does acknowledge these studies but dismisses them because they are based on hypothetical accidents rather than accidents assumed to occur on the actual routes on which SNF and HLW will be transported. Having failed to analyze the estimates in the 2002 FEIS and Repository SEIS, Dr. Dilger cannot explain why the lack of project-specific accident cleanup costs is a significant environmental issue or would have a material impact on the outcome of this proceeding. *See id.* Therefore, Dr. Dilger's affidavit cannot support the admission of this contention.

Further, Dr. Dilger is not a qualified expert in the area covered by his affidavit. There is nothing in his training or experience that would allow him to provide expert opinions on the cleanup costs that might be incurred in the event of an accidental release of radioactive material during transportation of SNF. Based on review of his curriculum vitae, there is no indication that he has any experience in calculating such cleanup costs or that he understands the methodologies for calculating such costs. Nor is it apparent that Dr. Dilger has thoroughly reviewed and understands the two reports referenced in the contention upon which DOE allegedly should have relied. Nor is it apparent that he has conducted his own independent assessment of the facts and data upon which the reports are based and agrees with their conclusions. He simply reports what others have reported – a practice that has been found inappropriate in the federal courts unless the person who actually prepared the report is available to testify. *Weaver v. Phoenix Home Life Mut. Ins. Co.*, 990 F.2d 154, 159 (4th Cir. 1993).

Finally, Dr. Dilger's opinions as reflected in Paragraph 5 of the contention are not admissible under NRC standards apart from his lack of qualifications to discuss radiation clean-

up costs. Paragraph 5 simply contains broad conclusions "without providing a reasoned basis or explanation for those conclusions." *See USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006). For example, Dr. Dilger's principal complaint is that while DOE has provided estimates of the cost of clean up after a release of radiation, DOE has not prepared "project-specific" estimates of the cost. Yet, Dr. Dilger offers no analysis, data or explanation as to why the estimates provided by DOE are somehow invalid. He simply speculates that DOE's analysis of cleanup costs is inadequate and asserts that DOE should have done it differently. That kind of conclusory, unsupported opinion is not admissible and 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

This contention, which challenges DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, is beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. This contention is barred on jurisdiction and finality grounds. First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of

the proposed Yucca Mountain repository, NRC must take DOE'S decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen,* 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of representative transportation routes are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

In addition to being precluded as (1) outside the scope of this proceeding and instead within the exclusive jurisdiction of the court of appeals, and (2) by finality principles, the contention fails as a matter of law to raise a claim under NEPA, and thus does not present an issue material to the finding the NRC must make.

As required by NEPA, DOE took a "hard look" at the impact of an accident during the transport of SNF and HLW to the repository, including the cost of cleanup. *See* 2002 FEIS, Vol. II, App. J at Table J-74 at J-140; Repository SEIS, Vol. II, App. G at Table G-25 at G-67. Notwithstanding California's assertions, DOE provided estimates of the costs of cleanup of the release of radioactive materials resulting from the maximum reasonably foreseeable accident during transport of SNF and HLW. DOE considered a wide range of potential cleanup costs that it could expect for severe accidents during the transport of SNF to the Yucca Mountain repository in the unlikely event such an event were to occur. *See* 2002 FEIS, Vol. II, App. J at J-72 to -73; *see also* Repository SEIS Vol. II at G-55 to -57. In the 2002 FEIS, DOE estimated such costs could range from $300,000 to $10 billion. DOE also expressly considered estimates prepared by the State of Nevada. *See* Repository SEIS, Vol. II, App. G at G-57. DOE discussed the methodology for those estimates and expressly explained why those estimates yield unrealistically high results. *See* Repository SEIS, Vol. II, App. G at G-57.

As to California's complaint that DOE did not analyze cleanup costs for "project specific" accidents, Petition at 46, such an analysis would require specific transportation routes. However, it was reasonable for DOE to use representative routes at this stage in the process. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III

at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, Vol. II, App. G at G-5; *id.,* App. A at A-5 to -8. To identify these representative routes, DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices. Repository SEIS, Vol. II, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high-quality track, and the minimum number of interchanges between railroads. *Id.*, Vol. II, App. G at G-5 to -6; 2002 FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, Vol. II, App. G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to Yucca Mountain. "Federal agencies are assigned the primary task of defining the scope of NEPA review and their determination is given considerable discretion…." *Wetlands Action Network v. U.S. Army Corps of Eng'rs,* 222 F.3d 1105, 1118 (9th Cir. 2000); *see also Benton County v. Dep't of Energy,* 256 F. Supp. 2d 1195, 1200 (E.D. Wa. 2003) ("DOE's determination of the appropriate scope of the environmental review process … is entitled to deference, unless it is arbitrary and capricious."). The record demonstrates that DOE's decision to use representative routes for assessing transportation related environmental impacts was appropriate.

It is settled law, furthermore, 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 v. U.S. Dep't of 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 at 986, as long as the agency acted reasonably, as DOE did here. For example, California complains that DOE did not reference a particular report finding that cleanup costs could range from $100 million to $500 million per square kilometer. However, DOE did refer to a number of other reports with costs ranging as high as $400 million per square kilometer. Moreover, DOE estimated that, although the likelihood of an accident causing a release of radioactive material is very low, costs could be in a range from $300,000 to $10 billion. 2002 FEIS, Vol. II, App. J at J-72 to -73. Given DOE's acknowledgement that costs could be that high (albeit under very unlikely circumstances), it cannot be said that DOE has failed to consider the costs of a transportation accident. The NRC is not required "to resolve disagreements among various scientists as to methodology," *see Friends of Endangered Species Inc.,* 760 F.2d at 986, let alone a disagreement about the speculative economics effects of environmental cleanup alleged by a non-economist "expert." Accordingly, California's expert's preference (even had he been qualified) that a different methodology for estimating accident costs be used, involving a superseded version of a computer program, accordingly does not raise a material issue.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analysis are outside the scope of this proceeding, because California's claim is barred by its failure to raise it within 180 days of issuance of the April 2004 ROD, and because the contention does not raise a claim under NEPA.

8. CAL-NEPA-9 - DOE Failed to Comply with NEPA's Procedural Requirements for Full Public Review and Opportunity for Comments in California

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that DOE refused to hold public hearings in California on the Repository SEIS in areas of maximum population and potential environmental impacts, despite explicit and specific requests from California that it hold such public hearings.

RESPONSE

In this contention, California asserts that DOE was required to hold public hearings in more than one location in California. The basis for the contention states that "shipments of [SNF and HLW] to Yucca Mountain will be transported through California" and that DOE violated "NEPA's procedural requirements by refusing to hold public hearings" at various places throughout the state. Petition at 50.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109. Specifically, as set forth in Section IV.A.4, California 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).

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326. This contention presents solely a legal issue – whether DOE was required to hold public hearings in more that one location in California – yet neither the contention nor the accompanying affidavit cites any regulatory or statutory provision allegedly violated. As discussed below, DOE's public notice and comment procedures fully complied with all legal requirements. Nor is there any showing that any interested party was deprived of the ability to comment on the DOE EIS. In fact, DOE received thousands of comments, including comments from various California governmental entities and individuals, thereby demonstrating that its public notices and public meetings were more than adequate. Further, the affidavit of Dr. Dilger, which simply adopts Paragraph 5 of the Petition, fails to demonstrate any significant issue due to the allegedly insufficient public notice. Dr. Dilger, who does not claim to be an expert on NEPA law or procedure, simply points to the possible shipments of spent nuclear fuel that will pass through California and based on that alone states that more than one public meeting should have been held in California. Indeed, although the contention prominently features potential shipments through San Bernardino County, Dr. Dilger fails to acknowledge that a meeting was also held in San Bernardino prior to completion of the 2002 FEIS, *see* 2002 FEIS, Vol. I at 1-26, or that a scoping meeting on the 2002 FEIS was held in Sacramento, *see* 2002 FEIS, Vol. I at 1-24. Dr. Dilger's conclusions about the amount of notice DOE was required to provide are neither reliable nor admissible. Neither his affidavit nor the Petition demonstrates a significant environmental impact. 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

Contention 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. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention alleging that additional public hearings should have been held in California because shipments of SNF will travel through California is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen,* 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. Challenges to the notice used by DOE are also appropriately brought in a court of appeals. California has failed to identify any issue relating to this contention for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Further, any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

In addition to being precluded as outside the scope of this proceeding and barred on finality grounds, the contention does not present an issue material to a finding NRC must make. Specifically, DOE has fully met its own statutory and regulatory requirements. DOE's

regulations require only one public hearing for draft EISs. 10 C.F.R. § 1021.313(b) ("DOE shall hold at least one public hearing on DOE draft EISs"). DOE has well exceeded these requirements, holding eight public hearings in Hawthorne, Nevada; Caliente, Nevada; Reno/Sparks, Nevada; Amargosa Valley, Nevada; Goldfield, Nevada; Las Vegas, Nevada; Washington, D.C.; and Lone Pine, California. Repository SEIS, Vol. I at 1-17 to -18. It also held public hearings at 21 locations throughout the country in connection with the 2002 FEIS, including San Bernardino, CA and Lone Pine, CA. 2002 FEIS, Vol. I at 1-26.[20] The CEQ regulations pose no further restriction, requiring only that public hearings be held "whenever appropriate or in accordance with statutory requirements applicable to the agency." 40 C.F.R. § 1506.6(c).

Further, public hearings were not the only opportunity for California or other interested parties to comment during DOE's NEPA process. On October 12, 2007, drafts of the Repository SEIS, Rail Corridor SEIS, and Rail Alignment EIS were all made available online and in multiple locations, and were provided directly to numerous stakeholders for a 90-day public comment period. Repository SEIS, Vol. III at CR-1. Of the 4,500 Draft EISs sent to requesting persons and entities, 330 were circulated to California individuals and entities. Thirty-four copies were sent to California state and local government agencies and elected officials (including the Governor, CA Energy Commission, CA Department of Transportation, and the CA Public Utilities Commission). DOE encouraged public commenters nationwide to submit

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[20] DOE responded in 2002 to criticism that 21 hearings on the draft EIS still was not enough, explaining: "It was impracticable for DOE to hold public comment meetings on the Draft EIS at every location potentially affected by the transport of the spent nuclear fuel and high-level radioactive waste. Therefore, the Department selected major metropolitan areas most likely to experience large numbers of shipments if it built the repository, as well as cities close to nuclear power plants." 2002 FEIS at CR3-141. In preparing the Repository SEIS, DOE explained that a similar scope of public hearings was not required for a supplement focused on the repository: "The implementation of the mostly-canistered concept, as discussed in the Repository SEIS, would not noticeably affect the modal mix or impacts for national transportation and therefore is consistent with the mostly rail scenario evaluated in the Yucca Mountain FEIS." Repository SEIS, Vol. III at CR-176.

comments at its eight public hearings by mail, facsimile, and the Internet during the comment period. Repository SEIS, Vol. III at CR-175; 72 Fed. Reg. 58,071 (Oct. 12, 2007) (Notice of Availability of Draft Repository SEIS, Rail Corridor SEIS and Rail Alignment EIS). Thus, stakeholders in California and elsewhere had easy access to the relevant documents and the ability to submit comments and make their views known through multiple means. The accessibility of this information is evident from the more than 3,900 comments DOE received on the supplements and Rail Alignment EIS, *id.* at CR-2,[21] and the more than 11,000 comments it received on the draft 2002 EIS. 2002 FEIS, Vol. III at CR-1.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analysis are outside the scope of this proceeding, because the contention is barred on finality grounds and because the contention does not raise a claim that DOE violated NEPA or any implementing rules in any manner.

[21] Seventy-seven individuals in California submitted comment documents (often containing multiple comments). Repository SEIS, Vol. III, Tables CR-1 at CR-10 to -26 & CR-2 at CR-27 to -63. Eight state and local governmental officials from California submitted comment documents. *Id.* Barbara Byron of the California State Energy Commission attended the Reno Hearing and provided both oral and written comments.

9. CAL-NEPA-10 - Failure to Analyze Impacts of Intermodal Transfers

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that DOE failed to analyze the public health and safety and other environmental impacts from the handling of intermodal transportation containers.

RESPONSE

In this contention, California asserts that DOE's NEPA documents are incomplete and inadequate because "DOE failed to analyze the public health and safety and other environmental impacts from the handling of intermodal transportation containers." Petition at 54. California contends that postponement of evaluating specific problems arising from intermodal handling at transfer sites in California is an inappropriate segmentation of this project. *Id.* at 55.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention should therefore be rejected.

Dr. Dilger's affidavit is flawed in several other respects. Dr. Dilger simply adopts Paragraph 5 of the contention as the substance of his affidavit. Paragraph 5 merely sets forth a list of "intermodal handling" issues that have allegedly not been addressed by DOE because DOE has not yet decided upon specific transportation routes. *See* Petition at 55-56. Dr. Dilger does not address whether any of these issues are significant or would have any material impact on the outcome. Nor does Dr. Dilger explain why the existing transportation analysis using representative routes and analyzing environmental impacts based on these routes is not appropriate at this stage of transportation planning. Dr. Dilger's affidavit provides no support for 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**

This contention has nothing to do with repository impacts and is limited to the possible environmental impacts related to the handling of intermodal transfers of containers. Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding DOE's proposed transportation program and specifically the alleged omission of an analysis of intermodal handling is objectionable on both jurisdiction and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are

within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to intermodal transportation containers for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of intermodal transportation containers, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and because it is barred on finality grounds. In addition, this contention does not present a material issue because DOE did not impermissibly segment the project under NEPA.

Segmentation occurs when an agency "avoid[s] the [NEPA] requirement that [an EIS] be prepared for all major federal action with significant environmental impacts by segmenting an

overall plan into smaller parts involving action with less significant environmental effects." *West Chicago v. NRC*, 701 F.2d 632, 650 (7th Cir. 1983). That did not occur here. DOE has not sought to avoid NEPA's requirements by minimizing the effects of segmented portions of the project, nor has it sought to divide the project to avoid preparation of an EIS. In fact, DOE has already prepared detailed NEPA documents providing extensive analysis of the project including transportation according to NEPA's requirements. *See, e.g.*, 2002 FEIS, Vol. I, at 6-10 to -232; Repository SEIS, Vol. I, §§ 6-2 to -10, 6-15 to -60; Rail Corridor SEIS; Rail Alignment EIS. The transportation analysis was an exacting one in which representative routes nationwide were thoroughly examined for environmental impacts. The analysis included a review of incident-free transportation by railroad, highway, and barge; intermodal transfer; transportation accidents; and the impacts of loading operations. *See* 2002 FEIS, Vol. II, App. J at J-1 to -187. What the FEIS did not do is engage in the speculative task of trying to identify actual transportation routes for shipments that will not occur for many years.

California's claim that DOE falls short of NEPA's requirements by failing to discuss "specific problems of intermodal handling at proposed transfer sites in California," Petition at 55, is equally without merit. It was reasonable for DOE to use representative routes at this stage in the process. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, App. Vol. II G at G-5; App. A at A-5 to -8. To identify these representative routes, DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices.

Repository SEIS, Vol. II, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high quality track, and the minimum number of interchanges between railroads. *Id.* at G-5 to -6; 2002 FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, App. Vol. II G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to Yucca Mountain. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases).

California relies on a sentence from the responses to comments in the Repository SEIS stating that "as the schedule for these shipments grows closer, the logistics associated with the selection of heavy-haul truck or barge shipment will be further evaluated." The fact that "logistics" will be further evaluated in the future does not render DOE's NEPA analyses of impacts inadequate. For example, California ignores the fact that DOE evaluated the impacts of barge shipments in the 2002 FEIS, 2002 FEIS, Vol. II, App. J at J.2.4, and reviewed this analysis in the Repository SEIS. Repository SEIS, Vol. II, App. G at G-58. Moreover, even California essentially recognizes that it is too early to address "logistics," when it states that intermodal handling operations "may be required for shipments from Diablo Canyon, and Humboldt Bay." Petition at 56.

Similarly, California fails to recognize that DOE has included the impacts of shipments from Diablo Canyon and Humboldt Bay in its analysis. The Repository SEIS lists 5 casks as being shipped from Humboldt Bay and 122 rail casks as being shipped from Diablo Canyon.

Repository SEIS, Vol. II, App. G at G-16. Although the Repository SEIS does not specifically list the impacts of the intermodal transfers that would be involved, for rail transport to Caliente, the total number of fatalities from shipping 755 rail casks originating in and through California was estimated to be 0.14 fatalities over 30 years. Repository SEIS, Vol. II, App. G at G-67. The impacts from the intermodal transfer of the 127 rail casks is included in and would be a fraction of this total. Special Instruction Sheet For Calculation Package For The Transportation Impacts For The Final SEIS, LSN# DEN001598031, Attachments 08A, 08B, 08C.

In addition, California's assertion that DOE's FEIS and its supplements are inadequate because they do not review loading logistics or details at specific locations is inconsistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. Moreover, with respect to situations in which only preliminary design plans had been prepared, courts have held that "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crounse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of representative national, regional and local transportation routes and the impacts of intermodal transfers, is sufficient to satisfy NEPA's requirements.

Accordingly, this contention should be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

10. CAL-NEPA-11 - Failure to Evaluate Impacts Within All Radiologic Regions of Influence

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51, in that they fail to evaluate the environmental impacts within all radiological regions of influence for transportation in California and nationally.

RESPONSE

In this contention, California alleges that DOE's NEPA documents are incomplete and inadequate because "they fail to evaluate the environmental impacts within all radiological regions of influence (ROI) for transportation in California and nationally." Petition at 59.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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).

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326. 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 – California's petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth the factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention should therefore be rejected.

There are a number of additional flaws in Paragraph 5 and Dr. Dilger's affidavit. Dr. Dilger simply adopts Paragraph 5 of the contention as the substance of his affidavit. Paragraph 5 of this contention argues that DOE did not provide dose and population information along the ROI for the specific transportation routes to be used in California and nationwide. Petition at 25. Dr. Dilger fails to address the significance of this allegation in light of the information already contained in the 2002 FEIS and Repository SEIS.

In addition, Paragraph 5 of this contention (adopted by Dr. Dilger) merely sets forth a series of conclusory statements about issues that California alleges were improperly omitted from DOE's NEPA analysis. These bare assertions regarding the project's timing, DOE's decision-making process, and the "environmental harm the whole project may do" are entirely unsupported. Petition at 26. Dr. Dilger provides no explanation of the magnitude, causes, location, or timing of these supposed harms, nor does he provide any basis for his sweeping conclusions. The impact of these alleged omissions is never discussed. This contention should, therefore, be rejected.

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

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

b. Brief Explanation of Basis

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

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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the April 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are also barred under principles finality. California's contention regarding DOE's selection of specific transportation routes in the State of California and alleged failure to evaluate radiological regions of influence is objectionable on both grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of

environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in § 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's timing of selection and analysis of specific transportation routes through California, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in § 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and because it is barred on finality grounds. In addition, assuming this contention is within the scope of this proceeding, it does not present a material issue because DOE did evaluate the environmental impacts within the radiological region of influence for represenative routes from incident free transportation and accident scenarios. In fact, DOE has already prepared four detailed EISs providing extensive analysis of the project, including

transportation, according to NEPA's requirements. The EISs examine the project as a whole, including detailed discussion of transportation alternatives in the vicinity of the repository as well as broader analysis of regional and national transportation options and their potential environmental effects. *See, e.g.*, 2002 FEIS, Vol. I at 6-10 to -232; Repository SEIS, Vol. I at 6-2 to -10, 6-15 to -60. The transportation analysis was an exacting one in which representative routes nationwide were thoroughly examined for environmental impacts. The transportation analysis included an analysis of impacts within the radiological region of influence for incident-free transportation in California under scenarios in which either the Caliente or Mina routes were chosen. Repository SEIS, Vol. II, App. G at G-35, G-67 to -68. This analysis included the radiological impacts to people 800 meters (.5 miles) from the transportation route, *i.e.*, within the radiological region of influence, Repository SEIS, Vol. II, App. G at G-35; the radiological impacts to people sharing the transportation route; *id.*; and the radiological impacts to people exposed at stops enroute to the repository, *id*. Also evaluated, among other things, were impacts on transportation workers, escorts for rail truck shipments and the like. This thorough analysis was based on route-specific distances and population densities for representative routes in California. *See* Calculation Package for the Transportation Impacts for 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 LSN# DEN001600380, Special Instruction Sheet For Calculation Package For The Transportation Impacts For The Final SEIS, LSN# DEN001598031; Repository SEIS, Vol. II, App. G, Tables G-4 and G-5 at G-9 to -12.

