UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In re:	**Docket No. 63-001**
U.S. DEPARTMENT OF ENERGY	**ASLBP Nos. 09-876-HLW-CAB01** **09-877-HLW-CAB02** **09-878-HLW-CAB03**
(High-Level Waste Repository)	

STATE OF CALIFORNIA'S REPLY TO ANSWER OF THE U.S. DEPARTMENT OF ENERGY AND NRC STAFF ANSWER

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I. INTRODUCTION

The Department of Energy (DOE) proposes to undertake, and the Nuclear Regulatory Commission (NRC) now considers whether to grant a license for, the Yucca Mountain Geologic Repository. This is an enterprise unprecedented in human history: a location and a system that purports to safely contain some of the deadliest materials ever created by humans for a span of time that the human mind cannot really grasp, and that may well exceed the life of the United States and all the institutions that are now struggling with the question of whether to create it.

DOE often says that Yucca Mountain is the most-studied piece of real estate on earth. Whether or not that is true, the transportation of nuclear waste to Yucca Mountain must be one of the *least*-studied major projects the federal government has ever proposed. "Representative routes" for rail transport that ignore information given by the actual railroads that would carry the waste take the place of reasoned, fully documented, reality-based rail route identification and analysis. Dangerous physical limitations in the existing roads that are the only reasonably foreseeable way to or from California's plants at Humboldt and Diablo Canyon, roads that were never designed for the heavy-haul trucks and massive casks DOE plans to put on them, are assumed to have capacity and capabilities they were never built to have. Local cities and counties are presumed to have the staff, the equipment, and the funding to deal with accidents merely because DOE will make available to them whatever training funds Congress sees fit to provide, with no analysis done by DOE as to whether these localities can, in reality, deal with accidents involving nuclear materials. Theoretical and national models, rather than the hard facts of ground truth, are used, with results of questionable accuracy, to predict environmental impacts. The full environmental disclosure requirements of the National Environmental Policy Act (NEPA) are turned on their head, as DOE consistently discloses only theoretical, generic

information, and proposes only vague, "national" mitigation for impacts that should be identified and analyzed on a route-specific and site-specific basis.

Similarly, groundwater impacts in California are minimized or ignored, their analysis postponed and their importance denigrated. California is a state where every source of water counts, and particularly drinking water. That the groundwater whose impacts are not adequately analyzed or disclosed connects to the sole source of drinking water for a major national park in California would strain credulity if it were not all too true.

California has come to the Commission with real, serious, and well-founded concerns about the Repository. California is not seeking to stop the licensing of Yucca Mountain. What California does seek is what NEPA entitles it to: the best available information about where, when and how nuclear waste will be transported through the State, the best available information about whether and how precious and irreplaceable groundwater that serves one of the jewels of the State, Death Valley, will be contaminated, reasoned and well-supported decisions made by DOE and the NRC based on this information, and full, appropriate and feasible mitigation plans for all reasonably foreseeable impacts on California's environment. California seeks accurate, complete and state-specific information on transportation routes and their potential environmental impacts. DOE's argument that it is too early to predict and analyze actual rail routes or many truck routes, coupled with the statements in its Answer that it does not plan to supplement its environmental analysis in the future, leave both the NRC and the public with very, very little real information about where the nuclear waste will move through California and what the potential harm to California's environment may be. In particular, the State urgently wants and *needs* to know whether DOE will actually use the Caliente or the Mina route, since that choice will profoundly affect the amount of waste shipments that will come through

California, the perils those shipments will face, and, therefore, the chances that state or local governments and emergency responders will have to cope with an accident that could cost huge sums to remedy (if there is no release of radiation), or blight the State for generations (if there is).

DOE has responded by denying that California has standing to enter this case as a party to protect its people, its infrastructure, or its natural resources, and by asserting that it has not submitted a single admissible contention. DOE's credibility on this point is somewhat compromised by its strident assertion that not a single State, county, city, organization, business, or person who seeks to become a party may do so, either because they lack standing or because they have not submitted a single admissible contention. The Staff has joined this wall of opposition, arguing that California has not submitted any admissible contentions whatever.