Transportation accident risks and impacts in California were also evaluated. These included radiological impacts and nonradiological impacts in California within the respective

regions of influence, again separately for scenarios in which either the Caliente or Mina routes were chosen. Repository SEIS, Vol. II, App. G at G-35, G-67 to -68. These impacts were based on route-specific distances and population densities for representative routes in California. *See* LSN# DEN001600380, LSN# DEN001598031. DOE also evaluated severe transportation accidents to determine the consequences of the reasonably foreseeable accident in the context of transporting spent nuclear fuel and high-level radioactive waste to Yucca Mountain. *See* 2002 FEIS, Vol. II, App. G at G-45; 2002 FEIS, Vol. II, App. G at G-24. While this represents only a summary of the transportation environmental impact analysis set forth in detail in DOE's environmental analysis, it demonstrates that the analysis was wide-ranging and thorough and in conformance with the requirement that an agency take a "hard look" at environmental consequences. *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976).

California's claim that DOE falls short of NEPA's requirements by failing to discuss route-specific environmental impacts within the radiological region of influence in California is without merit. It was reasonable for DOE to use representative routes at this stage in the process. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, App. G at G-5; App. A at A-5 to -8. To identify these representative routes DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices. Repository SEIS, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high quality track, and the minimum number of interchanges between railroads. *Id*. at G-5 to -6; 2002

FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, App. G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to Yucca Mountain. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases). The record demonstrates that DOE's decision to use representative routes to analyze environmental impacts was appropriate.

It is also well settled that an agency is entitled to rely on reasonable assumptions in its environmental analyses. *Inland Empire Pub. Lands Council v. U.S. Forest Serv*., 88 F.3d 754, 762 (9th Cir. 1996) (citing *Sierra Club v. Marita*, 845 F. Supp. 1317, 1331 (E.D. Wis. 1994)) (finding it permissible to assume that population trends affecting one species in a particular habitat will similarly affect other species in the same habitat), *aff'd,* 46 F.3d 606 (7th Cir. 1995); *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1335-36 (9th Cir. 1992) (finding it permissible for Service to assume that declines in the Stellar sea lion population would be the same for the harbor seal population, given their similarities). As in the case of a reviewing court, it is not the role of the NRC "to decide what assumptions … we would make were we in the Secretary's position, but rather to scrutinize the record to ensure that the Secretary has provided a reasoned explanation for his policy assumptions …." *Wyo. Lodging and Rest. Ass'n v. Dep't of Interior*, 398 F. Supp. 2d at 1214 (citing *Am. Iron & Steel Institute v. Occupational Safety and Health Admin*., 939 F.2d 975, 982 (D.C. Cir. 1991)); *S.F. Baykeeper v. U.S. Army Corps of Eng'rs.*, 219 F. Supp. 2d 1001, 1015 (N.D. Cal. 2002) (agency's reasonable assumptions entitled to deference).

In addition, DOE's use of representative routes in evaluating impacts in California and elsewhere is entirely consistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that "implement the requirements of NEPA call for agencies to integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. Moreover, with respect to situations in which only preliminary design plans had been prepared, courts have held that "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crounse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of representative national, regional and local transportation routes, is sufficient to satisfy NEPA's requirements.

As discussed above, moreover, there are processes for DOE to determine if there is a need for additional NEPA review prior to beginning shipments to Yucca Mountain. DOE may determine that additional analysis is ncessary if it proposes substantial changes to a proposed action relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, 40 C.F.R. § 1502.9(c). DOE would conduct supplemental NEPA review if DOE makes substantial changes in the proposed action or there are significant new circumstances or information relevant to environmental conerns and bearing on the proposed action or its impacts.

Accordingly, this contention does not present a material issue because DOE was not required to evaluate environmental impacts within the radiological region of influence using specifically identified routes. DOE's thorough analysis of such impacts using representative routes met its obligations under NEPA and the CEQ regulations.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

11. CAL-NEPA-12 - Failure to Discuss and Analyze Collocation Risks

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that the Repository SEIS's analysis of accident risks and consequences does not discuss or analyze the collocation of essential facilities on the possible routes to the repository.

RESPONSE

In this contention, California asserts that DOE's NEPA documents are incomplete and inadequate because "the Repository SEIS's analysis of accident risks and consequences does not discuss or analyze the collocation of essential facilities on the possible routes to the repository." Petition at 62.

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

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. Although Dr. Dilger submits a "technical memo" in support of this contention, that document merely sets forth maps to show the location of oil and gas transmission lines along the possible transportation routes and references "the history of accidents" in the area, without providing any factual or technical bases to support California's assertion that collocation of these facilities has a material impact on accident risks and consequences. *See* Dilger Affidavit, Attachment D at 1. Dr. Dilger's affidavit, including his "technical memo," does not meet the terms of §§ 51.109 and 2.236 and its contention should, therefore, be rejected.

Dr. Dilger's affidavit is flawed in several other respects. Other than the "technical memo," which is inadequate for the reasons already discussed, Dr. Dilger adopts Paragraph 5 of the contention as the substance of his affidavit. Paragraph 5 merely sets forth a list of transportation accidents that have occurred in specific areas of California, including a bulldozer piercing a pipeline in 1989, apparently to support the proposition that "severe accidents" occur in California. *See* Petition at 63-64. Dr. Dilger does not explain why any of these accidents are significant or would have any material impact on the outcome. Nor does Dr. Dilger explain why the existing transportation analysis using representative routes and analyzing environmental

impacts using such routes is not appropriate at this stage of transportation planning. Dr. Dilger's affidavit provides no support for 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

This contention has nothing to do with repository impacts and is limited to the possible environmental impacts related to collocation of facilities along possible transportation routes. Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention alleging that DOE's analysis of accident risks and consequences fails to discuss the impact of collocation of essential facilities along possible routes to the GROA is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the

cumulative impacts of the proposed repository. *See, e.g.*, *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to the impact of collocation of facilities along possible transportation routes for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of accident risks and consequences, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

This contention does not present an issue material to the findings that NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and the contention is barred on finality grounds. In addition, this contention does not present a material issue because DOE was not required to address "location-specific risks" at this stage in transportation planning and its reliance on representative routes in analyzing transportation risks was appropriate.

As required by NEPA, DOE took a "hard look" at accidents, including severe accidents in California and elsewhere. In its NEPA documentation relating to the Yucca Mountain repository, DOE has analyzed the environmental impacts of transporting spent nuclear fuel and high-level radioactive waste along representative routes to the Yucca Mountain repository, and has also analyzed the risk of accidents, transportation sabotage considerations and consequences of potential sabotage events. *See* 2002 FEIS, Vol. II, App. J at Table J-74 at J-140; Repository SEIS, Vol. II, App. G at Table G-67 at G-151. These impacts were based on route-specific distances and population densities for representative routes in California. *See* DOE, Calculation Package for the Transportation Impacts for 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 (2008) (LSN# DEN001600380); Special Instruction Sheet For Calculation Package For The Transportation Impacts For The Final SEIS (2008) (LSN# DEN001598031). In addressing accidents, DOE assumed that the maximum reasonably foreseeable transportation accident could occur anywhere along the transportation routes. DOE, therefore, evaluated both rural and urban areas. For urban areas, DOE estimated population densities based on the projected population densities of twenty urban areas in the

United States, including three locations in California: Los Angeles-Long Beach-Santa Ana, San Diego, and San Francisco-Oakland. *See id*.

California's claim that DOE falls short of NEPA's requirements by failing to discuss route-specific and location specific environmental impacts on California – is equally without merit. "[F]ederal agencies are assigned the primary task of defining the scope of NEPA review and their determination is given considerable discretion . . . ." *Wetlands Action Network v. U.S. Army Corps of Eng'rs*, 222 F.3d 1105, 1118 (9th Cir. 2000); *see also Benton County v. Dep't of Energy*, 256 F. Supp. 2d 1195, 1200 (E.D. Wa. 2003) ("DOE's determination of the appropriate scope of the environmental review process . . . is entitled to deference, unless it is arbitrary and capricious."). It was reasonable for DOE to use representative routes at this stage in the process. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, Vol. II, App. G at G-5; App. A at A-5 to -8. To identify these representative routes DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices. Repository SEIS, Vol. II, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high quality track, and the minimum number of interchanges between railroads. *Id*. at G-5 to -6; 2002 FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, App. G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to

Yucca Mountain. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases).

In addition, California's further assertion that DOE's FEIS and its supplements are inadequate because of the unavailability of actual transportation routes to be used is inconsistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. Moreover, with respect to situations in which only preliminary design plans had been prepared, courts have held that "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crounse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of representative national, regional and local transportation routes, is sufficient to satisfy NEPA's requirements.

There are processes for DOE to determine if there is a need for additional NEPA review prior to beginning shipments to Yucca Mountain. DOE may determine that additional analysis is necessary if it proposes substantial changes to a proposed action, that are relevant to environmental concerns or if there are significant new circumstances or information relevant to

environmental concerns and bearing on the proposed action or its impacts, 40 C.F.R. § 1502.9(c). DOE would conduct supplemental NEPA review if DOE makes substantial changes in the proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

Accordingly, this contention does not present a material issue because DOE's NEPA documents do not impermissibly segment the project and adequately analyze potential transportation impacts.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

12. CAL-NEPA-13 - Failure to Discuss and Analyze Barge Risks

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that Repository SEIS Chapter six and Appendix G provide the estimated numbers of shipments and the distances and modes that shipments of spent nuclear fuel must travel from California reactors to intermodal sites and suggests multiple alternative modes of transportation for several California sites, including the use of barges, without assessing the environmental or public health impacts of the barge shipments in California.

RESPONSE

In this contention, California asserts that DOE's NEPA documents are incomplete and inadequate because they suggest barges as a possible mode of transportation for shipments without analyzing the impact of barge shipments on specific California generator sites.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention should therefore be rejected.

Dr. Dilger's affidavit is flawed in several other respects. Dr. Dilger simply adopts Paragraph 5 of the contention as the substance of his affidavit. Paragraph 5 alleges that the possible use of barges at two generation sites in California for the transport of SNF have not been adequately addressed by DOE. According to Paragraph 5, DOE failed to explain how intermodal handling operations would be performed at the two California sites and failed to discuss the health and safety implications of using barges as a transportation mode at those sites. Dr. Dilger does not address whether either of these allegations, even if true, raises a significant environmental issue or would have any impact on the outcome of this proceeding. As a result, Dr. Dilger's affidavit provides no support for this contention and it 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

This contention has nothing to do with repository impacts and is limited to the possible environmental impacts related to the use of barges to transport SNF from generators located in California to a rail carrier. Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding DOE's proposed transportation program and specifically the alleged omission of an assessment of impacts arising from barge transportation is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are

within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to transportation by barge for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of transportation by barge, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and this contention is barred on finality grounds. In addition, this contention does not present a material issue because DOE was not required to address environmental risks arising from the use of barges at specific California sites and DOE's reliance on representative routes in analyzing transportation risks was appropriate. DOE did, however, take the required

"hard look" at the environmental risks of using barges in its environmental analysis using representative transportation routes.

Notwithstanding California's allegations in its Petition and Dr. Dilger's affidavit, the 2002 FEIS analyzed the environmental impacts associated with the use of barges. 2002 FEIS, Vol. II, App. J at J-75 to -86. The 2002 FEIS first considered large-scale use of barges, but after evaluating this scenario, concluded that the large-scale use of barges was not practicable given the logistical complexity, greater costs, and long transport distances. The 2002 FEIS did, however, consider the possibility that certain sites that did not have direct rail access but did have access to navigable water might use barges to move SNF to the closest railhead with barge access. In light of that possibility, the 2002 FEIS considers the radiological and non-radiological impacts of incident free barge transportation both for workers and the public, and the radiological and non-radiological impacts of accidents for workers, the public and the maximally exposed individual including impacts from intermodal transfers of SNF. *Id*. In the Repository SEIS, DOE used the TRAGIS software to reevaluate representative barge routes and found that the numbers of exposed population were either less than or the same as those used in the 2002 FEIS. Repository SEIS, Vol. II, App. G at G-58. Although the analysis was not site specific, because it is not known which sites will actually use barge transport instead of truck transport to the nearest railhead, the analysis did identify the sites where barge transportation might be used, including Diablo Canyon. 2002 FEIS, App. J at J-80, J-83; Repository SEIS, Vol. II, App. G Table G-21 at G-29. In the Repository SEIS it was also noted that barge transportation might be used in the case of Humboldt Bay in California. Repository SEIS, Vol. II, App. G at Table G-21 at G-59; Vol. III at CR-254. Clearly, the 2002 FEIS and its supplements are adequate under the

"hard look" standard. *See 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 fundamental premise of this contention is that DOE did not identify the specific transportation routes it would use in California and, therefore, the "representative routes obscure DOE plans for shipping waste from California reactors at Humboldt Bay and Diablo Canyon by barge, and do not assess the site specific public health and safety and environmental consequences" arising from the use of barges at these locations. Petition at 67. California does not present a material issue in its contention because DOE's decision to use representative routes in its analysis of the environmental impacts of transportation was appropriate under the circumstances. As noted in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE reasonably decided to use representative routes that reflect typical industry practices and not attempt to measure environmental impacts at specific locations where the precise routes and the modes of transportation to be used are not yet decided upon. Repository SEIS, Vol. II, App. A at A-5 to -8; App. G at G-5. This methodology is entirely reasonable at this stage of the process. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases).

California cannot therefore claim that an analysis of transportation impacts tailored to consider risks arising from the use of barges at certain specific California sites is required under NEPA at this time, many years prior to actual shipments. There are processes for DOE to determine if there is a need for additional NEPA review prior to beginning shipments to Yucca

Mountain. DOE may determine that additional analysis is necessary if it proposes substantial changes to a proposed action that are relevant to environmental concerns or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. 40 C.F.R. § 1502.9(c).

In addition, California's assertion that DOE's FEIS and its supplements are inadequate because it does not review the impacts of transportation by barge at specific California sites is inconsistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. Moreover, with respect to situations in which only preliminary design plans had been prepared, courts have held that "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crounse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of the potential impacts of using barges, is sufficient to satisfy NEPA's requirements.

Accordingly, this contention should be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

13. CAL-NEPA-14 - Failure to Describe and Analyze Waste Acceptance Criteria

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that the Repository SEIS fails to describe and analyze under what conditions the nuclear waste will be accepted for shipping from generator sites, or upon delivery at Yucca Mountain and has impermissibly deferred such analysis to a later date.

RESPONSE

In this contention, California asserts that DOE's NEPA documents are inadequate under NEPA because they do not adequately describe how DOE will verify the condition of the spent fuel that will be accepted for shipping from generator sites or for nuclear waste that will traverse California to Yucca Mountain. Petition at 69-70. The contention asserts that DOE has unacceptably "segmented and piecemealed" its NEPA responsibilities. *Id*. at 70-71.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. It does not show that its contention raises a significant environmental issue. With regard to the most important and difficult showing—a demonstration that a "materially different result would be or would have been likely" if the contention were proven to be true – California's Petition and the affidavit of its expert are silent. Equally important, California's expert, Dr. Dilger, does not provide the analysis that is explicitly called for by the terms of § 2.326(b). This regulation requires California'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." § 2.326(b) goes on to state that "[e]ach of the criteria must be separately addressed, with a specific explanation of why it has been met." Here, California has failed to meet these requirements and its contention should be rejected.

Apart from its failure to comply with the requirements of §§ 2.326 and 51.109, California has also failed to submit an affidavit that provides a reasoned explanation of the basis for its expert's opinions and more importantly why the issue raised by the contention is of any significance. California's expert, Dr. Dilger, merely adopts the four paragraphs contained in Paragraph 5 of this contention as the entire substance of his testimony.

In this contention, Dr. Dilger, who does not claim to be an expert in NEPA law or procedure, fails to demonstrate why DOE had to verify the condition of SNF at generator sites in order to comply with NEPA. Further, Dr. Dilger's affidavit nowhere indicates how, if DOE had described acceptance conditions for SNF, "a materially different result would be or would have been likely." Dr. Dilger claims that the absence of acceptance criteria is significant because the

condition of the waste "may" increase radiation exposures to workers or members of the public along the shipment routes in California. Petition at 69. However, Dr. Dilger fails to recognize that DOE used the maximum permissible regulatory dose in its analysis of impacts. As stated in, *e.g.*, the Repository SEIS, transportation impacts "could be from the radiation omitted from the transportation cask, which federal regulations restrict to 10 millirem per hour at a distance of 2 meters (6.6 feet) from the truck or railcar (10 C.F.R. 71.47)." Repository SEIS, Vol. I at 6-15 to -16. DOE further explained why "this assumption would tend to overestimate the radiation dose to workers and the public because not all casks would be loaded with [SNF or HLW] that has the characteristics that would result in cask external dose being at the regulatory limit." *Id.*, Vol. I at 6-16.

Dr. Dilger also does not address the fact that DOE examined doses that would result from loading fuel at reactor sites. DOE based radiation doses on utility data compiled by the NRC. Repository SEIS, Vol. I at 6-12.

Finally, Dr. Dilger makes an unexplained and unwarranted conclusion when he asserts that the absence of acceptance criteria "means that DOE has not performed a sufficient analysis of the impacts on the environment or public health and safety posed by shipping waste that is not in acceptable condition." Petition at 71. He suggests that the Repository SEIS should have dealt with any impacts at the various utility sites from loading fuel into TADs including damaged fuel. Exposure to workers loading TADs was evaluated in the Repository SEIS. Repository SEIS, Vol. I at 6-12. Moreover, the DOE performance specification for the TADs, cited in the Repository SEIS, Vol. I at 2-9, addresses the issue of waste acceptance. Dr. Dilger provides no factual basis for suggesting that DOE would accept waste that is not acceptable, or that DOE would transport such unacceptable waste through California.

Because neither Dr. Dilger's affidavit nor the contention demonstrate a significant environmental issue, the contention does not meet the requirements of 10 C.F.R. §§ 51.109 and 2.326 and 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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. This contention regarding waste acceptance criteria is objectionable on both jurisdictional and finality grounds. First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) 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 § 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals.

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

For similar reasons, the contention is outside the scope of this proceeding because 10 C.F.R. Part 63 does not govern the procedures and controls to be used at nuclear reactor sites for loading SNF for shipment to the repository. As demonstrated above and discussed in Section IV.A.5(b), the NRC's authority under 10 C.F.R. Part 63 is limited to the GROA and utility activities at the reactor sites accordingly are outside 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 issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding, because the contention is barred on finality grounds and because 10 C.F.R. Part 63 does not govern the procedures and controls to be used a nuclear reactor sites for loading SNF for shipment to the repository. In addition, assuming this contention is within the scope of this proceeding, it does not present a material issue because DOE did not impermissibly fail to evaluate the environmental impacts of transporting fuel to Yucca Mountain. As demonstrated above, by assuming that all casks would emit the maximum permissible levels of radiation under the NRC's regulation, DOE's analysis fully meets the requirement that an agency take a "hard look" at potential environmental effects. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976).

Moreover, DOE explained why its assumption of using the maximum permissible regulatory limit in its analysis of impacts was reasonable. It is well-settled law that 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 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).

Finally, this contention does not raise an issue material to the findings NRC must make because DOE did not impermissibly segment the project under NEPA. Segmentation occurs when an agency "avoid[s] the [NEPA] requirement that [an EIS] be prepared for all major federal action with significant environmental impacts by segmenting an overall plan into smaller parts involving action with less significant environmental effects." *West Chicago v. NRC*, 701 F.2d 632, 650 (7th Cir. 1983). That did not occur here. As explained above, DOE did not minimize any impacts of transportation but instead assumed that the waste in casks shipped to the repository would emit radiation at the maximum permissible regulatory limit.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

14. CAL-NEPA-15 - By Using Representative Routes, DOE Has Failed to Analyze Environmental Impacts of Probable Routes Railroads Would Use

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), in that the Repository SEIS proposes to let the railroads, rather than DOE or other governmental entity, choose the routes over which spent nuclear fuel and high level radioactive waste will be shipped to the Yucca Mountain repository, including routes through California, yet in its analysis of environmental impacts it ignores routes that the railroads have suggested they will actually use and instead bases its environmental analysis on historic rail industry practices (See Section A3, Page A-5), thereby failing to analyze the true potential environmental impacts of the proposed action.

RESPONSE

In this contention, California asserts that DOE improperly used representative routes in its NEPA analysis, and ignored routes that "railroads have suggested they will actually use and instead bases its environmental analysis on historic railway practices." Petition at 73.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326. It does not show that its contention raises a significant environmental issue. With regard to the most important and difficult showing – a demonstration that a "materially different result would be or would have been likely" if the contention were proven to be true – California's Petition and the affidavit of its expert are silent. Equally important, California's expert, Dr. Dilger, does not provide the analysis that is explicitly called for by the terms of § 2.326(b). This regulation requires California's expert, Dr. Dilger, 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 that "[e]ach of the criteria must be separately addressed, with a specific explanation of why it has been met." Here, California has failed to meet these requirements and its contention should be rejected.

Apart from its failure to comply with the requirements of §§ 2.326 and 51.109, California has also failed to submit an affidavit that provides a reasoned explanation of the basis for his opinions and more importantly why the issue raised by the contention is of any significance. California's expert Dr. Dilger merely adopts the four paragraphs contained in Paragraph 5 of this contention as the entire substance of his testimony. Dr. Dilger contends that DOE's analysis of rail shipments should have used the actual routes that a railroad proposed in 2005 rather than a model which looks at representative routes.

Dr. Dilger fails to explain why this contention raises a significant concern. Dr. Dilger states, for example, that Union Pacific provided DOE with its preferred routes for shipping SNF in 2005 and these routes should have been used in the analysis. In 2005, at a presentation made by Union Pacific in Pueblo Colorado to the Transportation External Coordination Working Group (TEC), slide 26 of 28 contained a map of the United States roughly showing rail routes to Yucca Mountain. Union Pacific Rail Transportation, Rodger Dolson (Sept. 2005) (LSN# NEV000005499). According to the notes for this meeting, Mr. Dolson made two recommendations for routing: that DOE 1) avoid a high volume route across Nebraska; and 2) avoid the Moffat Tunnel in Colorado. DOE, Transp. External Coordination Working Group (TEC) Meeting, Meeting Notes, 19 (Sep. 20-21, 2005), Attachment Cal-NEPA-15-1. In fact, DOE developed representative routes incorporating both of these recommendations. Repository SEIS, Vol. II, App. A at A-5. Dr. Dilger's allegation that DOE purportedly failed to consider the Union Pacific's recommendations is incorrect.

In further support of his opinion, Dr. Dilger points to a 2002 letter from then NRC Chairman Meserve and claims that in a letter to Senator Richard J. Durbin, Chairman Meserve "pointed out that the 2002 Yucca Mountain FEIS did not have sufficient NEPA analysis of transportation and that it was expected that more precise estimates of impacts would result in revisions to DOE's NEPA analysis and that this additional review would be completed in support of the license application." Petition at 75.[22] In fact, Chairman Meserve never stated that the "FEIS did not have sufficient NEPA analysis of transportation." To the contrary, Chairman Meserve, in an attachment to his letter responding to questions from Senator Durbin, commented favorably on the DOE transportation analysis and stated that "the analyses provided in the EIS

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[22] Chairman Meserve's letter is dated May 10, 2002 not March 22, 2002 as stated by Dr. Dilger. Senator Durbin's letter is dated March 22, 2002. (LSN# DN2001959227).

appear to bound appropriately the range of environmental impacts." Attachment to Meserve letter at 1. Chairman Meserve went on to state that "we expect that DOE's commitment to define transportation modes and routes will allow for more precise estimates of impacts that could result in revisions to the NEPA analyses." *Id.* In response to the very next question, Chairman Meserve further explained that the additional analyses to which DOE committed "would better define DOE's preferred option for transportation." *Id.* DOE has further supplemented the 2002 FEIS and prepared the Rail Alignment EIS. It also issued the April 2004 ROD selecting the mostly rail scenario and the Caliente Corridor and the October 2008 ROD in which it selected an alignment within the Caliente Corridor. There is no basis for interpreting Chairman Meserve's favorable comments about DOE's FEIS as Dr. Dilger has done.[23]

Dr. Dilger also points to a report by the National Academy of Sciences which, according to Dr. Dilger, "urged DOE to precisely define the routes used to ship spent nuclear fuel," and that "[t]he NAS study indicated that there may be individual routes that could have risks . . . higher or lower than estimated [by DOE] in DOE's 2002 Yucca Mountain FEIS for the Yucca Mountain Repository." Petition at 75. First, the NAS report was not criticizing the DOE FEIS but only recommending that DOE begin working with the States and Tribes on emergency planning issues as soon as practicable. National Research Council, *Going the Distance?: The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States* 228 (The National Academies Press 2006). This course of action is already contained in the FEIS. Repository SEIS, Vol. II, App. H at H-9. NAS never suggested that the FEIS was inadequate in its treatment of transportation. In fact much of the report is complimentary of DOE's efforts. For example, the report recommends that DOE follow its foreign research reactor spent fuel

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[23] As noted earlier, the 2002 FEIS's consideration of transportation was upheld by the D.C. Circuit in *Nevada v. DOE,* 457 F.3d 78 (D.C. Cir. 2006).

transport program of involving states and Tribes in these route selections. *Id.* at 228. The report also endorsed DOE's choice of the "mostly rail" option. *Id.* at 217.[24]

In summary, Dr. Dilger has misrepresented the record cited, and otherwise failed to provide any factual or technical basis for this 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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding DOE's analysis of transportation routes is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) 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

[24] The statement that routes could have risks higher or lower than those in the 2002 FEIS is meaningless and fails to support this contention.

cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen,* 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to this contention for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of railroad routes, 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. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in Section c. above, this issue is not material to the findings NRC must make because California's challenges to DOE's transportation decisions are outside the scope of this proceeding and this contention is barred on finality grounds. Additionally, this contention fails to raise a material issue because it is reasonable for DOE to use representative routes at this stage in the process of analyzing Yucca Mountain as a potential location for disposal of SNF and HLW. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. NEPA analysis of environmental consequences must be made "as soon as it can reasonably be done." *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1072 (9th Cir. 2002) (citing *Save Our Ecosystems v. Clark,* 747 F.2d 1240, 1246 n.9 (9th Cir. 1984) ("Reasonable forecasting and speculation is . . . implicit in NEPA.") (internal citation omitted)). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. The fact that DOE provided "the most thorough analysis possible" of transportation issues associated with the project as a whole, including discussion of the potential impacts of using barges, is sufficient to satisfy NEPA's requirements.

In addition, there are processes for determining if there is a need for further NEPA analyses after an EIS is finalized if an agency proposes substantial changes to a proposed action

that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. 40 C.F.R. § 1502.9(c); 10 C.F.R. § 1021.314(a). DOE would determine whether to conduct supplemental NEPA review if DOE makes substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

It was reasonable for DOE to use representative routes at this stage in the process. As stated above, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185. DOE appropriately decided to use representative routes that reflect typical industry practices. Repository SEIS, App. G at G-5; App. A at A-5 to -8. To identify these representative routes, DOE used the TRAGIS computer model, which is a regularly updated information system containing thousands of miles of rail lines and highways and allowing users to calculate routes by simulating historical rail and freight routing practices. Repository SEIS, App. G at G-5 to -13. DOE assumed routes for rail shipments that would provide expeditious travel, use of high quality track, and the minimum number of interchanges between railroads. *Id.* at G-5 to -6; 2002 FEIS, Vol. I at 3-120. The highway routes were selected in accordance with Department of Transportation highway routing regulations (49 C.F.R. § 397.101). Repository SEIS, App. G at G-13. This methodology is entirely reasonable at this stage of the process and identifies routes that could be used in the shipment of SNF and HLW to Yucca Mountain. 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 v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1213 (D. Wyo. 2005) (citing cases).

California argues that DOE should have used the routes that Union Pacific Railroad or other railroads "have indicated they are likely to choose" as the basis for conducting its environmental analysis. Petition at 75. As discussed above, the railroads have not indicated to DOE which routes they are likely to choose. To the extent that input has been provided from the railroads, it has been factored into the representative routes analyzed. Further, as described in Appendix H to the Repository SEIS, railroads are privately owned and operated, and shippers and rail carriers determine routes based on a variety of factors. Thus, actual route selection for shipments to Yucca Mountain will involve discussions between DOE and the chosen rail carriers, with consideration of input from other stakeholders. Repository SEIS, Vol. II, App. H at H-4. Federal rules do not prescribe specific routes for SNF and HLW shipments by rail, although certain factors, as described below, must be considered in route selection.

DOT's Pipeline and Hazardous Materials Safety Administration, in coordination with the Federal Railroad Administration and the Transportation Security Administration, has issued a Final Rule revising requirements in the Hazardous Materials Regulations applicable to the safe and secure transportation of certain hazardous materials transported in commerce by rail. *See* Final Rule, Hazardous Materials: Enhancing Rail Transportation Safety and Security for Hazardous Materials Shipments, 73 Fed. Reg. 72,182 (Nov. 26, 2008). The Final Rule requires rail carriers to compile annual data on these shipments, use the data to analyze safety and security risks along rail routes where those materials are transported, assess alternative routing options, and make routing decisions based on those assessments to select the safest and most secure practicable route. Many factors are to be considered in the safety and security risk

analysis of routes, including rail traffic density, time and distance in transit, track class and conditions, environmentally-sensitive or significant areas, population density, emergency response capability, past incidents, availability of practicable alternatives, and other factors. Repository SEIS, Vol. II, App. H at H-4.

In sum, DOE's selection of the representative route method for its environmental analysis was reasonable. The NRC is not required to resolve disagreements regarding methodology, *see Friends of Endangered Species Inc.,* 760 F.2d at 986, and California's preference that a different methodology for selecting routes be used accordingly does not raise a material issue.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses.

15. CAL-NEPA-16 - DOE Has Ignored the NAS Recommendation of Independent Examination of the Security of Shipments

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. Part 51 in that the NEPA documents fail to include essential security and environmental information required by the NRC regulations, to wit, there is no independent review of security arrangements by an organization independent of the government, as recommended by the National Academy of Scientists (NAS).

RESPONSE

In this contention, California asserts that DOE should have conducted an independent analysis of the security of shipments to Yucca Mountain, as recommended by the National Academy of Sciences (NAS).

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109. Specifically, as set forth in Section IV.A.4, California 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. Section 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).

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326. 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 – California's petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 2.326(b) and 51.109(a)(2). Those regulations require California'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." As noted earlier, "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). California has ignored each of these requirements and its contention must, therefore, be rejected.

Not only did California fail to meet the requirements of §§ 51.109 and 2.326 in its supporting affidavit, it also failed to provide an affidavit from a qualified expert. Dr. Dilger's affidavit does nothing more than adopt the one paragraph set forth in Paragraph 5 of this contention. Relying entirely on a 2006 report prepared by the National Research Council of the NAS, Dr. Dilger asserts that the DOE Repository SEIS is inadequate because it does not contain an independent security analysis as recommended in the 2006 report. There is nothing in Dr. Dilger's training or background that would qualify him as an expert on security measures for the shipment of high level waste or the need for an independent analysis of security measures that

will be put in place. Nor is there anything in his background or training demonstrating that Dr. Dilger is an expert on NEPA requirements or procedures. Yet, the paragraph he adopted from Paragraph 5 of the contention is little more than a recitation of what Dr. Dilger believes are the requirements of NEPA. He goes so far as to suggest that because the 2006 report contains a recommendation that an independent study be conducted, "[t]he failure to include this independent analysis of environmental impacts does not meet the NRC regulatory requirements; therefore, the Repository SEIS is not practicable for adoption." Petition at 80. There is no legal basis for this statement and Dr. Dilger provides none.

In relying on this report, Dr. Dilger does not claim that he has reviewed it thoroughly, conducted his own independent assessment of the facts and data upon which the report is based, or agrees with the report's conclusion. Nor does he claim or demonstrate that based on his training and background he is qualified to reach that conclusion. He simply is reporting, out of context, what others have reported – a practice that has been found to be inappropriate in the federal courts unless the person who actually prepared the report is available to testify. *Weaver v. Phoenix Home Life Ins. Co.,* 990 F.2d 154, 159 (4th Cir. 1993).

Finally, Dr. Dilger fails to explain that the 2006 report never suggested or recommended that DOE include such an independent review of security in an EIS. Rather, as the quotation contained in Paragraph 5 of the contention states: "An independent examination of the security of spent fuel and high-level waste transportation should be carried out *prior to the commencement of large-quantity shipments to a federal repository or to interim storage."* Petition at 80.

In short, Dr. Dilger's "affidavit" for this contention is nothing more than an advocacy piece that does not fairly represent the report, the basis for the contention or NEPA requirements. 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

This contention challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, is beyond the scope of this proceeding

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) 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. Thus 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.

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

In addition to being precluded as outside the scope of this proceeding and instead within the exclusive jurisdiction of the court of appeals, California's contention fails as a matter of law to raise a claim under NEPA and thus does not present an issue material to the findings that NRC must make. NEPA contemplates *an agency* – not an independent review group – being responsible for evaluating the environmental impacts of major federal actions. *See* 42 U.S.C. § 4332 (requiring that "all agencies of the Federal Government shall" integrate environmental concerns into planning and that the "responsible official" shall present a detailed statement of the environmental effects of an action).

California has pointed to no case, statute, or regulation to support its assertion that DOE was required under NEPA to obtain an independent analysis. This is because no such legal support exists. Any preference of the NAS for a particular approach does not create a legal requirement. Moreover, the contention is inconsistent with the very language of the NAS which it quotes. The quoted language does not recommend that such an independent examination be included in the EIS, but refers only to an unspecified time "prior to the commencement of large-quantity shipments" to the repository. Petition at 80.

Finding no NEPA authority, California attempts to shoehorn this contention into NRC's construction authorization requirements, citing 10 C.F.R. §§ 63.31(b) and (c). Petition at 79. However, nothing in 10 C.F.R. § 63.31 creates a legal requirement for an independent analysis. Moreover, California provides no *substantive* basis for why an independent analysis would be

valuable or why it would lead to different conclusions than DOE's analysis. The mere recommendation of the NAS to conduct an independent analysis at some time prior to commencement of shipments to the repository provides no basis for NRC to question the adequacy of DOE's environmental analysis.

Finally, DOE in fact has received input from numerous entities throughout the NEPA process, including the NRC itself, the Department of Homeland Security, and the Transportation Security Agency. Repository SEIS, Vol. II, App. H at H-24. Aside from governmental agencies, DOE has also consulted with numerous stakeholders, including state and local governments, industry associations, and technical advisory organizations such as the NAS and the Nuclear Waste Technical Review Board. *Id.* DOE is also a member of the International Working Group on Sabotage for Transport and Storage Casks, which is currently investigating the consequences of transportation sabotage. *Id.* DOE is therefore the beneficiary of a wide range of technical expertise, which is reflected in its NEPA documents. For these reasons, this contention fails to raise a material issue and should be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions are outside the

scope of this proceeding, and because under NEPA DOE, not an independent review group, is responsible for evaluating the impact of its proposed action.

16. CAL-NEPA-17 - Environmental Impacts from the Use of Heavy Haul Trucks at Local Sites

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that the Repository SEIS' analysis fails to adequately describe how DOE will mitigate the impacts from large numbers of heavy haul truck shipments from Diablo Canyon to San Luis Obispo; therefore DOE has failed to assess the environmental impacts of the proposed action.

RESPONSE

In this contention, California asserts that DOE's NEPA documents are incomplete and inadequate because the Repository SEIS does not "adequately describe how DOE will mitigate the impacts from large numbers of heavy haul truck shipments from Diablo Canyon to San Luis Obispo." Petition at 82.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention should therefore be rejected.

Dr. Dilger's affidavit is flawed in several other respects. Dr. Dilger simply adopts Paragraph 5 of the contention as the substance of his affidavit. Paragraph 5 merely sets forth a list of impacts that might be felt on local roads running from Diablo Canyon reactor in California to intermodal handling facilities as a result of transportation of SNF and HLW by heavy-haul trucks, which California contends should be assessed. *See* Petition at 83. Dr. Dilger does not address whether any of these issues are significant or would have any material impact on the outcome. Nor does Dr. Dilger explain why the existing transportation analysis using representative routes and analyzing environmental impacts due to heavy haul trucks is not appropriate at this stage of transportation planning. Dr. Dilger's affidavit provides no support for 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

This contention has nothing to do with repository impacts and is limited to the possible environmental impacts related to heavy-haul truck shipments of SNF from Diablo Canyon, including the alleged omission of mitigation of these impacts. Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding DOE's proposed transportation program and, specifically, the alleged omission of an assessment of how impacts arising from heavy-haul truck shipments of SNF from the Diablo Canyon reactor will be mitigated, is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g.*, *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of

environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 114 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to heavy-haul truck shipments for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of heavy-haul truck shipments, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of this proceeding and the contention is barred on finality grounds. In addition, this contention does not present a material issue because DOE's NEPA documents adequately address potential mitigation measures. California cannot demonstrate that DOE failed to provide "a reasonably

complete discussion of possible mitigation measures" in satisfaction of NEPA's procedural requirements. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).

California alleges that DOE failed to satisfy NEPA's requirements because it did not provide an adequate description of "how DOE will mitigate the impacts from large numbers of heavy haul truck shipments from Diablo Canyon to San Luis Obispo." Petition at 82. 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 does not require an agency to provide specific measures for any particular portion of a project; it 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. U.S. Dep't of Transp.*, 123 F.3d 1142, 1150 (9th Cir. 1997).

DOE has sufficiently specified best management practices and mitigation measures for national and regional transportation activities, including detailed discussions of transportation regulations, operational practices, cask safety and testing, emergency response, training of state and local officials, occupational health and safety, technical assistance, transportation security and liability. *See, e.g.*, Repository SEIS, Vol. I at 9-12 to -13; Vol. II, App. H at H-1 to -36. What California seeks in this contention, specific plans for actual mitigation measures within a specific local area of California, 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." *Robertson*, 490 U.S. at 352. A discussion of "possible mitigation measures" is sufficient to satisfy NEPA's requirements. *Id.*

California also does not present a material issue by asserting that "DOE has not evaluated the implications of this proposal on the local area around the Diablo Canyon facility." Petition at

83. "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), CLI-03-17, 58 NRC 419, 431 (2003) (quotations omitted). DOE adequately describes the mitigation measures that it would implement should the project be approved, listing them by environmental resource and dividing them between repository and transportation effects and discussing the means by which it would implement possible mitigation measures. *See, e.g.*, Repository SEIS, Vol. I at Table 9-1 at 9-4, 9-7 to -10; 2004 ROD, 69 Fed. Reg. 18,557, 18,561-62 (April 8, 2004). NEPA requires only a reasonable analysis of the "means to mitigate adverse environmental impacts." *See* 40 C.F.R. § 1502.16. 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). California's demand for a description of mitigation measures for a specific local area within the state is not reasonable under NEPA, nor could such a plan be practically completed at this early stage.

In sum, DOE has provided a reasonably complete analysis of possible measures to satisfy NEPA's procedural requirements with respect to mitigation and potential transportation effects. *Robertson*, 490 U.S. at 352. California's allegation that DOE failed to meet NEPA's requirements by failing to adequately describe specific mitigation measures to address actual impacts in the local area around the Diablo Canyon reactor is entirely unsupported by the facts and relevant NEPA caselaw. This contention should therefore be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

17. CAL-NEPA-18 - Failure to Analyze Impacts from the Use of California State Route 299

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that DOE failed to analyze the environmental impacts, including those to the Trinity National Wild and Scenic River and other unique natural resources, from use of California State Route 299 as a transportation route for heavy haul trucks to a railhead in Redding for ultimate rail shipment to the Yucca Mountain repository.

RESPONSE

In this contention, California asserts that DOE has failed to adequately analyze the potential impacts and risks associated with using heavy-haul truck transportation on California State Route 299. Petition at 85.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326. It does not show that its contention raises a significant environmental issue. With regard to the most important and difficult showing—a demonstration that a "materially different result would be or would have been likely" if the contention were proven to be true – California's Petition and the affidavit of its expert are silent. Equally important, California's expert, Dr. Dilger, does not provide the analysis that is explicitly called for by the terms of § 2.326(b). This regulation requires California's expert, Dr. Dilger, 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 that "[e]ach of the criteria must be separately addressed, with a specific explanation of why it has been met." Here, California has failed to meet these requirements and its contention should be rejected.

Apart from its failure to comply with the requirements of §§ 2.326 and 51.109, California has also failed to submit an affidavit that provides a reasoned explanation of the basis for its expert's opinions and more importantly why the issue raised by the contention is of any significance. California's expert, Dr. Dilger, merely adopts the two paragraphs contained in Paragraph 5 of this contention as the entire substance of his testimony. Dr. Dilger has failed to articulate any factual or technical basis for this contention.

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

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

b. Brief Explanation of Basis

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

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

Contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding DOE's analysis of heavy-haul truck transportation on California State Route 299 is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of

the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to this contention for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, including DOE's analysis of California State Route 299, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD also are not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because California's challenges to DOE's transportation decisions are outside the scope of this proceeding and the contention is barred on finality grounds. Additionally, this contention fails to raise a material issue because DOE has taken a "hard look" at heavy-haul truck shipping.

DOE has adequately analyzed the impacts of heavy-haul transportation. Under 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). DOE has thoroughly considered the impacts from accidents involving heavy-haul trucks that may be used to transport SNF casks. *See* Repository SEIS, Vol. I at 6-22; Vol. II, App. G at G-45 to -48; 2002 FEIS, Vol. II, App. J at J-76 to -87. Its analyses of heavy-haul transportation included discussion of radiological impacts during transport, radiological impacts of accidents, non-radiological transportation impacts and accident risks, and maximum reasonably foreseeable accident scenarios. *Id*. DOE has also considered the impacts of heavy-haul transportation on highways and the need for potential highway upgrades. 2002 FEIS, Vol. I at 2-57, 6-156 to -159. It has therefore taken the requisite hard look at the probable environmental consequences of heavy-haul transportation.