In filing this Reply, California looks to the Licensing Boards to give reality to the holding of several Licensing Boards that "[t]he contention rule has not become a 'fortress' to deny intervention." *In re: License Renewal Application Submitted by Entergy Nuclear Indian Point 2, LLC, et al.*, ASLBP No. 07-858-03-LR-BD01, 2007 NRC LEXIS 167, at slip op. 36 (2007). This proceeding is intended to allow those with legitimate concerns to raise and attempt to prove them, and both the courts and the NRC itself have held and made commitments that the kind of environmental concerns in California's contentions can be raised and litigated here. *Nuclear Energy Institute, Inc. v. Environmental Protection Agency*, 373 F.3d 1251, 1314 (D.C. Cir. 2004) ("it would not be 'practicable' to adopt the FEIS unless it meets the standards for an 'adequate statement' under the NEPA and the Council for Environmental Quality's NEPA regulations") (hereinafter "*NEI v. EPA*"); 10 C.F.R. § 51.109(c)(2); Notice of Hearing and Opportunity to Petition for Leave to Intervene, 73 Fed. Reg. 63,031 (Oct. 22, 2008) ("[u]nder 10

C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate.") California seeks to intervene as a party. It has met all pleading requirements, as set out in this Reply, and asks the Boards to grant it intervention as a party and to admit its contentions.[1]

II. STANDING

A. California Has Standing to Intervene as of Right.

DOE disputes that California has standing to intervene in this proceeding as a party, and disputes that California has met the legal requirements of the NRC for standing as a matter of right. Contrary to DOE's assertion, California has constitutional, statutory, and prudential standing to prosecute this action. As DOE concedes, the NRC applies current judicial concepts of standing. DOE Answer at p. 4, citing to *Quivera 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).) Under current judicial concepts, standing requirements are met when a party invoking the limited jurisdiction of the federal courts under Article III demonstrates that "(1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed

[1] Should the Boards decide that California cannot intervene either of right or by discretionary leave, or should they rule against admitting all of California's contentions, California asks to participate in the licensing proceeding as an interested government participant.

by a favorable decision." *Friends of the Earth, Inc. v. Laidlaw Envtl. Svcs (TOC), Inc*., 528 U.S. 167, 180-81 (2000). California amply satisfies these requirements. In addition to meeting those requirements while acting as *parens patriae*, California also asserts *proprietary* and *procedural* interests in this matter that also confer it standing as a matter of right.

1. California has sustained an injury-in-fact as a parens patriae for its people and natural resources.

DOE misunderstands the injury that California alleges in this action. NEPA is an informational statute, requiring that an EIS "set forth sufficient information for the general public to make an informed evaluation . . . and for the decisionmaker to consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action." *Sierra Club v. United States Army Corps of Engineers,* 701 F.2d 1011, 1029, n.18 (2d Cir. 1983). The EIS must permit those who do not participate in its preparation to understand and consider meaningfully the reasoning, premises, and data relied upon, and to permit a reasoned choice among different courses of action. See, *Friends of the River v. FERC*, 720 F.2d 93, 120 (D.C. Cir. 1983). When a federal agency fails to comply with NEPA, the injury is not the environmental impact itself, but the failure to provide the appropriate information about significant environmental impacts to the public and the decisionmakers. The harm is that the public, and its elected leaders, will not have a full understanding of the effects of the project on them and on the environment. This is an intangible injury and is to the public at large, the harm is not subject to property restrictions or immediate proximity and although NEPA noncompliance does not itself cause physical or economic damage, the failure to inform may certainly lead to those results.

California seeks to intervene in this matter as a sovereign to protect this public interest. States are entitled to special consideration as to standing when they litigate as *parens patriae* to protect government or public interests that concern the state as a whole. *Massachusetts v. EPA,*. 549 U.S. 497, 520, n. 17 (2007) "*Parens patriae*" standing is the authority of a sovereign to protect its "quasi sovereign interests . . . in the well-being of its populace." *Snapp & Son, Inc. v. Puerto Rico,* 458 U.S. 592 (1982). The Supreme Court addressed the right of states to sue the federal government as a *parens patriae* in *Massachusetts v. EPA* at 549 U.S. 519-521. State standing is "appropriate … in cases directly affecting the property rights and interests of a state," but also when the "substantial impairment of the health and prosperity of the towns and cities of the state are at stake." *Id* at 520, n. 17 (citing *Missouri v. Illinois*, 180 U.S. 208, 240-241 (1901) "One helpful indication in determining whether an alleged injury to the health and welfare of its citizens suffices to give the State standing to sue *parens patriae* is whether the injury is one that the State, if it could, would likely attempt to address through its sovereign lawmaking powers." *Massachusetts v. EPA* at 519 (quoting *Alfred L. Snapp & Sons, Inc. v. Puerto Rico ex rel. Barez,* 458 U.S. 592, 607 (1982). California seeks to protect the safety and health of its population, its economy and its natural resources from accidents during transportation through California to the repository, from other foreseeable harm resulting from the transportation of these very hazardous materials, such as harm to traffic from accidents, or harm to a resource such as a river into which a cask is dropped (even if it does not leak), or from leaks of radioactive materials from the repository to its groundwater. These are the kinds of matters which are well within the State's regulatory responsibilities. As the Supreme Court opined in describing the standing of a state to invoke federal jurisdiction: "This is a suit by a State for an injury to it in its capacity of quasi-sovereign. In that capacity, the State has an interest independent of and behind the titles of its