Further, DOE need not undertake a detailed analysis of the environmental impacts of heavy-haul transit on California State Route 299 at this early stage in the process. California State Route 299 was selected simply as a representative route that could potentially be used for SNF and HLW shipment. Repository SEIS, Vol. II, App. G at G-68. As stated in the Repository SEIS, "[a]t this time, many years before shipments could begin, it is premature to predict the highway routes or rail lines DOE might use." Repository SEIS, Vol. III at CR-185.

The policies and procedures of DOE and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. NEPA analysis of environmental consequences must be made "as soon as it can reasonably be done." *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d

1062, 1072 (9th Cir. 2002) (citing *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1246 n. 9 (9th Cir. 1984) ("Reasonable forecasting and speculation is . . . implicit in NEPA.") (internal citation omitted)). California has not cited a single instance in which an environmental impact statement was found invalid because it was prepared too early in the process. California cannot demonstrate that DOE failed to take a "hard look" at potential transportation impacts in satisfaction of NEPA's procedural requirements. *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976).

Finally, even if the NRC were to find DOE's discussion of heavy-haul transport to be lacking in some respect, in evaluating the adequacy of EISs, reviewing courts have found that the mere identification of a deficiency in an EIS 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. Dep't of Energy*, 457 F.3d at 93. There, the court rejected alleged inadequacies in the FEIS relating to environmental impacts on cultural resources, flood plains 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. at 27,865. 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.,* and NEPA contentions that "flyspeck" an EIS do not preclude the NRC from adopting the DOE 2002 FEIS and its supplements. Here, California is attempting to force DOE to conduct a detailed analysis of a particular route well before actual routes have even been selected. DOE has indicated that all routes used to transport SNF and HLW will comply with applicable Department of Transportation regulations. 2002 FEIS, Vol.II App. M at M-10. NEPA contentions such as this one that "flyspeck" an EIS do not preclude the NRC from adopting the DOE 2002 FEIS and its supplements. Accordingly, this contention should be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses.

18. CAL-NEPA-19 - Failure to Analyze Use of TAD Canisters

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that the Repository SEIS fails to assess the environmental impacts of, and the costs and ability to use, Transportation, Aging and Disposal (TAD) canisters at California generator sites.

RESPONSE

In this contention, California asserts that DOE's NEPA documents are inadequate under NEPA on the ground that it "fails to assess the environmental impacts of, and the costs and ability to use, Transportation, Aging and Disposal (TAD) canisters at California generator sites." Petition at 88.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. It does not show that its contention raises a significant environmental issue. With regard to the most important and difficult showing—a demonstration that a "materially different result would be or would have been likely" if the contention were proven to be true – California's Petition and the affidavit of its expert are silent. Equally important, California's expert, Dr. Dilger, does not provide the analysis that is explicitly called for by the terms of § 2.326(b). This regulation requires California'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 that "[e]ach of the criteria must be separately addressed, with a specific explanation of why it has been met." Here, California has failed to meet these requirements and its contention should be rejected.

Apart from its failure to comply with the requirements of §§ 2.326 and 51.109, California has also failed to submit an affidavit that provides a reasoned explanation of the basis for its expert's opinions and more importantly why the issue raised by the contention is of any significance. California's expert, Dr. Dilger, merely adopts the four paragraphs contained in Paragraph 5 of this contention as the entire substance of his testimony.

Dr. Dilger's affidavit, adopting Paragraph 5 of the contention, merely reports what other persons or entities have said, without offering any opinion as to whether those statements are right or wrong, much less provide any basis for how he is in a position to opine on the correctness of those statements by others. The mere reference to what others have said provides no basis to admit a contention. *USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 61 NRC 451, 472 (2006); *Weaver v. Phoenix Home Life Mut. Ins. Co.*, 990 F.2d 154, 159 (4th Cir. 1993). Moreover, on their face, those statements are equivocal, referring to a "potential" need to

repackage, Petition at 90, and that it is "unclear" whether a particular utility will use TADs. *Id*. at 91. Certainly, such statements do not meet the standards of 10 C.F.R. §§ 51.109 and 2.326 that "a materially different result would be or would have been likely."

In addition, there are statements in Paragraph 5 that affirmatively demonstrate the contention's lack of materiality. Dr. Dilger relies on statements by NEI that by the time the Yucca Mountain repository is in operation, the amount of spent fuel will exceed the current legal capacity of the repository and that "[u]tilities will have the choice of which spent fuel to ship, and they will choose to ship spent fuel from spent fuel pools, since they have never been packaged into canisters, instead of spent fuel from dry cask storage which would need to be repackaged." Petition at 90-91. If no repackaging at generator sites into TADs occurs, Dr. Dilger's complaint that DOE failed to analyze the risks of repackaging or the cost of TADs to utilities is immaterial.

Dr. Dilger also fails to acknowledge that reloading of TADs at reactor sites is not part of the transportation activities as proposed by DOE, *see e.g*. Repository SEIS, Vol. I at 2-7 to -9, 2-44, or that DOE did a sensitivity analysis in which it examined a scenario in which utilities shipped only 75%, rather than 90% of SNF, in TADs. In that sensitivity analysis, DOE looked at the impacts of repackaging non-TAD shipments at the repository and concluded that "a deviation in the percentage of implementation of TADs at the reactor site would not measurably affect the transportation impacts." Repository SEIS, Vol. II, App. A at A-3. The Repository SEIS concluded that, "[i]n summary, this analysis illustrated that the deviations in the percentage implementation of TADs would have little effect on transportation or repository-related estimated impacts." *Id*., Vol. II, App. A at A-5. Dr. Dilger does not suggest any reason why the results would be different if repackaging was done at the reactor site rather than at the repository.

Dr. Dilger states that "*if* the utility must pay for both storage systems [TADs and NUHOMS] there is a question as to who will pay to provide that space." Petition at 91. Such "what if" questions do not satisfy the standards of 10 C.F.R. §§ 51.109 and 2.326. Moreover, in neither Dr. Dilger's affidavit nor the contention itself is there any support for the notion that such costs at generator sites are within the scope of NEPA generally, or of DOE's proposed action. Dr. Dilger's final complaint is that "there *may* be state regulatory requirements that will need to be considered." Petition at 91 (emphasis added). Once again, Dr. Dilger fails to provide any specifics and certainly does not demonstrate that any such unidentified state regulatory considerations would, or would likely, change the results of DOE's analysis.

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

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

b. Brief Explanation of Basis

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

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

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

beyond the scope of this proceeding. Put simply, NRC must take DOE's proposal to accept up to as much as 90% of commercial SNF in TADs as a given in deciding whether to issue construction authorization for the repository.

Moreover, contentions challenging DOE's transportation decisions, and the environmental impact statements upon which those decisions are based, are beyond the scope of this proceeding. To the extent that this contention challenges DOE's transportation analysis, it is barred on this jurisdictional ground as well.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) 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. 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. California has

failed to identify any issue relating to the use of TADs for which the approach specified in Section 119 is not available.

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

In addition to being precluded as outside the scope of this proceeding, the contention does not present an issue material to a finding NRC must make because it fails to demonstrate that DOE violated NEPA. As discussed above, the contention on its face demonstrates its immateriality through its assertion that utilities will not use TADs, and hence there will be no repackaging at generator sites. Thus, any alleged failure by DOE to analyze repackaging into TADs at generator sites—the heart of the contention—is immaterial. Moreover, as discussed above, DOE did address the impacts of repackaging in accordance with the elements of its proposed transportation-related actions, *i.e.*, that any repackaging would be performed at the repository—not at the generator sites.

As noted above, the contention does not even discuss DOE's sensitivity analysis of a scenario in which only 75% of shipments would use TADs. In any event, DOE's assumption that 90% of the SNF would be shipped in TADs while also considering the possibility of a smaller amount shipped in TADs was clearly a reasonable one and should not be second-guessed or challenged by potential intervenors. *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 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.*, 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 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.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because issues regarding repackaging of SNF in TADs at reactor sites, as well as DOE's transportation decisions and supporting NEPA analyses, are outside the scope of this proceeding, and because the contention fails to demonstrate any inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

19. CAL-NEPA-20 - Failure to Adequately Analyze Impacts on Local Emergency Management Responsibilities

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS, the Repository SEIS, or the Nevada Rail Corridor SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51 in that the NEPA documents fail to adequately describe how DOE intends to fund and train local, state and tribal public safety officials to respond to emergencies during transportation of spent nuclear fuel and high level radioactive waste through their jurisdictions, as required by Section 180(c) of the NWPA, nor does it even attempt to analyze what would be an adequate level of funding for this purpose, or what kind of training would be needed.

RESPONSE

In this contention, California alleges that DOE has failed to adequately analyze transportation impacts on local emergency management services.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention, be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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).

California fails to meet any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. 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 – California's Petition and the affidavit of its expert are silent. Equally important, California's expert does not provide the analysis that is explicitly called for by the terms of §§ 51.109 and 2.326. California's witness, Dr. Dilger, does not set forth factual and/or technical bases in support of the contention, nor does he provide a specific explanation of why the requirements of § 2.326 have been met. California has ignored the requirements of §§ 51.109 and 2.326 and its contention must therefore be rejected.

There are a number of additional flaws in Paragraph 5 and Dr. Dilger's affidavit. Paragraph 5 focuses on "environmental impacts [that] could result from transportation-related incidents," Petition at 93, based on the erroneous premise that the current proceeding encompasses transportation issues. Dr. Dilger's adoption of this paragraph misstates the scope of this proceeding.

In addition, Dr. Dilger simply adopts Paragraph 5 of the contention. Paragraph 5, in turn, merely lists a series of legal arguments that are unsupported by any evidence provided by Dr. Dilger or otherwise. Paragraph 5 concludes that DOE's funding proposal to support state and local emergency management services affected by transportation activities "would be inadequate," but fails to provide any evidence or explanation of such an assertion. Petition at 95-96. Instead, Paragraph 5 points to a handful of exceptional and entirely inapplicable examples, including: a military plane crash involving hydrogen bombs (Palomares); a nuclear weapons

testing site (Eniwetok); detonation of nuclear test devices at a missile launch facility (Johnston Atoll); and an early twentieth-century radium factory (East Orange). None of these examples are at all relevant to the issues raised in this proceeding, nor do they provide any support for California's allegations set forth in this contention. The impact of the alleged omissions is also never discussed. This contention should, therefore, be rejected.

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

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

b. Brief Explanation of Basis

Without prejudice to the other positions taken by DOE, the Department expresses no legal objection based on 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. In addition, to the extent that California contentions challenge DOE's decisions in the 2004 ROD and the transportation related portions of the 2002 FEIS, such contentions are barred on finality grounds. California's contention regarding impacts on local emergency management from transportation-related incidents is objectionable on both jurisdictional and finality grounds.

First, as addressed in Section IV.A.5(a)(1) above, under the Atomic Energy Act and the Energy Reorganization Act (ERA), NRC does not have regulatory authority over DOE's transportation facilities and activities and thus has no direct NEPA responsibilities with respect to those facilities and activities. To the extent such facilities and activities may contribute to the cumulative impacts of the proposed Yucca Mountain repository, NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the

cumulative impacts of the proposed repository. *See, e.g., Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

Second, in addition to the NRC's lack of regulatory authority over transportation of SNF and HLW, as addressed in Section IV.A.5(a)(2) above, any challenges to the analysis of environmental impacts arising from DOE transportation decisions, to the extent reviewable, are within the original and exclusive jurisdiction of the federal courts of appeals. In particular, challenges to the April 2004 ROD and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum, as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD and the Rail Alignment EIS on which it was based, are also not appropriately a part of this proceeding; such challenges may be pursued only through a petition for review to a federal court of appeals. California has failed to identify any issue relating to impacts on local emergency management responsibilities for which the approach specified in Section 119 was or is not available.

In summary, challenges to the April 2004 ROD, and the transportation related portions of the 2002 FEIS on which it was based, are no longer subject to review in any forum as a result of the expiration of the 180-day period to challenge that ROD set forth in Section 119 of the NWPA. Any challenges to DOE's transportation decisions set forth in the October 10, 2008 ROD are also not appropriately a part of this proceeding, and may only be challenged through a petition for review to a federal court of appeals.

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

For the reasons discussed in section c. above, this issue is not material to the findings NRC must make because challenges to DOE's transportation decisions are outside the scope of

this proceeding and this contention is barred on finality grounds. In addition, this contention does not present a material issue because DOE's NEPA documents adequately address issues of local emergency management.

California alleges that DOE failed to satisfy NEPA's requirements because it did not specifically address impacts associated with the provision of local emergency management services. Petition at 93. Under NEPA, DOE is required to take a "hard look" at potential environmental consequences. *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). In its NEPA documents, DOE analyzed the potential impacts of transporting spent nuclear fuel and high-level radioactive waste along representative routes in California, including the potential impacts of transportation accidents and support for state and local emergency management services in the event of a transportation emergency. *See, e.g.*, 2002 FEIS, Vol. I at 6-32 to -52.

DOE analyzed the coordination and assistance of local officials in the event of an emergency, including the provision of technical support and response management in cooperation with federal, state, and local officials. *See, e.g.*, Repository SEIS, Vol. II, App. H at H-16 to -17. DOE maintains eight Regional Coordinating Offices staffed 24 hours a day, 365 days a year with "teams of nuclear engineers, health physicists, industrial hygienists, public affairs specialists, and other professionals," to provide support to local officials in the event of an emergency. *Id.* at H-16. In addition, DOE would "support the Department of Homeland Security as the coordinating agency for incidents that involve the transportation of radioactive materials by or for DOE," and would otherwise be "responsible for the radioactive material, facility, or activity in the incident," including coordination of "security activities for federal response operations." *Id*. at H-17. DOE would support the Department of Homeland Security in coordinating "security activities for federal response operations," and would maintain national

and regional coordination offices to manage emergency responses with state and local officials. *Id*. at H-18.

In addition, DOE discussed its obligations under Section 180(c) of the NWPA, which requires DOE to provide technical assistance and funding to States and Tribes for training of local public safety officials on safe routine transportion and emergency response procedures through whose juridisctions DOE would plan to transport spent nuclear fuel and high-level radioactive waste to Yucca Mountain. *See, e.g*., 2002 FEIS, Vol. I at 6-46; Vol. II, App. M at M-20 to -21; Repository SEIS, Vol. II, App. H at H-18 to -19, H-33 to -35. Pursuant to DOE's proposed policy for implementing Section 180(c), *see* 73 Fed. Reg. 64,933 (Oct. 31, 2008), "DOE would work with states and tribes to evaluate current preparedness for safe routine transportation and emergency response capability and would provide funding as appropriate to ensure that state, tribal, and local officials are prepared for such shipments." Repository SEIS, Vol. II, App. H at H-19. DOE anticipates that an initial grant for preparation and training in specific jurisdictions through which shipments would occur "would be available approximately 4 years prior to the commencement of shipments through a state or tribe's jurisdiction," *id*. DOE anticipates subsequent "training grants in each of the 3 years prior to a scheduled shipment through a state or tribe's jurisdiction and every year that shipments are scheduled." *Id*. At this early stage, many years before shipments would begin, it would therefore be premature to predict which jurisdictions would be affected or attempt to provide a specific plan for any particular jurisdiction.

California's allegation that DOE's NEPA documents are inadequate because of the unavailability of completed emergency management plans is inconsistent with CEQ regulations and NEPA caselaw and thus does not raise a material issue. The policies and procedures of DOE

and the CEQ that implement the requirements of NEPA call for agencies to "integrate the NEPA process with other planning at the earliest possible time" in the development of a proposed federal project. 40 C.F.R. § 1501.2. In particular, CEQ regulations 40 C.F.R. §§ 1500.5, 1501.2, 1502.5 and 1508.23 all stress the need to prepare an EIS early in the process. NEPA analysis of environmental consequences must be made "as soon as it can reasonably be done." *Kern v. U.S. Bureau of Land Mgmt*., 284 F.3d 1062, 1072 (9th Cir. 2002) (citing *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1246 n.9 (9th Cir. 1984) ("Reasonable forecasting and speculation is . . . implicit in NEPA.") (internal citation omitted)). California has not cited a single case in which an environmental impact statement was found invalid because it was prepared too early in the process. Therefore, the fact that DOE provided a reasonably thorough analysis of transportation issues associated with the project, including a discussion of emergency management issues, is sufficient to satisfy NEPA's requirements.

California's allegation that DOE must provide funding and training to "enable state, tribal or local government within California to *avoid* environmental harm from accidents or terrorist incidents" is also unavailing. Petition at 97 (emphasis added). NEPA does not require "a fully developed plan that will mitigate environmental harm before an agency can act," *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989); it 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. U.S. Dep't of Transp.*, 123 F.3d 1142, 1150 (9th Cir. 1997).

As discussed above, DOE has adequately addressed its obligations to respond to transportation accidents, coordinate federal, state, and local response efforts, and provide support and training to state and local emergency management services. California can not demonstrate

that DOE failed to take a "hard look" at the potential impacts on local emergency services, as required under NEPA. *See Kleppe*, 427 U.S. at 410 n.21.

Accordingly, this contention does not present a material issue and should therefore be rejected.

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), California 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 sections c. and d. above, there is no genuine dispute on any material issue of law or fact because challenges to DOE's transportation decisions and supporting NEPA analyses are outside the scope of this proceeding, because the contention is barred on finality grounds, and because the contention fails to demonstrate inadequacy in DOE's NEPA analyses. The contention therefore should be rejected.

20. CAL-NEPA-21 - Failure to Provide a Complete and Adequate Discussion of the Nature and Extent of the Repository's Cumulative Impact on Groundwater in the Lower Carbonate Aquifer

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS or the Repository SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that DOE failed to analyze the cumulative environmental impacts on groundwater in the lower carbonate aquifer.

RESPONSE

In this contention, California alleges that DOE has failed to adequately address the nature and extent of the repository's cumulative impact on groundwater in the lower carbonate aquifer. Petition at 99.

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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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. California's environmental contention must also 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. § 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).

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. In particular, the affidavit of Mr. Jan Stepek contains no analysis or other information demonstrating that these criteria have been met. Rather, Mr. Stepek's affidavit does nothing more than adopt Paragraph 5 of the contention and previously submitted comments without further explanation or analysis. Paragraph 5 of this contention merely sets forth a list of alleged omissions in the Repository Supplemental EIS involving impacts to groundwater and the related environment. Petition at 101-103. Paragraph 5 and Mr. Stepek's affidavit fail to provide any evidence beyond what DOE has already addressed in its NEPA documents or any explanation of the alleged impacts about which California expresses concern. Neither Paragraph 5 nor Mr. Stepek's affidavit demonstrate that a "materially different result would be or would have been likely" if the contention were proven to be true. This contention should therefore be rejected.

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

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

b. Brief Explanation of Basis

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

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

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

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

For the reasons discussed below, this contention does not raise an issue material to the findings NRC must make because an agency is not required to perform a "worst case" analysis or to consider "remote and speculative" possibilities.

In its NEPA documents, DOE analyzed the potential environmental impacts with respect to the lower carbonate aquifer. On the basis of studies performed by DOE and Inyo County based on the simple flow model, DOE determined that "Inyo County and DOE agree that the pathway simulated in the simple flow model is not a viable pathway for contaminants originating at the repository site as long as there is an upward gradient in the carbonate aquifer, which has been observed in boreholes in the Yucca Mountain vicinity." Repository SEIS, Vol. I at 3-34.

California's contention seeks to require DOE to consider a worst case scenario in which the upward gradient would be eliminated or reversed. An agency is not required, however, to perform a worst case analysis in order to satisfy NEPA's procedural requirements. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989). In eliminating the "worst case" requirement from its regulations, the Council on Environmental Quality (CEQ) pointed out that "one can always conjure up a worse 'worst case'" by adding more variables to a hypothetical event, 50 Fed. Reg. 32,234 (Aug. 8, 1985), and that "'worst case analysis' is an unproductive and ineffective method . . . one which can breed endless hypothesis and speculation," 51 Fed. Reg. 15,620 (Apr. 25, 1986). In *Methow Valley*, the Supreme Court held that the CEQ acted reasonably in eliminating the requirement that an agency conduct a worst-case analysis as part of a NEPA review and reversed a Court of Appeals' decision finding an EIS inadequate on the grounds that the agency had failed to conduct a worst case analysis. The Court noted that "CEQ regulations are entitled to substantial deference," and that the "worst case analysis" requirement

had been abandoned for the well-considered reason that it had "distort[ed] the decision-making process by overemphasizing highly speculative harms." *Methow Valley*, 490 U.S. at 356; *Edwardsen v. U.S. Dep't of Interior*, 268 F.3d 781, 785 (9th Cir. 2001) ("[A]n EIS need not include a worst case analysis.").

California's contention relies on an implausible hypothetical scenario in which pumping is allowed to occur at levels that would risk the reversal of the upward gradient. California alleges that *if* the upward gradient is eliminated under some continuation of current levels of groundwater pumping, the gradient *might* no longer be a barrier to contaminants from the repository mixing with aquifer waters and migrating to the surface springs. This allegation is based solely on the hypothetical and speculative possibility that: 1) the upward gradient *could be* reversed under some uncertain circumstance; 2) pumping would be allowed to continue at levels to potentially contribute to such a scenario; and 3) if the upward gradient *were* reversed, it *might* no longer serve as a barrier to contaminants entering the lower carbonate aquifer. California offers no evidence to demonstrate that such scenarios are any more than "remote and speculative possibilities," which DOE is not required to consider under NEPA. *Fla. Power & Light Co.,* (Turkey Point Units 3 & 4), LBP-81-14, 13 NRC 677, 688 (1981); *Pub. Serv. Elec. & Gas Co.*, (Hope Creek Generating Station), ALAB-518, 9 NRC 14, 17 (1979), citing *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 551 (1978); *Natural Res. Def. Council v. Morton*, 458 F.2d 827, 837-38 (D.C. Cir. 1972).

Accordingly, this contention does not present a material issue and should therefore be rejected.

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), California 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 fact or law that DOE did not adequately address the nature and extent of the repository's cumulative impact on groundwater in the lower carbonate aquifer. The contention should therefore be rejected.

21. CAL-NEPA-22 - Failure to Provide a Complete and Adequate Discussion of the Nature and Extent of the Repository's Cumulative Impact on Groundwater in the Volcanic-Alluvial Aquifer

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS or the Repository SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that DOE failed to analyze the cumulative environmental impacts on groundwater in the volcanic-alluvial aquifer.

RESPONSE

In this contention, California alleges that the EIS is deficient because DOE failed to analyze the cumulative environmental impacts on groundwater in the volcanic-alluvial aquifer. This raises the same issue that the NRC Staff raised in its report on the adoption of the DOE EISs.

Although DOE has agreed to perform this analysis and supplement its EIS at the request of the NRC Staff, DOE's agreement does not make this an admissible contention unless California makes the threshold showings required by 10 C.F.R § 51.109 and 10 C.F.R. § 2.326. 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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California must (1) raise a significant environmental issue; and (2) demonstrate that its contention, if proven to be true, would or would likely result in a materially different outcome in this proceeding. Moreover, its environmental contention must be supported by the affidavit of a qualified witness that sets forth the factual and/or technical basis supporting the claim that these two criteria have been met, including "with a specific explanation of why it has been met." 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).

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. In particular, the affidavit of Mr. Jan Stepek contains no analysis or other information to satisfy the requirements of demonstrating that these criteria have been met. First, his affidavit fails to demonstrate that a "materially different result would be or would have been likely" if the contention were proven to be true. Nor does he "set forth the factual or technical bases for the movant's claim that the criteria of paragraph (a) [of § 2.326] have been satisfied." Rather, Mr. Stepek's affidavit does nothing more than adopt Paragraph 5 of the contention without further explanation or analysis. Paragraph 5 of the contention fails to provide any analysis, studies or data that would support a finding that the contention raises a significant environmental issue. Paragraph 5 only discusses the NRC Staff's reasoning for requesting DOE to undertake additional analysis but the significance of the environmental issue is never discussed. The NRC Staff's request that DOE undertake further study does not provide adequate support that this contention should be admitted and litigated in this proceeding.

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

Because this issue is the subject of a supplement being prepared by DOE, if the Board finds that the requirements of 10 C.F.R. § 51.109 and 10 C.F.R. § 2.326 have been met, consideration of this contention should be deferred until DOE issues its supplement. If California disagrees with the resolution of this issue in the supplement, this issue can be raised at that time.

b. Brief Explanation of Basis

See section a. above.

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

See section a. above.

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

See section a. above.

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), California 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

See section a. above.

22. CAL-NEPA-23 - Failure to Provide a Complete and Adequate Discussion of the Nature and Extent of the Repository's Cumulative Impact from Surface Discharge of Groundwater

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS or the Repository SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that DOE failed to analyze the public health and safety and other environmental impacts from the discharge of potentially contaminated groundwater to the surface.

RESPONSE

In this contention, California alleges that the EIS is deficient because DOE failed to analyze the public health and safety and other environmental impacts from the discharge of potentially contaminated groundwater to the surface in California. This raises essentially the same issue that the NRC Staff raised in its report on the adoption of the DOE EISs, except that it proposes that DOE agree at the outset to evaluate discharges in California.

Although DOE has agreed to perform an analysis of the cumulative impacts from the discharge of potentially contaminated groundwater and supplement its EIS at the request of the NRC Staff, DOE's agreement does not make this an admissible contention unless California makes the threshold showings required by 10 C.F.R § 51.109 and 10 C.F.R. § 2.326. 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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California must (1) raise a significant environmental issue; and (2) demonstrate that its contention, if proven to be true, would or would likely result in a materially different outcome in this proceeding. Moreover, its environmental contention must be supported by the affidavit of a qualified witness that sets forth

the factual and/or technical basis supporting the claim that these two criteria have been met, including "with a specific explanation of why it has been met." 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).

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. In particular, the affidavit of Mr. Jan Stepek contains no analysis or other information to satisfy the requirements of demonstrating that these criteria have been met. First, his affidavit fails to demonstrate that a "materially different result would be or would have been likely" if the contention were proven to be true. Nor does he "set forth the factual or technical bases for the movant's claim that the criteria of paragraph (a) [of § 2.326] have been satisfied." Rather, Mr. Stepek's affidavit does nothing more than adopt Paragraph 5 of the contention without further explanation or analysis. Paragraph 5 of the contention fails to provide any analysis, studies or data that would support a finding that the contention raises a significant environmental issue. Paragraph 5 only discusses the NRC Staff's reasoning for requesting DOE to undertake additional analysis but the significance of the environmental issue is never discussed. The NRC Staff's request that DOE undertake further study does not provide adequate support that this contention should be admitted and litigated in this proceeding.

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

The issue presented by this contention is the subject of a supplement being prepared by DOE with one exception. In Paragraph 5 of this contention, California requests that the evaluation already being conducted by DOE specifically include an evaluation of discharge

points in California. In its evaluation undertaken at the request of the NRC Staff, DOE does not intend to assume at the outset that discharge points in California are affected. Instead, DOE intends to rely on (1) radiological and non-radiological contaminant concentrations predicted for groundwater at the RMEI location and (2) groundwater pathways beyond the RMEI location as simulated by the Death Valley Regional Ground-Water Flow System model (developed by the United States Geological Survey) for current conditions. The evaluation of potential discharge locations will depend on the output of the model. Potential discharge locations that coincide with the flow pathways will be evaluated in the supplement. If one or more of these discharge points are in California, they will be evaluated. DOE does not intend, however, to presuppose at the outset that the springs at Death Valley would be affected. Impacts for a future wetter climate will be evaluated based on a scaling factor for the groundwater specific discharge from the TSPA-LA. The use of the scaling factor is appropriate because the regional modeling shows that the predominant flowpaths continue in the same volcanic-alluvial aquifer and the aquifer beyond the RMEI location is subject to similar changes in hydrologic conditions under the future wetter climate. If the Board finds that the requirements of 10 C.F.R. § 51.109 and 10 C.F.R. § 2.326 have been met, consideration of this contention should be deferred until DOE issues its supplement. If California disagrees with the resolution of this issue in the supplement, this issue can be raised at that time.

b. Brief Explanation of Basis

See section a. above.

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

See section a. above.

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

See section a. above.

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), California 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

See section a. above.

23. CAL-NEPA-24 - Failure to Provide a Complete and Adequate Discussion of the Nature and Extent of the Necessary Mitigation and Remediation Measures for Radionuclides Surfacing at Alkali Flat / Franklin Lake Playa

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS or the Repository SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that DOE failed to analyze the necessary mitigation and remediation measures to protect the public health and safety and other environmental impacts from radionuclides surfacing within California.

RESPONSE

In this contention, California alleges that DOE has failed to adequately address mitigation of potential impacts from radionuclides traveling through groundwater in the Amargosa River Drainage into California and has improperly deferred enacting a mitigation plan to address these potential 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. California fails to meet the express requirements of 10 C.F.R. §§ 2.326 and 51.109 in requesting that its contention be admitted in this proceeding. Specifically, as set forth in Section IV.A.4, California 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).

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. In particular, the affidavit of Mr. Jan Stepek contains no analysis or other information demonstrating that these criteria have been met. Rather, Mr. Stepek's affidavit does nothing more than adopt Paragraph 5 of the contention and previously submitted comments without further explanation or analysis. Paragraph 5 of the contention specifically states that "the incomplete and inadequate characterization itself constitutes a significant consideration, *irrespective of the magnitude of potential impacts*." Petition at 117 (emphasis added). This is contrary to California's burden under §§ 51.109 and 2.326 to demonstrate that this contention raises a significant environmental issue. Further, neither Paragraph 5 nor the adopted comments demonstrate that a "materially different result would be or would have been likely" if the contention were proven to be true. Nor do they "set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) [of § 2.326] have been satisfied." 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 does not present a material issue because DOE's NEPA documents adequately address potential mitigation measures. California 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).

First, California's assertion that DOE must "implement a mitigation and remediation plan for radionuclides," Petition at 118, is not a requirement under NEPA. 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). The statute 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. U.S. Dep't of Transp.*, 123 F.3d at 1142, 1150 (9th Cir. 1997). "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), CLI-03-17, 58 NRC 419, 431 (2003) (quotations omitted); *see also Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 476 (9th Cir. 2000) (finding that a mitigation plan "need not be legally enforceable, funded, or even in final form to comply with NEPA's procedural requirements") (quotations omitted). DOE, therefore, need not "implement" any mitigation or remediation plan under NEPA. As the Supreme Court has held, "it would be inconsistent with NEPA's reliance on procedural mechanisms . . . to demand the presence of a

fully developed plan that will mitigate environmental harm before an agency can act." *Robertson*, 490 U.S. at 353.[25]

DOE has also not improperly deferred any mitigation analysis, as California suggests. Petition at 119. In fact, the agency has fully evaluated the substantive areas of concern to California, as California itself demonstrates in its contention by citing to the many discussions of California groundwater impacts in the NEPA documents.

First, DOE has discussed its intention to implement groundwater quality monitoring as one of its mitigation actions. Repository SEIS, Vol. I at 9-9, Vol. III at CR-527; 2002 FEIS, Vol. I at 9-5. The agency has reasonably explained its monitoring approach as follows:

> [DOE] would conduct preclosure monitoring at the repository to track the status and ensure adequate performance. After sealing the repository, DOE would conduct postclosure monitoring to continue to ensure acceptable performance. An amendment to the NRC license would define the details of the postclosure program because it would not start until about 100 years after the start of operations. Deferring the details of this program to the closure analytical period would allow identification of technologies that might not be currently available.

Repository SEIS, Vol. III at CR-341. Although California protests that "no details are provided," DOE has articulated the specific best management practices it will use to protect groundwater from contamination.[26] In the early stages of a project's development, an EIS containing even

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[25] As DOE points out, an emergency plan is required in any event by *NRC regulations*, rather than by NEPA. Repository SEIS, Vol. III at CR-527 ("During the active, preclosure phases of the project, DOE would be required by NRC regulations (10 CFR 63.161) to develop and be prepared to implement an emergency plan to cope with radiological accidents that may occur at the repository operations area.").

[26] DOE states that it will:

- Implement measures to minimize the potential for water use during operations that could interfere with waste isolation in the repository.
- Minimize surface disturbance, thereby minimizing changes in surface-water flow and soil porosity that could change infiltration and runoff rates.
- Monitor to detect and define unanticipated spills, releases, or similar events.

"merely conceptual" discussion of mitigation measures satisfies NEPA. *Robertson*, 490 U.S. at 339, 352-53.

Second, contrary to California's allegations, Petition at 120-121, DOE has provided a sufficient "hard look" at the possible impact of a flood during the construction phase and has adequately discussed related mitigation measures from surface water impacts. DOE specifically addressed the potential consequences of a flood. Repository SEIS, Vol. I at 3-26 to -28. It also discussed in depth its proposed mitigation measures to protect against surface water contamination, including contamination from possible flooding.[27] DOE has therefore met NEPA's requirement of a "reasonably complete discussion" of possible mitigation measures related to flooding. *See Robertson*, 490 U.S. at 352.

Third, contrary to California's complaint that DOE "does not adequately address the potential for radionuclides to travel through the Amargosa River Drainage," Petition at 116, DOE has examined the potential for such impacts. *See* Repository SEIS, Vol. I at 3-29 to -38. California's assertion is baseless.

- Construct evaporation ponds with synthetic liners and/or leak detection systems to prevent infiltration and potential groundwater contamination.

Repository SEIS, Vol. I at 9-5. DOE has also made it clear that its "postclosure monitoring would provide early detection of any unusual conditions in the groundwater," which would allow "ample time to plan corrective measures to protect the public." Repository SEIS, Vol. III at CR-527; *see also id.* CR-332 to CR-333.

[27] To select only a few examples, DOE commits to:

- In and near floodplains, follow reclamation guidelines. . . .
- Conduct fueling operations and store hazardous materials and other chemicals in bermed areas or use other appropriate secondary containment to reduce the likelihood of inadvertent releases.
- Store hazardous materials away from floodplains to decrease the probability of an inadvertent spill in these areas. . . .
- Use measures to prevent runoff or floodwaters from reaching areas where they could contact contaminated surfaces or cause release of hazardous materials (such as constructing structures above specified flood elevations, designing facilities to withstand a specific flood event, or constructing stormwater ponds or diversion structures).

Repository SEIS, Vol. I at 9-4. DOE has also analyzed flood protection during the operation phase. *Id.* at 4-21.

Finally, DOE is not required to include an emergency plan in its LA, contrary to California's argument. Petition at 119-120. All that is required under NRC's regulations to include in the LA at this stage is a description of the emergency plan, and that description need only contain the information that was reasonably available at the time of docketing. *See* 10 C.F.R. § 63.21(c)(21) (requiring "[a] description of the plan for responding to, and recovering from, radiological emergencies"); 10 C.F.R. § 63.21(a) (requiring that the LA "be as complete as possible in light of information that is reasonably available at the time of docketing"). These commitments are consistent with the multi-phased nature of the licensing process and the level of detail that the NRC expects to see at this early stage.[28]

California argues that since 10 C.F.R. § 63.161, which requires the implementation of an emergency plan during the active preclosure phases of the project, incorporates the criteria of 10 C.F.R. § 72.23(b), this mandates that the LA include an emergency plan. Petition at 119-120. This is false. Section 63.161 requires only that DOE develop and be prepared to implement a plan for radiological accidents that may occur at the geologic repository operations area. The emergency plan must be based on the criteria of Section 72.32(b). DOE has committed to submit this plan within six months prior to submittal of the license application to receive and possess. Section 72.23(b) lists 16 criteria that are to accompany an emergency plan. DOE is not required

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[28] The NRC addressed this point in the Statements of Consideration for Part 63:

> [P]art 63 provides for a multi-staged licensing process that affords the Commission the flexibility to make decisions in a logical time sequence that accounts for DOE collecting and analyzing additional information over the construction and operational phases of the repository. The multi-staged approach comprises four major decisions by the Commission: (1) Construction authorization; (2) license to receive and emplace waste; (3) license amendment for permanent closure; (4) termination of license. The time required to complete the stages of this process . . . is extensive and will allow for generation of additional information. Clearly, the knowledge available at the time of construction authorization will be less than at the subsequent stages.

Final Rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 66 Fed. Reg. 55,732, 55738 (Nov. 2, 2001).

to discuss these criteria until it completes its actual emergency plan under § 63.161.[29] Further, the emergency plan need only discuss "radiological accidents that may occur at the *geologic repository operations area.*" 10 C.F.R. § 63.131 (emphasis added). No part of California is included in this area. Repository SEIS, Summary at S-11. Thus, the emergency plan, even if required in the LA, would not cover impacts in California.

In sum, DOE has provided a "reasonably complete" discussion of possible mitigation measures regarding groundwater impacts in California to satisfy NEPA's requirements. *Robertson*, 490 U.S. at 352. This contention's claims should therefore be rejected.

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), California has failed to provide the requisite supporting facts, expert opinion and references.

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[29] DOE will provide the NRC with an emergency plan, fully compliant with 10 C.F.R. § 72.32(b), no later than 6 months before submitting the updated application for a license. SAR section 5.7 (p. 5.7-1). Until that time, SAR section 5.7 contains more than 50 pages of discussion about the plan, including various tables and figures. It also addresses each of the 16 subjects listed in 10 C.F.R. § 72.32(b). These subjects include:

1. Facility Description (SAR subsection 5.7.2)
2. Types of Accidents (SAR subsection 5.7.3)
3. Classification of Accidents (SAR subsection 5.7.3)
4. Detection of Accidents (SAR subsection 5.7.4)
5. Mitigation of Consequences (SAR subsection 5.7.5)
6. Assessment of Releases (SAR subsection 5.7.6)
7. Responsibilities (SAR subsections 5.7.1 and 5.7.7.)
8. Notification and Coordination (SAR subsection 5.7.8)
9. Information to be Communicated (SAR subsection 5.7.9)
10. Training (SAR subsection 5.7.10)
11. Safe Condition (SAR subsection 5.7.11)
12. Exercises (SAR subsection 5.7.12)
13. Hazardous Chemicals (SAR subsection 5.7.13)
14. Comments on the Plan (SAR subsection 5.7.14)
15. Offsite Assistance (SAR subsection 5.7.15)
16. Arrangements Made for Providing Information to the Public (SAR subsection 5.7.16)

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 a material issue of law or fact regarding the adequacy of DOE's mitigation analysis because challenges to DOE's regulations are outside of the scope of this proceeding, and because DOE has provided a "reasonably complete" discussion of possible mitigation measures for groundwater impacts in California.

24. CAL-NEPA-25 - Failure to Provide a Complete and Adequate Discussion of the Nature and Extent of the Repository's Cumulative Impacts from Groundwater Pumping

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS or the Repository SEIS, as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA and NRC regulations at 10 C.F.R. part 51, in that DOE failed to analyze the repository's cumulative environmental impacts from groundwater pumping.

RESPONSE

In this contention, California asserts that DOE "failed to analyze the repository's cumulative environmental impacts from groundwater pumping." Petition at 122.

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

California fails to address any of the mandatory requirements of §§ 51.109 and 2.326 in its contention or supporting expert affidavits. In particular, the affidavit of Mr. Jan Stepek

contains no analysis or other information demonstrating that these criteria have been met. Rather, Mr. Stepek's affidavit does nothing more than adopt Paragraph 5 of the contention and previously submitted comments without further explanation or analysis. Paragraph 5 of the contention specifically states that the Yucca Mountain FEIS and the Repository SEIS "are incomplete and inadequate … in that DOE failed to analyze the repository's cumulative environmental impacts from groundwater pumping." Petition at 122. This is contrary to California's burden under §§ 51.109 and 2.326 to demonstrate that this contention raises a significant environmental issue. Neither Paragraph 5 nor the adopted comments demonstrate that a "materially different result would be or would have been likely" if the contention were proven to be true. Nor do they "set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) [of § 2.326] have been satisfied." Further, Mr. Stepek provides no modeling results or evaluations, nor does he even state that he has performed such evaluations.

Accordingly, California has ignored the reqirements of §§ 51.109 and 2.326 and its 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

For the reasons discussed below, this contention does not raise an issue material to the findings NRC must make because an agency is not required to perform a "worst case" analysis or to consider "remote and speculative" possibilities.

In its NEPA documents, DOE analyzed potential environmental impacts with respect to the lower carbonate aquifer. On the basis of studies performed by DOE and Inyo County, California, based on the simple flow model, DOE determined that "Inyo County and DOE agree that the pathway simulated in the simple flow model is not a viable pathway for contaminants originating at the repository site as long as there is an upward gradient in the carbonate aquifer, which has been observed in boreholes in the Yucca Mountain vicinity." Repository SEIS, Vol. I at 3-34. DOE observed that:

> Data from the few wells that penetrate the lower carbonate aquifer indicate that it has an upward gradient; that is, on well penetration, water rises in the well to an elevation above the aquifer. This occurred at a deep well near Yucca Mountain where the water level, or potentiometric head, of the carbonate aquifer was about 20 meters (66 feet) higher than the water level in the overlying volcanic aquifer. It also occurred in a well drilled for the Nye County program about 19 kilometers (12 miles) south of the repository site where the water rose 8 meters (26 feet) higher than the water in the overlying volcanic aquifer. Several other wells near Yucca Mountain that extend as deep as the confining unit at the base of the lower volcanic aquifer show higher potentiometric levels in that unit than in the overlying volcanic aquifers. This might by another indication of an upward hydraulic gradient in the carbonate aquifer.

Repository SEIS, Vol. I at 3-44.

California's contention seeks to require DOE to consider a worst case scenario in which the upward gradient would be eliminated or reversed. An agency is not required, however, to perform a worst case analysis in order to satisfy NEPA's procedural requirements. *Robertson v.*

Methow Valley Citizens Council, 490 U.S. 332, 356 (1989). In eliminating the "worst case" requirement from its regulations, the Council on Environmental Quality (CEQ) pointed out that "one can always conjure up a worse 'worst case'" by adding more variables to a hypothetical event, 50 Fed. Reg. 32,234 (Aug. 8, 1985), and that "'worst case analysis' is an unproductive and ineffective method . . . one which can breed endless hypothesis and speculation," 51 Fed. Reg. 15,620 (Apr. 25, 1986). In *Methow Valley*, the Supreme Court held that the CEQ acted reasonably in eliminating the requirement that an agency conduct a worst-case analysis as part of a NEPA review and reversed a Court of Appeals' decision finding an EIS inadequate on the grounds that the agency had failed to conduct a worst case analysis. The Court noted that "CEQ regulations are entitled to substantial deference," and that the "worst case analysis" requirement had been abandoned for the well-considered reason that it had "distort[ed] the decision-making process by overemphasizing highly speculative harms." *Methow Valley*, 490 U.S. at 356; *Edwardsen v. U.S. Dep't of Interior*, 268 F.3d 781, 785 (9th Cir. 2001) ("[A]n EIS need not include a worst case analysis.").

This contention raises only an implausible hypothetical scenario in which pumping is allowed to occur at levels that would risk the reversal of the upward gradient. California alleges that *if* the upward gradient is eliminated under some uncertain level of future groundwater pumping, the gradient *might* no longer be a barrier to contaminants from the repository entering the lower carbonate aquifer. *See* Petition at 125. This allegation is based solely on the hypothetical and speculative possibility that: 1) the upward gradient *could be* reversed under some uncertain circumstance; 2) pumping would be allowed to occur at levels high enough to potentially contribute to such circumstance; and 3) if the upward gradient *were* reversed, it *might* no longer serve as a barrier to contaminants entering the lower carbonate aquifer.

California offers no evidence to demonstrate that these scenarios are any more than "remote and speculative possibilities," which DOE is not required to consider under NEPA. *Fla. Power & Light Co.* (Turkey Point Units 3 & 4), LBP-81-14, 13 NRC 677, 688 (1981); *Pub. Serv. Elec. & Gas Co.* (Hope Creek Generating Station), ALAB-518, 9 NRC 14, 17 (1979); *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 551 (1978); *Natural Res. Def. Council v. Morton*, 458 F.2d 827, 837-38 (D.C. Cir. 1972).

For these reasons, in addition to those addressed above, this contention should be rejected.

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), California 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 DOE adequately analyzed the potential impact of groundwater pumping.

V. CONCLUSION

DOE has no reason to believe that California is not in substantial and timely compliance with its LSN obligations at this time. However, it has failed to demonstrate legal standing and has failed to show it is entitled to discretionary intervention. Finally, it has proffered no admissible contentions. Therefore, its Petition should be denied.

Respectfully submitted,

<u>*Signed electronically by Donald J. Silverman*</u>

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

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the "**ANSWER OF THE U.S. DEPARTMENT OF ENERGY TO STATE OF CALIFORNIA'S PETITION FOR LEAVE TO INTERVENE IN THE HEARING**" have been served on the following persons this 16th day of January, 2009 by the Nuclear Regulatory Commission's Electronic Information Exchange.

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ATTACHMENT CAL-NEPA-15-1

U.S. DEPARTMENT OF ENERGY (D0E)

TRANSPORTATION EXTERNAL COORDINATION WORKING GROUP (TEC) MEETING

September 20-21, 2005 Pueblo, Colorado

Meeting Notes

Day 1 (September 20)

Optional Tour of the Transportation Technology Center, Inc. (TTCI)

In the morning, Ruben Peña, Manager of Business Development, TTCI, directed the tour of the site where 80 TEC participants visited the Rail Dynamics Laboratory, learned about its Emergency Response Training Center (ERTC) and observed the railcar designed and constructed by Private Fuel Storage, LLC (PFS) to carry shipments of spent nuclear fuel (SNF) to its temporary storage facility.

The TTC site is owned by the U.S. Department of Transportation (DOT), Federal Railroad Administration (FRA) and is operated and maintained by TTCI, a subsidiary of the Association of American Railroads (AAR). TTCI performs extensive technological research and development, as well as real-world testing. The 52 square mile facility offers an array of specialized testing facilities and tracks enabling testing of all types of freight and passenger rolling stock, vehicle and track components, and safety devices.

TEC Welcome and Meeting Overview

Introduction

Judith Holm, Director, DOE/RW, Operations Development Division, Office of National Transportation

Ms. Holm called the meeting to order and welcomed the participants. She reviewed the agenda and called special attention to the plenary sessions being held during the remainder of the day. Ms. Holm stated that the purpose of this meeting is for the participants to get immersed in rail. There will be opportunity for questions at the end of each presentation over the next two days.

Colorado Welcome

Jim Reed, Denver Office, National Conference of State Legislatures (NCSL)

Mr. James Reed, Transportation Program Director, offered a special welcome, speaking on behalf of the State of Colorado and the NCSL. Mr. Reed noted that NCSL had been a participant in TEC since its inception. NCSL is headquartered in Denver, Colorado and represents state legislators from all states in a variety of issues on energy, environment, and transportation. Mr. Reed noted sites of interest in the Pueblo area and stated that the state of Colorado has beautiful scenery and architecture. He also mentioned that Pueblo was voted as one of the best places to live in 1988 and hosts the annual Colorado state fair.

Program Update from OCRWM's Office of Transportation

Moderated by Judith Holm and presented by Gary Lanthrum, Director, DOE/RW Office of National Transportation (ONT)

Mr. Lanthrum provided an update of OCRWM's Office of National Transportation (ONT), followed by a more focused discussion of the DOE decision to use dedicated rail as the primary transportation mode for shipments to Yucca Mountain. Following Mr. Lanthrum's presentation, representatives from the AAR and FRA provided their perspectives on the decision.

Key Accomplishments — According to Mr. Lanthrum, recent accomplishments in the OCRWM transportation program include the following:

- On July 18, 2005 OCRWM's ONT announced its decision to use dedicated trains as the usual shipment mode.
- An Environmental Assessment (EA) was published as part of a Public Land Order submitted to the Department of the Interior through the Bureau of Land Management (BLM)

The benefits of the dedicated train service will enable OCRWM to better manage resources by avoiding lengthy "dwell times" in rail yards resulting in shorter transit time. In addition, there will be increased routing flexibility and operational control over shipments.

The Draft EA essentially extends part of the original land withdrawal and significantly reduces the right of way. The Draft EA on land withdrawal will provide BLM with documentation on mineral resources and socio-economic analyses; land use and ownership; public participation; and intergovernmental consultation.

Funding and Priorities — In regard to funding, Mr. Lanthrum noted that the development of the transportation system is directly linked to the development of the repository. The repository is currently going through the license process. ONT funding is tied to overall OCRWM funding and project status. In 2004, ONT funding was $64 million and in 2005 there was no increase in funding. No appropriations have been made for 2006.

The priorities for 2006 include:

- Focus on completing the Draft Nevada Rail Alignment EIS
- Initiate first steps in acquisition of casks

- Continue to work with State Regional Groups (SRGs) and Tribes
- Coordinate with key stakeholders through TEC regarding route selection criteria, 180(c) development and security planning
- Update OCRWM section of Radioactive Material Transportation Practices Manual
- Conduct trade studies
- Differentiate between requirements and expectations

Cask and Rolling Stock Acquisition — ONT has a preference for cask systems that provide the maximum flexibility in terms of facility and fuel compatibility. DOE has been looking at cask size and how it affects system operation performance. Multiple cask procurements will be undertaken to accommodate differing inventories of waste, and differing facility capabilities.

For rolling stock acquisition, little has changed since the last TEC meeting. DOE has not yet made a decision either to procure a fleet of locomotives or to utilize locomotives supplied by the railroads. Prototypes will most likely be out in about five years.

Nevada Rail Development — DOE is in the process of completing technical data collection along the corridor. The technical data includes hydrological, geological, photogammetry and terrain information. All of this data is being used to assess alignment options. The Draft Rail Alignment EIS should be issued in 2006 with the final EIS to be issued in 2007.

Institutional/Operational Activities — Mr. Lanthrum identified key Institutional activities underway or planned. They include the following:

- Develop and issue Section 180(c) Policy
- Work with SRGs to develop regional suite of routes
- Meet with individual Tribes to establish a consultation and coordination mechanism on topics like Section 180(c) and routing
- Update Radioactive Materials Transportation Practices Manual (DOE M 460.2-1)
- Develop information materials for use in exhibits, tours and by various organizations

He noted that the new OCRWM transportation brochure was available at the registration table.

Key Operations activities include the following:

- Develop the Classification Guide for Secure Transportation of Nuclear Waste
- International transportation sabotage studies
- Transportation logistics/routing models
- Operational and systems studies

Mr. Lanthrum concluded his presentation by stating that despite budgetary setbacks, ONT still continues to make significant progress, and infrastructure acquisition plans are moving forward.

<u>Questions and Comments from the Audience</u>

A member of the audience asked if data being collected along the Caliente Corridor would be available to the public. Mr. Lanthrum said that, at some point, the information will be released but the reports are not final yet. He will look into portions of the information being released. A question was asked as to why there is still a two-percent grade restrainment. Mr. Lanthrum said that DOE prefers to keep a two-percent grade but that could be overcome if needed. Other

considerations are slower speeds, operations, and size of train. Another audience member noted that incremental funding is not consistent everywhere, and the comment was noted. A member asked if there was a formal decision and/or documentation for deciding to go with dedicated trains. Mr. Lanthrum said that although the decision was not published in the Federal Register, there was an official press release that was issued by DOE and sent out to the SRGs.

Perspective of the American Association of Railroads (AAR)

Bob Fronczak, AAR

Mr. Fronczak stated that AAR was delighted with DOE's decision to use dedicated trains. He pointed out that DOE focused on three areas in making this decision. These areas were safety, security and cost. In the area of security, using dedicated trains will provide better visibility, as the trains will be shorter. The dwell time in rail yards will be less, and experienced rail personnel will be a part of this process, minimizing injury.

Questions and Comments from the Audience

An audience member asked Mr. Fronczak to clarify what, in AAR's view, are dedicated trains, and what are the implications of routing?

- Mr. Fronczak stated that a dedicated train is a train that goes from a point of origin to a destination and back again, carrying the same commodity each time. An example of this would be a coal train. Dedicated trains do not necessarily include locomotives because there is a need to give an electric signal to the brakes, and that cannot be done unless they have Electronically Controlled Pneumatic (ECP) brakes. For dedicated trains, there is no routing and no escorts through a classification yard. Cask cars are very heavy, and that has an effect on the train's dynamics.

Perspective of the Federal Railroad Administration (FRA)

Kevin Blackwell, FRA

Kevin Blackwell provided discussed FRA's *Dedicated Train Study* (DTS). The DTS is expected to be provided in a Report to Congress shortly. Mr. Blackwell provided the timeline for finalizing the DTS Report to Congress, which is as follows:

- November 1, 2004 — FRA initially submitted the draft final *DTS Report to Congress* to the DOT Office of the Secretary (OST) for review and clearance.
- December 2004 — FRA received questions and comments from DOT OST and addressed them to the extent possible to facilitate the DOT OST clearance process.
- February 2005—FRA resubmitted the *DTS Report to Congress* back to DOT OST for clearance.
- June 2005 — the *DTS Report to Congress* was cleared by the Office of Management and Budget (OMB).

The *DTS Report to Congress* is currently with the DOT Secretary's staff waiting for clearance to deliver the report to Congress. When delivered to Congress, the study will be publicly available. FRA checks with OST on a weekly basis as to its status.

At this time, FRA does not have any formal position on the use of dedicated trains for the transportation of spent nuclear fuel or high level radioactive waste. FRA is cognizant of the fact that rail movements of this material have occurred over the past 40+ years in regular train service, and these movements have been done safely and securely. However, FRA also recognizes that there are operational efficiencies in the rail operating environment to be gained in using dedicated trains. These include: rail transit times, train dynamics, and the ability to further reduce the already low risk of radiation exposure to railroad personnel and the general public in incident free transportation, as well as in the event of an accident.

Questions and Comments from the Audience

An audience member asked how FRA is going about ramping up responsibilities, and what are some concrete things being done to prepare for when DOE is ready to ship. Mr. Blackwell said that FRA is looking into increasing resources to make sure it can implement its responsibilities. FRA will inspect trucks as the shipments ramp up. FRA would like more state involvement and participation, but that is voluntary. He noted that the inspection program has grown stagnant in the last five to eight years. A question was raised as to whether FRA plans to ask for a budget increase. Mr. Blackwell said that FRA asks for a budget increase every year. He said that two years ago FRA asked for 50 new inspectors and ended up with funding for six new inspectors.

Program Update from EM/Office of Transportation

Moderated by Judith Holm, OCRWM/ONT

EM Transportation Overview

Ella McNeil, EM Office of Transportation

Ms. McNeil provided an update on the continuing efforts for cleanup and waste disposition by the Office of Environmental Management (EM) and transportation activities. She said that the disposition of “orphan” or special waste streams is one of the remaining obstacles to site cleanup across the DOE Complex. DOE is working with sites to develop comprehensive lists of orphan streams and to identify the needed treatment and disposal options, including identification of disposal facilities. An accelerated cleanup schedule is dependent on the ability to ship and dispose of the waste safely.

The current DOE/EM Waste Management Policy is as follows:

- Low-level radioactive waste (LLW) and mixed low-level waste (MLLW) are disposed of at the generation site, if that is practical. If onsite disposal is not available, waste is disposed at another DOE facility. Commercial facilities can also be utilized for disposal if compliant, cost effective, and in the best interest of DOE.

- Transuranic (TRU) waste is handled in two ways. Defense-generated waste is disposed at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, NM. Non-defense waste is placed in safe storage awaiting future disposition.

- High-level radioactive waste (HLW) and SNF is stabilized, if necessary, and placed in safe storage until a geologic repository is available.

FY 2005 accomplishments include the following:

- Increased volumes disposed with reduction in transportation incident rate
- Vast majority of stored legacy waste worked off
- Rocky Flats TRU and MLLW shipments completed
- Mound TRU shipments to Savannah River completed
- Large quantities of "orphan wastes" were resolved at closure sites
- Commercial receiver sites identified for Fernald Silo residues

Through July 2005, approximately 18,000 shipments were made with 15 incidents – this is compared with 23 incidents in FY 2004. A management review of incidents will be held in October. No major incidents have yet been reported in FY 2005. Savannah River, Rocky Flats, Brookhaven, Idaho, Portsmouth, Mound, Oak Ridge, and Ohio sites all reported incidents in 2005, ranging from drums shifting during transport to the side-swiping of a Fernald Silo 3 shipment. No contamination or release of materials from their packages resulted from these incidents.

Ms. McNeil cited some site-specific shipping details as follows:

- Rocky Flats: All buildings and structures have been removed. There will be 10 shipments in FY 2006. About 50 truck shipments and 150 railcars remain to be moved.

- Fernald Silo 3: Shipments should be complete by the end of CY 2005 (175 to 200 shipments total).

- Fernald Silo 1 and 2: Shipments will continue into CY 2006; 245 shipments completed (2,000 to 2,200 total shipments expected).

- Oak Ridge: Completed shipment of 4,396 cylinders of DUF6 (2,520 in FY 2005); 5,951 cylinders total. A haul road is scheduled for completion in February 2006. This will significantly reduce commercial shipments.

- Richland: Weekly shipments to Pacific EcoSolutions number between two and three. A decision on special nuclear material is pending.

- West Valley: Currently shipping LLW to Envirocare and Nevada Test Site (NTS).

- Savannah River: Shipments include LLW and MLLW to Envirocare and NTS, TRU to WIPP, and neptunium to INL.

- Brookhaven: LLW shipments to Envirocare will resume in 2007. Two Type B shipments were recently completed to Los Alamos National Laboratory.

- Mound: Closure is on track for 2006; TRU shipments to Savannah River completed; shipments to Envirocare and Nevada Test Site (NTS) continue.

- Columbus: Waste shipments will continue into FY 2006. A Supplement Analysis for TRU transport has been prepared (comment period closes October 11, 2005).

- Paducah/Portsmouth: Paducah has resumed shipping to NTS, Envirocare shipments continue. Portsmouth shipments to NTS continue as well.

In addition, more than 3,900 truck shipments of TRU waste from eight sites have been transported to WIPP. Eleven small quantity sites have been completed. Mound rail shipments of TRU waste were completed in August. Idaho National Laboratory (INL) is making about 11 shipments per week. NTS is expected to complete TRU shipments by the end of CY 2005. Savannah River, Hanford, and Los Alamos continue to make TRU shipments. Issuance of a Request for Proposal (RFP) for WIPP transportation services is expected in September 2005.

DOE sites have been donating liftliners, liftliner fixtures, loading frames, and light generator equipment to the Army Corps of Engineers in New Orleans, to support hurricane relief efforts.

There were no questions or comments from the audience.

Rail Best Practices Review

Eric Huang, EM Office of Transportation

DOE conducted a review May 18-19, 2005 in Oak Ridge, TN. The review focused on loading and securing of packages. Participants included EM generator and shipping sites, as well as receiver sites, suppliers, and rail carriers. Rail shipment incidents that led to the review included:

- Brookhaven shipment to Envirocare – railcars arrived with water (melted snow) leaking (March 2005)

- Portsmouth shipment to Envirocare – metal debris gondola car arrived with portion of burrito bag open (May 2005)

- Mound shipment to Envirocare – Utah NOV for railcar not in a strong tight condition due to breach of railcar liner (May 2005)

Activities during the review included an observation tour at East Tennessee Technology Park (ETTP), sessions where experiences and lessons learned were shared, and a brainstorming session of best practices for safe and compliant rail shipment.

- Fernald Best Practices: Key components included training and retraining of all personnel and taking advantage of unit train to optimize rail shipping schedule. Lessons learned included diligence, inspections, and contact with railroads and disposal sites.

- Brookhaven Best Practices: Loading best practices outlined were patch hole, use geotextile liners and super load wrappers, use double-wrapper for debris and soil around debris to avoid puncture, us absorbent inside package, use covers on all railcars, complete loading of railcar in one day, and DOE review of all waste management and railcar shipment checklists prior to shipment.

- Rocky Flats Best Practices: Loading best practices identified were to install geotextile liners on bottom of car and top of waste and to install tarp and bow system.

- Savannah River Best Practices: Loading best practices include use of polypropylene-coated fabric wrapper, use liner as shipping package, use 66-ft (110-ton) gondola cars, placement of four drums on pallet and band to pallet with four metal bands, use gondolas with hard tops, and use 85-gallon overpacks as the package.

- Oak Ridge Best Practices: Loading best practices included use multiple barriers in packaging with absorbent to solidify liquid from potential release point, use double layers of super load wrappers, use straps outside the wrappers to secure boxes and wooden bracing at the end of railcars, cover railcar with tarp, and make sure QA/QC engineer oversees work and verifies compliance.

The review identified top best practices during the planning phase, the pre-loading phase, the loading phase, and the post-loading phase.

Planning:
- Define scope of work and include railcar specifications and other requirements in the subcontract with railcar suppliers.
- Perform thorough options analyses.
- Use dedicated fleets with hard covers.
- Define training needs and ensure program is in place.
- Utilize lessons learned from others.

Pre-Loading:
- Conduct thorough inspection.
- Compile all relevant documents and procedures.

Loading:
- Define critical activities and perform multiple-step inspections.
- Layer load/material/waste to avoid puncture of liner.
- Prevent rain/snow from infiltrating railcars during loading and transit.
- Do prep work before entering contaminated area.

Post-Loading:
- Inspect! Inspect! Inspect!
- Photograph outside of railcars and photograph shipment before and after package closure.

Questions and Comments from the Audience

Mr. Huang was asked how shipments with burrito bags are unloaded. He responded that Envirocare uses a tipping mechanism and that the liners are all one-time use equipment.

Another audience member asked how involved the States were in the review. Mr. Huang answered that in the future DOE will try to expand the type of people involved in such reviews.

DOE Practices Manual

Ella McNeil, EM Office of Transportation

Ms. McNeil provided an overview of plans to revise DOE M 460.2-1, *Radioactive Material Transportation Practices Manual*."

On August 3, 2005, EM held a kick-off meeting for the revision of the *Transportation Practices Manual*. An internal writing team has been assembled that is led by EM and includes representatives from the DOE Field Offices, Naval Reactors, National Nuclear Security Administration (NNSA), and OCRWM. The second conference call was held on September 8, 2005.

Ms. McNeil shared the proposed timeline for revision of the Manual. The new draft is scheduled for completion by January 2006; informal review by DOE will begin in February; and the draft revision will be provided to the SRGs for comment in April 2006. The projected timeframe for submittal of the Manual into the formal DOE Directives system is September 2006, with manual re-issuance anticipated in December 2006.

EM has been receiving questions as to why there will be no Protocol Topic Group for revision of the Manual. Work will parallel that of existing Topic Groups (rail, security, training), and those groups will feed input into the revision process. DOE wants to focus the energy and resources of TEC members on the resolution of new issues and another topic group could dilute participation in existing groups. TEC and the SRGs will be involved in revision through the comment process. This is the same process used for development of the Modular Emergency Response Radiological Transportation Training (MERRTT). The comment resolution matrix will once again be employed for the revised Manual.

Ms. McNeil also announced that the EM Office of Transportation website is being revised, and the Best Practices will be part of that site.

<u>Questions and Comments from the Audience</u>

One audience member expressed disappointment in the perceived lack of outside review. A letter was sent to DOE three weeks ago by three of the SRGs requesting the Protocol Topic Group be revived during the revision process. The Protocols are seen by some as one of DOE's most useful TEC-produced documents. Ms. McNeil responded that OCRWM and EM collectively decided (on the September 8th call) not to revive the Protocols group.

Another member of the audience said that there is not much interaction/review time if there are major changes to the Manual. Alex Thrower responded that OCRWM needs to review the questions in the letter from the SRGs and get back to them. He added that the Security Practices section of the Manual was written before '9/11' and will probably need a complete rewrite.

On other matters, the attendees said that oversight is needed to prevent the situation last year with Paducah from recurring. Ms. McNeil said that new EM management is coming up to speed to ensure shipment safety and is having biweekly telecoms.

Flagstaff Commodity Flow Survey

Bill Spurgeon, EM Office of Transportation

On August 10-11, 2005, EM conducted a 24-hour commodity flow survey focusing on hazardous material shipments in Flagstaff, AZ. Participants included the Arizona Department of Transportation, the Flagstaff Fire Department, and DOE staff. Survey participants examined truck shipping manifests at a Flagstaff rest area. A report should be available in the next couple of weeks. The placard identification count revealed no Number 7 (radioactive) placards. A disparity was noted in the weight and number of shipments, which consisted primarily of bulk cargo, liquid by weight. By count, gasoline shipments were numerous; by Emergency Response Guidebook numbers, flammable liquids. In the future, origin and destination information will be included.

Questions and Comments from the Audience

When asked if railroad information such as the truck survey information is available, Mr. Spurgeon answered "Yes, it could be obtained." One audience member asked if other sections of the country would be covered, and Mr. Spurgeon said that Oklahoma, Arizona, and Wyoming have responded that they would be interested in participating in future studies. A member of the Western Interstate Energy Board (WIEB) expressed surprise that DOE would offer a service that should be a DOT activity. Mr. Spurgeon replied that the survey was a public service and part of TRANSCAER outreach. Another audience member said that the survey might send a subliminal message like "What are you worried about our shipments for – look at this other stuff." Still another member asked about the future of the program and questioned why no radioactive shipments showed up in the survey. Mr. Spurgeon replied that it was a real-time survey and the Department staff who conducted it was "letting the chips fall where they may" and that DOE has a vested interest in seeing how the Department's shipments fall into the overall scheme of things.

Day 2 – Plenary Sessions (September 21)

Plenary I– Rail Testing and Technology

Moderated by Gary Lanthrum, OCRWM/ONT

OCRWM/ONT Rolling Stock

Gary Lanthrum, OCRWM/ONT

Mr. Lanthrum discussed rolling stock design and acquisition, interface with railroads and utilities, and cask procurement.

OCRWM rolling stock development strategies are based on AAR Standard 2043 and operating standards compliance. No buffer car/escort requirements have yet been established. OCRWM is working toward approval to develop conceptual design work for a single car design based on the best of existing technology. In the past, security cars were converted cabooses, which proved to

be very uncomfortable for the escort staff. A new escort car design will be developed. A unique train will be designed to afford the ultimate in safety, security, and performance for DOE shipments to Yucca Mountain.

Rolling Stock Strategy — DOE has been meeting with rail car manufacturers and will need a fleet of about 140 cars to meet its spent fuel transportation needs. Feedback includes a statement that AAR S-2043 requires trains be tested as a whole and all cars should subsequently come from the same vendor. There is a 6-year window for getting to the actual construction of railcars.

Performance Requirements Evaluation — ONT has engaged the Transportation Technology Center, Inc., (TTCI) to provide preliminary evaluation of several standard and premium railcar truck designs. Both long and short cars are being considered.

Custom Cask Car Development — DOE will be buying U.S. Nuclear Regulatory Commission (NRC)-certified casks and would like to have a single cask car design. A skid that would minimize handling is also desired. DOE does not yet have the appropriation necessary for acquisition of railcars.

Custom Buffer Car Development — The purpose of a buffer car is to provide spacing between cask cars and escort cars. DOE wants to minimize exposure to crew members (one reason for deciding to use dedicated trains for the shipments). Buffer cars are flat cars with an option to carry a standard 20-foot container. They also carry spare parts and cask support equipment and may require additional weight or ballast.

Custom Escort Car Development — Ride quality differs in passenger car designs by different manufacturers. DOE is looking at passenger car experience and will add security requirements to the design of the escort car. The car is expected to be a bi-level design that provides operations and communications workspace, living and storage space, bunk rooms, bathrooms and a shower, kitchen and dining area, and a common lounge area. Systems for the car will include air conditioning, potable water and wastewater, storage, diesel generator, and electrical and lighting equipment.

Standard Locomotive — On-line real-time monitoring and braking systems will be important in the locomotive design. Each spent fuel train will use two locomotive units (expected to be 4,000 horsepower each) with electronically controlled pneumatic brake systems. A buy/lease analysis is planned by OCRWM.

ONT's Rolling Stock Acquisition Plan — ONT continues to develop a two-part procurement: conceptual design and final design, prototype and fabrication from a single vendor lead team. The plan is to purchase 120 cask cars, 60 buffer cars, and 30 escort cars. Production will be tied to repository waste throughput.

Interface with Utilities — DOE is experiencing an awkward interface with the utilities due to the numerous lawsuits against DOE. ONT plans to match rolling stock and casks with utility needs and capabilities, and plans to discuss preferences for shipping cask options with the utilities.

Cask and Rolling Stock Interface — Cask-to-cradle-to-car designs must be integrated. Efforts are underway to standardize the interface between the transfer skid and the cask cars.

Transportation Cask Acquisition — Thirty-percent of the material to be shipped can be covered by existing casks. DOE will be developing a conceptual design in the next year or so. Dual-purpose (storage and transport) casks do exist that meet requirements of 10 Code of Federal Regulations (CFR) Part 71 and Part 63 requirements.

Summary – Mr. Lanthrum wrapped up by saying that DOE does not have the rolling stock to meet S-2043 standards, but there is time to procure that stock if the money is available.

Questions and Comments from the Audience

A member of the audience asked if the information from the utilities would be shared with the States. Mr. Lanthrum replied that some of the information could be proprietary. Another member said that most accidents are related to human factors and railbed conditions and asked what DOE is doing to make sure railbeds are safe. Mr. Lanthrum answered that the FRA is responsible for inspecting railbeds and an FRA representative said that FRA and the railroads share the responsibility. FRA will work with the railroad to inspect the tracks. He stated that DOE would own the track from Caliente to the repository at Yucca Mountain. He was then asked if track is ready now; and replied that spent fuel is being shipped now. On another note, Mr. Lanthrum made a clarification that electro-pneumatic brakes also provide part of the communication function for a train. Someone then asked if the casks would be capable of transporting canistered and bare fuel, to which DOE staff responded that DOE would have casks with both capabilities. Mr. Lanthrum said that the capability exists for canisterized fuel, but it is not currently part of the contract. Another individual asked how DOE is going to handle the fuel from Utah. Mr. Lanthrum responded that the Utah fuel is not part of the plan yet. The last question posed by the audience was if escort car and communications equipment would be interoperable with emergency responders. Mr. Lanthrum said yes, but there will be a security aspect that will not be interoperable.

Testing at the Transportation Technology Center, Inc. (TTCI)

Rubin Peña, TTCI

Mr. Peña provided an overview of testing activities at TTCI. TTCI is owned by AAR and has DOT/FRA for a landlord. The Center's core competencies are driven by the railroads and include safety, reliability, efficiency, and independent assessment. Basic capabilities include research, development and testing; rail security; emergency response training; and technology development. The facility features 48 miles of dedicated track and has the largest crash wall in the United States. The Center is looking into building a passenger car training facility and aboveground tunnel to test transit and freight vehicles. TTCI conducts tests to the worst-case scenario.

Railcar Safety Criteria — The goals of railcar safety standards are to provide an unbiased and consistent method to evaluate proposed designs, publish evaluation regimes and success criteria, shorten the time needed to introduce new products, and to improve fleet efficiency and reliability. These criteria are used in derailment studies, product development, and to focus on past problem areas. Freight railroad standards are established by the Equipment Engineering Committee, through which certification must be obtained.

Freight car safety standards now in effect include:

- Chapter XI, which covers vehicle dynamics and derailment and theoretical analyses and tests;
- M965 that applies to 100 ton trucks only;
- S286/M976 for cars that weigh between 268,000 and 286,000 pounds;
- Chapter VII for intermodal cars; and
- S-2043, safety performance specifications for trains carrying high-level radioactive waste (HLW).

M976 and S-2043 standard requirements are similar. S-2043 is more comprehensive than Chapter XI. All criteria are based on extensive test analyses.

S-2043 became effective in 2000 and requires three types of cars used in a train carrying HLW: locomotives, buffer cars, and cask cars. It also requires the use of electronically controlled pneumatic brakes, onboard monitoring of every car, crew onboard a dedicated train and a buffer car between the waste and people.

Once individual cars have been tested to standards, multi-car, unit train testing will be required.

There were no comments or questions from the audience.

Plenary II – Rail Operations and Safety Standards

Moderated by Jay Jones, OCRWM/ONT

Safety and Operational Standards

Bob Fronczak, Association of American Railroads (AAR)

Mr. Fronczak stressed the importance of railroad safety and informed the audience that AAR safety briefings are conducted prior to the beginning of all meetings. He cited dramatically improved safety conditions for railroads which compare favorably with other industries since the benchmark year was established in 1980. The year of 1980 was established as the benchmark because of the passage of the Staggers Act which deregulated the railroad industry. Mr. Fronczak detailed areas of improvement, including grade crossings, train accidents, trespass fatalities, mainline train collisions, etc. He stated that human factors account for 48-percent of all railroad related accidents. The current trend indicates a flattening instead of continued improvement, and this has the industry concerned. Increased awareness and continuing safety training regimen are being given serious consideration within the industry. A railroad employee is currently in a safer working environment than a hotel, farm, or airline worker. He asserted that North American railroad working conditions compare favorably with railroad working environments in other countries.

Statistics were provided to the group indicating HazMat accidents have decreased significantly (90-percent since 1980), with only one percent of train accidents involving the release of a HazMat material. Improved technology and rolling stock equipment (redesigned rail axel and trucks, acoustic bearing wayside detectors, head shields and shelf couplers, thermal insulation on tank cars and thicker skid plates on the bottom of tank cars to protect valves) have greatly contributed to the worker and the general public's safety within the industry.

Mr. Fronczak informed the group that in the past the AAR has assisted in the safety training of over 20,000 emergency first responders. AAR coordinates this activity with the carriers in providing HazMat and safety information and training. Safety training and guidance encompasses: Crew Resource Management, the operation of Remote-Controlled Locomotives, locomotive simulator and interactive video training, continuing participation in Operation Lifesaver in conjunction with the rail carriers and various community stakeholders, and grade crossing improvements.

Since 1980, AAR has provided $232 billion to upgrade existing track grade crossings and laid 5.7 million tons of new quarter-mile rail.

Questions and Comments from the Audience

A DOE member of the audience inquired about the general financial condition of the rail carrier industry. Mr. Fronczak responded that the carriers are doing well since they recently have added fuel surcharges to their general contracts allowing for continuing fluctuations in diesel fuel prices. Union Pacific railroad is the single largest diesel fuel user in the USA.

Another questioner requested information on the miles of new rail track laid in 2005. Again, Union Pacific responded that 850 miles of replacement track were laid on their system in 2005.

Train Operators' View of Rail Operations and Safety

Scott Palmer, Brotherhood of Locomotive Engineers and Trainmen

Mr. Palmer's opening statement declared that the rail industry and its workers and the nuclear industry do not understand each other.

As background information to the audience, new hire training for Burlington Northern Santa Fe (BNSF) railroad incorporates a 15-week training program. When employees finish the training, pending an open-book examination on the railroad's operating rules and safety; employees are qualified to work as brakemen and switchmen. After 2-4 years of operating experience, they can qualify to enter the Locomotive Training Program. This training comprises 5 months of study involving the Book of Rules, simulator training, and territory qualifying real-time runs. Engineers are re-certified every three years, including vision and hearing tests and a background Department of Motor Vehicle (DMV) search for Driving Under the Influence (DUI) violations. Employees must attain a 90-percent test score with an instructor's test ride to remain a carrier qualified engineer.

SNF trains pose a unique problem to the train crews. Municipal or local first responders receive mandatory HazMat basic training to prepare them to help reduce exposure and provide dose rate background information. Train crews do not understand what the risks and the anti-contamination procedures are with SNF shipments. There are no recognized preferred rail routes. Issues remain as to who will receive HazMat training along the rail route, and who is called in cases involving an SNF train accident?

Health and Safety Concerns – Mr. Palmer stated that there are currently no Radiation Protection Training Programs in place within the rail industry and no training sessions are scheduled to be conducted in the foreseeable future. At issue is which Federal agency will make that recommendation, and which agency will enforce those regulations. Mr. Palmer remarked that

train crews will have a potential for higher dosage risk than the general public in exposure regarding SNF shipments. He suggested that dosimetry equipment be provided to monitor train crew members' health.

The current locomotive cab safety environment does not include air conditioning, does not protect crew members from small gunfire via bullet-proof windows, or provide an air-tight environment (smoke or air contaminates). Communication problems will have to be resolved prior to the SNF shipments. Cellular coverage is poor or non-existent over many isolated rail corridors. The Security Escort Force and the train crew will need to maintain constant contact while en route. New communication equipment will have to be implemented in the locomotive cab and rail Operations Centers prior to the start of SNF shipments. The ever-present Rail Fan will track and report (via the internet) all SNF train movements. Rail communication transmissions will be intercepted and reported by fan members. The issue of operating rail safety was addressed as the technology and configuration of main-line rail switch and lock keys has not been altered in decades. These keys can be purchased by the general public at various rail fan venues making it relatively easy to stop trains by throwing the main-line switches. Once a train has been stopped, it is difficult to protect the train from trespassers.

There were no questions or comments from the audience.

Operations and Short Line Railroads – Interchange and Other Issues

Keith Borman, the American Short Line and Regional Railroad Association (ASLRRA)

Mr. Borman provided the TEC group with the following background information: Short Lines are normally the originating carrier in the movement of rail shipments. Short Lines began as corporate or industry-owned railroads prior to the enactment of the Staggers Act in 1980. After 1980, some branch lines operated by the Class I carriers became "unprofitable" (by Class I standards) and, instead of being abandoned by those Class I railroads, the lines were either "sold" (substantially reduced price) or donated to a Short Line carrier.

Total Short Line trackage is 46,474 miles, which comprises one third of the available U.S. rail network. The average Short Line (545 railroads at Class II and III level) maintains 82 miles of rail track. The Short Line industry employs approximately 25,000 people and serves over 11,000 customers who employ another 1.2 million workers. Over 25-percent of all rail interchanges involve movements that involve the origination or delivery of Short Line shipments. Regarding HazMat shipments, the Short Lines handle over 50-percent of these movements.

The Short Lines do not have the financial "deep pockets" that the Class I carriers possess. Short Line industry capital expenditures were $300 million, and maintenance expenditures were $460 million in the previous year. But the Short Lines have to meet the same safety and track maintenance standards as the larger and more profitable Class I carriers. The average annual salary for a Short Line employee including benefits is $54,000. The Class II and III carriers are every bit as safe as their larger Class I cousins with 1 rail related worker fatality in 2004.

A growing concern within the Short Line industry is the looming "286K" (where the loaded gross maximum car weight is 286,000 lbs.) initiative in rail car handling. Some of the larger Regional railroads and Short Line carriers are currently in compliance with the track regulations, some Class II's and III's will require 286,000 lb. shipments to move at restricted speeds, and some of

the Short Lines will not be able to accommodate shipments whose combined gross car and commodity weight exceed 286,000 lbs (SNF shipments will exceed those weight parameters).

Funding Rail Infrastructure Upgrades — Short Lines contract with the Class I's to provide employee training and qualification for new hiring candidates. I.R.C. 45G SHORT LINE TAX CREDIT, this three year statute, states that the Short Lines can use 50-percent of their cost for Track Infrastructure upgrades as a tax credit. Mr. Borman suggested to the group that they promote the extension of this tax statute to keep the Short Lines solvent in the foreseeable future. State grants and Federal grants go to the highways, not the rail carriers. He requested that DOE look into providing Federal grants to the Short Lines as an investment in those carriers's future.

Questions and Comments from the Audience

A question was asked about the progress on the 286K initiative Mr. Borman reiterated that this is an ongoing and individual carrier effort and stated that the existing tax credit is assisting in the progress of Short Line's meeting the requirements to handle 286,000 lb. shipments.

Plenary III – Shipping Experience of Spent Fuel by Rail

Moderated by Kevin Blackwell, FRA

Progress Energy's Shipping Experience in North and South Carolina

Steve Edwards, Progress Energy

Mr. Edwards' presentation was based on the experiences of Progress Energy with SNF transportation in and throughout the States of North and South Carolina. His focus was on the success factors related to Progress Energy's effective and secure SNF shipment record. During his introduction, Mr. Edwards noted the importance of public information management as an essential part of their shipment strategy.

Progress Energy has managed almost 200 shipments without measurable radiological exposures to train workers or members of the general public. Mr. Edwards attributed this success to: robust package design; nuclear safety focus; identified accountabilities; and quality maintenance. Progress Energy uses the same people to run the transportation program as those who work at its reactors. All shipping and cask related activities are conducted by Progress Energy. There are established clear roles and responsibilities and dedicated crews for all SNF activities. Most security aspects of SNF shipments cannot be discussed; however, Progress Energy believes that dedicated trains are necessary for security and safety. Mr. Edwards noted that express shipment information is held "close to the vest," until just in advance of shipment. Continuous remote monitoring of all shipments is expressly controlled by Progress Energy, rather than through organizations. Detailed procedures have been developed and are followed by all Progress Energy personnel associated with loading, unloading, shipment preparations, security, all equipment use, and routine and emergency transportation.

Progress Energy has a well defined shipment organization which includes escorts who accompany all shipments and possess knowledge and experience with radiological and mechanical aspects of the system. Three methods of communications are employed for all

shipments: GPS; radio; and phone. In addition, there are plant locators and responders at each site who can be dispatched to any shipment should any irregularity occur. Response Managers are assigned to each shipment to respond to any questions the public or others may have. Progress Energy has scenarios against which all crews are trained, and who have available to them continuously recorded current radiological and all hazards information. Progress Energy has held meetings with local communities through which shipments travel, and adheres to advance notification requirements of NRC, the States, and counties.

In sum, Mr. Edwards said that he believes on the commercial side, there is a fair amount of experience in shipping SNF, and there are a number of lessons that can be provided by Progress Energy. Generally, Mr. Edwards noted that Progress Energy abides by the philosophy that with every shipment there is an opportunity to do something better than in any previous shipments.

There were no questions or comments from the audience.

A Perspective on DOE's Dedicated Train Decision

Joe Grumski, MHF Logistical Solutions

The focus of Mr. Grumski's presentation was on the DOE decision to shipment nuclear waste via dedicated trains. The premise is that dedicated trains have a positive impact on safety, security, economics, rail logistics, and scheduling. Key benefits include:

- Safety — Lower risk to public, operational personnel, and equipment
- Security — Ability to change routing, better observation, significantly less time in public sector
- Lower Packaging and Equipment Costs — Less railcars, casks, and operation personnel
- Contracting – More simplified

Mr. Grumski suggested that a life-cycle implementation program is needed for transportation equipment and packaging systems utilizing the dedicated trains. He said that quantitative numbers are needed to support the justification to implement the policy. There were no questions following his presentation.

There were no questions or comments from the audience.

Ohio Inspection Experiences

Brent Kiser, State Inspection Program, Public Utilities Commission of Ohio

Mr. Kiser discussed his Ohio inspection experiences. Ohio uses TRANSCOM to track shipments, including, for example, those from Portsmouth. The view of the Public Utilities Commission is that it will inspect all radiological shipments throughout Ohio. There are 14 rail shipment inspectors and 25 HazMat specialists employed by the State of Ohio. As a HazMat specialist, one can stop and inspect a vehicle on the road side. HazMat specialists are in marked cars. After inspection, the HazMat specialists will note violations on inspection reports and will assess civil penalties for violations—revenues obtained from citations are distributed in part to the general fund and in part to training for first responders, not to augment inspection activities. Once a citation is issued, a windshield sticker is issued that prevents shippers from continuing to

transport until the violation is corrected. Among the types of information reviewed by inspectors are: driver qualifications; hours of service; maintenance; security; new entrant safety audits; etc

Mr. Kiser recommended that, given the importance of training, 180(c) grants should stipulate standard training, such as provided at TTCI, for all State and local inspectors. All shipments with radioactive materials traversing the State are inspected by Ohio inspectors. Mr. Kiser stated that, most commonly, the weak link identified in shipments results from defects in carrier equipment. Mr. Kiser noted that some highway shipments might more efficiently be handled by rail, though he mentioned rail equipment defects have also been revealed through inspections. No matter which modality, Mr. Kiser said that inspectors can and do stop shipments, having found defects even on new transporters.

Mr. Kiser related various experiences in surveys and inspections throughout the State of Ohio, especially related to Portsmouth, Fernald, and Mound. Mr. Kiser complimented Fernald for its management of shipments where inspectors are allowed on site to perform inspections. Mr. Kiser said that radioactive material shipments are generally safer than petrol and other shipments. Mr. Kiser stressed that Ohio is interested in all HazMat and radioactive material shipments and that they will *all* be inspected. If necessary, inspectors will travel out of State to ensure that once a shipment enters and travels through Ohio, it is safe.

As an enforcement agency, inspectors from Ohio demand to see security plans. Ohio issues Commercial Vehicle Safety Alliance (CVSA) stickers so that other States can recognize that Level I inspections have been conducted. Mr. Kiser suggested that rail may want to adopt this practice.

Questions and Comments from the Audience

A TEC member asked how to encourage States to become more involved in inspections. Mr. Kiser said he could only address HazMat, and he finds that Federal, State, and local jurisdictions work well together in Ohio. Mr. Blackwell mentioned that due to funding cuts, there are limited activities, predominantly training, that can be supported by the Federal Rail Administration (FRA). In most cases, he said that Federal and State jurisdictions work well together. In hazardous materials, he noted there are only 25 FRA inspectors nationwide; in Ohio, there are only three inspectors that are trained to conduct FRA and hazardous materials shipments. Ohio is the second largest inspection regime behind California, which has the largest, in the United States.

A member asked for clarification whether the jurisdiction of FRA-certified inspectors was limited to areas within a State's lines. Mr. Blackwell deferred the specifics of the answer to Mr. Calhoun, who was not in attendance, and committed to reply at a later time. Mr. Kiser reiterated that Ohio inspectors will travel out of State when a shipment will be traversing Ohio, and they will issue citations as necessary.

Union Pacific Rail Transportation

Rodger Dolson, Union Pacific Railroad

Mr. Dolson introduced his presentation by providing a description of the Union Pacific Railroad and its current operating structure. He discussed the relevance of this structure to the role that Union Pacific (UP) will play in future shipments of SNF and HLW under the OCRWM program.

One significant point made by Mr. Dolson related to UP's steady and increasing demand for rail services, especially from El Paso to California, and to Mexico. As a result, UP has developed a velocity improvement strategy to free up train and track capacity. Mr. Dolson said this strategy was necessary because, among other factors, one mile per hour in speed frees up 5,000 rail cars, having a significant impact on UP resources. Other areas that UP is studying include a unified plan and the LEAN initiative to improve rail services. Also, UP has underway a capital improvement plan which is represented by the over $2.8 billion investment in 2005, by which UP is relaying and improving 850 miles of rail and 4.4 million ties. In addition, UP is making terminal and siding improvements throughout the nation and investing in other equipment and leases to improve UP capacity. Mr. Dolson noted that in making these improvements UP is sending a message to its customers that UP is positioning itself well to handle increased demand for services, including SNF and HLW shipments.

Mr. Dolson described UP's record for handling hazardous materials, of which 15-percent represents Class 7 materials. In general, UP has normal handling, with manifest service, for hazardous materials. UP employs specific protocols for handling hazardous materials and security plans. In Omaha, UP manages a Response Management Control Center (RMCC) which coordinates with the National Incident Management System (NIMS). As an example of routine UP operations, Mr. Dolson described its nationwide chemical transportation safety management structure. This structure includes managers and special agents throughout the UP system.

Mr. Dolson recommended that routing of SNF and HLW shipments to UP be conducted through Kansas City, and through Wyoming to Yucca Mountain. Rather than passing through Nebraska where 150 trains pass a day, or along high-volume Southern routes, UP prefers that dedicated train SNF and HLW shipments take a northern route. Mr. Dolson noted that UP recommends that these shipments not travel through Colorado via the Moffat Tunnel.

As a common carrier, UP supports the shipper's choice to employ dedicated trains, and Mr. Dolson expressed support for the safety and security factors affecting the decision to use dedicated trains for SNF and HLW shipments. In summary, Mr. Dolson stated that UP is a safe option for handling SNF and HLW shipments based on its success and experience.

There were no questions or comments from the audience.

Plenary IV – U.S. Department of Energy Rail Shipments

Moderated by Ella McNeil, EM/OT

FRR SNF Rail Shipment to Idaho

Mark Arenaz, DOE/ID

Mr. Arenaz provided some insight from the first shipment of foreign research reactor fuel (FRR) spent nuclear fuel (SNF) that originated in South Korea and was transported by ship to the Naval Weapons Station-Concord in California. The SNF was then shipped by dedicated train to the Idaho National Laboratory (INL) site. The shipment took place in 1998 and involved 3 NAC-LWT casks placed in ISO containers; 2 locomotives; 4 rail cars; and 2 cabooses. No additional FRR SNF rail shipments have been made from the west coast.

The Operational Plan was a key document in the success of this shipment. It identified roles and responsibilities for personnel, detailed instructions and timelines, and other important activities related to the transport of the SNF. A total of 69 meetings were held with corridor states: CA, UT, NV, and ID.

Lessons Learned — There was minimal impact from this shipment. Public awareness benefited from a public education trailer with dummy fuel rods and other information. Some difficulties were experienced with TRANSCOM reception. The shipment took about 34 hours. Areas of improvement included: more support of implementation of the Institutional Plan is needed from DOE HQ. It was unclear who had the decision-making lead (HQ or the Field). There were stakeholder misconceptions due to the title of the program and a redundancy related to notification timing.

Questions and Comments from the Audience

One audience member commented that if DOE had not gone the extra mile in CA regarding public contact there could have been some problems. Another commenter said that Yucca Mountain shipments will require DOE to do things they don't think they have to do. For the Concord shipment, DOE went beyond what was required. For example, Rick Fawcett brought the Pyramid Lake Paiute Tribe into the process. Yet another commenter said that the shipping campaign went well. If the planning and institutional training had not been done so well, the "snafus" could have proven fatal. Someone asked how redundancy in the monitoring of radiation can be avoided or reduced? Mr. Arenaz answered that trust plays a big role. Someone else mentioned the excellent cooperation between DOE and the States and locals. The Western Governors' Association (WGA) was involved from the beginning and that smoothed the waters for States in dealing with the Department. DOE did a good job in providing radiological impact data and conducting institutional relations activities, in a shipment involving National Security implications.

Fernald Closure Project Rail Status

Dave Lojek, DOE/Fernald

Fernald is located 18 miles northwest of Cincinnati, OH. It was a uranium foundry that ended operations in 1989 and was decommissioned as a Superfund site. Uranium and thorium are the major concerns. The first rail shipment took place in 1999 (54 railcars) following a 4-year planning process. To date, 158 unit trains have shipped, including over 8,000 railcars and a total of over 1 million tons of waste.

The Waste Pit Project (low-level waste, LLW) involved 100 million tons of soil-like waste in 6 waste pits that was sent to Envirocare for disposal.

The Silos Project is 80-percent complete. Truck shipments of thorium residue are now being bagged into Sealand containers and shipped to Envirocare.

Approximately 100,000 tones of soil materials remain to be shipped out by train; another year's worth of rail shipments to Envirocare. More than 2 billion ton miles of shipments (.75 million train miles) have been made without incident. The railcars are sealed with polyurethane lines. There are 250 railcars in service; DOE owned 190 of those. Hard fiberglass covers are placed on each railcar after the waste is packaged in 6-mil plastic baggies, loaded, and staked down.

An exemption has been filed with DOT to allow operations to ship Low Specific Activity (LSA-2) levels of contamination.

There were no questions or comments from the audience.

Fernald Closure Project – Rail Operations Overview

Jeff Rowe, Fluor Fernald, Inc.

Training is the key to safety. People are retrained every year. The shipments from Fernald use 110-ton gondola cars.

Lessons Learned from the shipments include:
- Diligence
- Inspections
- Contact with railroads (railroad notifications: 2 weeks, 48 hours, and 24-hour confirmation of shipments)
- Contact with disposal sites, advance notification

Inspection of railcars is very important for finding damage such as clamp failure and defective casting on bolsters. Rail inspections are key to identifying locations of heat kinks in the rails.

Questions and Comments from the Audience

Mr. Rowe was asked how standing water could be avoided in the liners. He replied that the lids/covers stay on the cars.

West Valley SNF Shipment

John Chamberlain, West Valley Nuclear Services Company

This shipment was successfully completed in 4 days (July 13-17, 2003). DOE selected the 2,300-mile-long-route for a dedicated train comprised of 2 locomotives, 2 cask cars, 3 buffer cars, and 1 passenger car. The waste was shipping in NRC-licensed shipping casks. Planning and conduct of the shipment were in accordance with the DOE Radioactive Material Transportation Practices Manual (460.2-1). DOE-owned commercial fuel (85 boiling water reactor assemblies and 40 pressurized water reactor assemblies) were shipped from West Valley in western New York State to Idaho. Stakeholder involvement included 2 Tribes, 11 States, 4 railroads, and 5 FRA regions.

The Transportation Plan included emergency preparedness; each of the four railroads provided an emergency plan. Train-the-trainer sessions were conducted for Tribes and States along the route. Communications, tracking, security, preshipment and enroute radiological inspections were all coordinated with corridor Tribes and States.

Due to security implications, no press releases were prepared. The media and the public learned of the shipment through local emergency responder preparations.

There were no significant negative results. The press was overwhelmingly neutral to positive about the shipments. Electronic information was key: three fact sheets were developed and distributed with route maps drawn by State.

The shipment was tracked by TRANSCOM (shipping, tracking and communications system).

There were no comments or questions from the audience on this presentation.

Topic Group Updates

Moderated by Judith Holm, OCRWM/ONT

180(c) Topic Group

Corinne Macaluso, OCRWM/ONT

Ms. Macaluso started with a brief history of the topic group. The work for this topic group began in July 2004, and the group has met on a monthly basis since that time. Membership includes various individuals and representatives from DOE's Office of National Transportation, State Regional Groups, Oneida Nation, Umatilla Tribe, International Association of Emergency Managers, Illinois Fire Chiefs' Association, National Association of Counties, and American College of Emergency Physicians. The purpose of this topic group is to provide stakeholder input into Department of Energy's (DOE) development of policy and procedures, grant application process and package, and pilot program (which has not yet begun).

The goals of this topic group include:

- Identifying and developing issues associated with Section 180(c) policy development
- Discussing each implementation issue, options and considerations
- Developing issue papers on specific implementation issues with recommendations to the Office of Civilian Radioactive Waste Management (OCRWM)

Issue papers were a tool to help the members capture conversations and frame opinions.

The outcome of these activities by the topic group helped identify twelve issues and as a result twelve issue papers were written to reflect these discussions. From these twelve issues, the topic group was able to reach consensus on nine issues.

The nine consensus issues include:

- Proposed policy statement
- Funding distribution
- Timing and eligibility
- Allowable activities
- Pass-through of funds
- Definition of public safety official to include hospital personnel
- Contingency routing
- Rulemaking
- Matching funds

There were three non-consensus issues concerning funding allocation, state fees and funding operational activities. DOE has not announced a position on these issues at this time.

Another outcome of the topic group's activities is the grant application package. Work continues on this outcome to further refine the program goals, merit review criteria and guidance documents for the grant application package.

The next steps for this topic group are to discuss the grant application package in more detail at the topic group working session on September 22, 2005. Draft Federal Register Notices are entering the DOE concurrence process with publication to be scheduled for December 2005. Until the Draft Federal Register Notices are published, the Section 180(c) topic Group will go on a hiatus and resume after the Federal Register Notices publication. The final Federal Register Notices are scheduled for publication in the fall of 2006. The pilot program is scheduled for 2007.

Question and Answer Session

A member asked if the 180(c) issue papers are available to the public at this point. Ms. Macaluso responded that there should be no reason why the issue papers could not be available for the public, but she would have to check to see where the issue papers could be posted.

Rail Topic Group

Jay Jones, OCRWM/ONT

Mr. Jones provided a brief summary of the topic group's activities from the last TEC meeting. Over the past year, the topic group has recommended and requested that the Office of National Transportation wait for the State Regional Groups (SRGs) to submit individual routing recommendations.

Other recommendations from the topic group include:

- Identify the need for Federal Railroad Administration (FRA) and the Association of American Railroads (AAR) to provide input into the process
- Determine the appropriate number for a suite of routes
- Integrate SRGs input on routing criteria

On August 30, 2005, Mr. Jones and various other representatives from OCRWM held a meeting \with the railroad industry to discuss the OCRWM rail routing process. The purpose of the meeting was to provide an overview of the OCRWM Program and transportation planning and define and discuss information needs to develop an effective routing process. The meeting was productive allowing discussion among participants on various routing issues. It is anticipated that there will be future meetings with DOE, SRGs and railroad companies.

Recently, the topic group has reached a consensus on four activities the topic group will be pursuing in greater detail. These four activities are: inspections (States and Tribes); escorts; tracking and radiation monitoring; and rail planning process, protocols, and guidance. Additional activities are being considered.

The next steps for the Rail Topic group are:

- Prioritize the order for addressing the activities
- Develop, revise and finalize the task plan for the Rail Topic Group
- Receive input from SRGs on their specific rail routing analysis exercise at upcoming fall meetings

Question and Answer Session

A member asked if barging will be included. Mr. Jones replied that the CSG/NE and SSEB SRGs are looking at that particular mode of transportation. It is still an option in the EIS, but ONT is not actively conducting any studies pertaining to barging.

A comment was made that the escort issue is not clear. There are operational components with the issue of escorts -- how are they addressed? Mr. Jones said that the issue of escorts will be deferred to the Security Topic Group.

A member commented that there could be an access issue since there are 24 reactor sites. Truck and barge may need to be used. The comment was noted. For sites that don't have rail route access, utilities will be able to specify the type of cask to be delivered to them.

A member asked for clarification on "suite of routes" versus "preferred routes." Mr. Jones replied that DOE is identifying a "suite of routes." The SRGs will identify their regional routes. A member suggested that the term "optimum routes" be used in place of "preferred routes."

Security Topic Group

Alex Thrower, OCRWM/ONT

Mr. Thrower has just recently been asked to lead this topic group. Previously, the topic group has concentrated on best practices. Now the topic group will begin to focus its attention on developing the process into a security plan.

With regard to information security, the topic group has identified several tasks:

- Assemble lessons learned from DOE nuclear waste shipments pertaining to protocols and procedures adopted on information sharing and graded information protection strategies. Include lessons learned from industry.
- Obtain experiences on training from State, Tribal and local representatives for handling sensitive information, especially on command and control.
- Develop a matrix identifying State, Tribal and local government authorities and human resources available for security consideration, jurisdictional interfaces, and roles.

With regard to operations security, the topic group has identified the following tasks:

- Examine security practices or railroad, truck and barge operators and determine how to apply them to Federal, State, Tribal or local nuclear waste shipping practices
- Document State, Tribal and local capabilities, human resources, laws, and roles and responsibilities on shipment security
- Evaluate Rail Topic Group recommendations related to Federal or State inspections and security of rail shipments, and identify inspector and security escort roles

- Review and comment on security "protocol" in DOE Practices Manual

There were no questions on this presentation.

Tribal Topic Group

Jay Jones, OCRWM/ONT

Mr. Jones presented the major priorities and activities of the Tribal Topic Group. The 2005 Tribal program priorities were:

- Initiate consultation with Native American Tribes along potential transportation corridors
- Work with Tribes, in addition to States and stakeholders, to develop the transportation system

Some of the Tribal topics to be included:
Approaches for engaging Tribes along potential transportation routes

- Distribution and allocation methods for providing technical assistance and funds for emergency response training
- Routing methodology and route identification

Several meetings and conference calls have been held with the Tribal Topic Group. In April 2005, a meeting was held that provided an overview of the transportation program. Financial and technical assistance implementation was discussed. OCRWM has distributed notification letters to 39 tribes that have reservations on or near potential routes to Yucca Mountain. On August 24, 2005 a teleconference was held to welcome new members to the Tribal Topic Group. The next teleconference will be in the fall of 2005.

Some of the Tribal Topic Group recommendation from the Spring 2005 TEC meeting included:

In the area of outreach:

- Inform Tribes before decisions are made
- Explore regional/national meetings for 39 Tribes
- Develop a Tribal outreach strategy
- Solicit greater participation of Tribes in the Topic Group

In the area of funding:

- Develop Assessment Plan for Tribal priorities for funding
- Create a simple application process
- Appoint Tribal representatives to application review board

The next steps for this topic group will be expanding DOE's interactions with Tribes along potential transportation routes. Some of the approaches that could be taken could include:

- Evaluate existing Federal working relationships with Tribes
- Hold discussions and/or meetings to explore Tribal government preferences of what and how they want to be involved
- Develop a national and build on the current Nevada approach to consultation processes and day-to-day working relationships
- Address Tribal governments' concerns

Question and Answer Session

A member asked how many responses have been received from the initial letter. Mr. Jones replied that not many responses have been received. As part of the follow-up to the letter, DOE re-faxed letters and called Tribes to confirm receipt.

A suggestion was made that DOE go in person to these Tribes and find out who the correct point of contact should be for the Tribe. Mr. Jones said that DOE is planning on more one-on-one consultations.

Summary, Action Items, Next TEC, Wrap Up

Judith Holm, OCRWM/ONT

Judith Holm concluded the meeting by announcing that the next TEC meeting would tentatively be scheduled for early March 2006 in the Washington, DC area. The meeting would have a Topic Group focus with only the Topic Groups meeting and there would be no plenary sessions. Judith announced that there were no action items since the Topic Groups were meeting the following day and would be working on their next steps forward as Topic Groups. Judith thanked the participants for coming and looked forward to seeing everyone at the next TEC meeting.

Summary of Evaluations

A total of 49 evaluation forms were received (38 percent of the participants). The overall rating for the September 2005 TEC meeting was "good." The majority of the agenda sessions were closely ranked between "Very Useful" to "Somewhat Useful." However, the overall rating of the Topic Group Updates was "Somewhat Useful," 22 percent rated them as "Not Useful." In response to the question on what they liked about the meeting, over 30 percent of the respondents liked the TTCI Tour and remarked that it was "Very Useful." Also, Scot Palmer's presentation about the Brotherhood of Railroad Engineers & Trainmen was mentioned as "interesting," "valuable," and "compelling" by several respondents. Overall, the group liked the emphasis on rail. In answer to what they disliked about the meeting, respondents commented several presentations were "dog and pony" shows that did not belong at TEC, presentations did not offer in-depth or new information, and the program reviews were redundant. Evaluations also mentioned that no action items were generated in 2 days.

Suggestions for emerging issues included Private Fuel Storage activities concerning DOE and States, communications between Federal, State, Tribal, and local responders to the communities through which spent nuclear fuel trains will pass through, the dispute between Utah and Yucca Mountain, timelines for waste deposits and project startup, scheduling and budgets, industry and public concerns, and routing and inspections.

The respondents suggested several areas for TEC to focus on next including specific technical information about the railroads regarding transportation safety and security for shipments, revision of the *Transportation Manual*, rail routing (i.e., having rail representatives participate in Q&A sessions); lessons learned from large scale disaster responses – how systems are being improved after significant rail accidents; hurricane Katrina; accident and security technology demonstrations; interaction with local governments, city councils, mayors, county

commissioners, emergency management technicians, police, etc.; make "working group" concept a priority again, clarify funding for States and Tribes, and more Tribal involvement.

Overall, the pre-meeting announcements, registrations and information worked well for the respondents. Suggestions for improvement were to have the agenda distributed earlier, post TEC activities and updates on the TEC website, and provide better communication regarding the topic group sessions. Although most respondents were generally satisfied with the location, and it was understood the venue was selected because of the TTCI tour, preference would be to locate meetings closer to a major airport, locate guest rooms within walking distance of the meeting rooms, and to have Government per diem for lodging.