citizens, in all the earth and air within its domain" *Massachusetts v. EPA* at 549 U.S. 518-519 (quoting *Georgia v. Tennessee Copper Co.,* 206 U.S. 230, 237 (1907).

Contrary to DOE assertions at page nine of its answer, unlike the individual petitioner, California as *parens patriae* is not required to show a harm unique to itself not suffered by others: "[W]here a harm is concrete, though widely shared, the Court has found 'injury in fact'." *Id.* at 522, quoting *Federal Election Comm'n v. Akins*, 524 U.S. 11, 24 (1998). Here the harm is well established, DOE has failed to inform the public, the injury is to the people of California, and indirectly, to the resources and infrastructure of the State.

a. California also has a proprietary interest in natural resources and real property that could be affected by the Repository.

The failure of DOE to comport with NEPA may lead to injury to California's infrastructure, land and natural resources. Court precedent makes it clear that a State or local government has standing to challenge federal agency action – and agency NEPA noncompliance in particular – where that action may harm the State's natural resources. In *City of Sausalito v. O'Neill,* 386 F.3d 1186 (9th Cir. 2004), for example, the Ninth Circuit held that the City of Sausalito had standing to challenge an allegedly deficient National Park Service EIS, because "[a] municipality . . . has a proprietary interest in protecting its natural resources from harm." *Id.* at 1198 (emphasis added). The State of California has a significantly more expansive role as resource trustee than does a municipality, because it is by law deemed to hold title to, or have public trust responsibility for, a distinct subset of natural resources within its borders. For instance, California has a public trust interest in all water resources in the state. *National Audubon Society v. Superior Court,* 33 Cal.3d 419, *cert. denied*, 104 S. Ct. 413 (1983).

California, with its expansive legal responsibilities and regulatory powers relating to the land. water, people and natural resources within its borders, clearly has standing to protect those

resources. California also has a proprietary interest in specific tracts of State-owned land whose resources will be affected by DOE's action. In the case of an accident during transportation, the State's highway system, harbors, parks, infrastructure, and water resources will be at risk, and fiscal impacts for any significant release of radiation affecting a populous area or vital natural resource could run into the billions of dollars, and could impact portions of the State for decades, if not longer. The Supreme Court opined in *Massachusetts v. EPA* that the risk of harm from EPA's refusal to address greenhouse gas emissions was both "actual" and "imminent." *Id.* at 521 (citing *Lujan*, 504 U.S., at 560.) Similarly, DOE's failure to adequately describe and analyze for the public all of the risks associated with transporting nuclear waste through California is a harm that is actual and imminent. The fact that this harm is "widely shared" does not minimize California's interest in the outcome of this litigation. *Id.* at 522, citing to *Federal Election Comm'n v. Akins*, 524 U.S. 11, 24 (1998).

b. California has a procedural interest in DOE's NEPA compliance.

States have myriad legal duties pertaining to environmental protection, and case law makes clear that public officials have standing to fulfill such legal responsibilities. *Central Delta Water Agency, et al. v. United States,* 306 F.3d 938, 950-51 (9th Cir. 2002) ("a public agency has standing to seek judicial review of governmental action that affects the performance of its duties"); *Hodges v. Abraham,* 300 F.3d 432, 445 (4th Cir. 2002)(holding that State governor sustained a "procedural injury" where a federal agency's NEPA noncompliance would deprive him of the ability to fulfill his duty to protect state lands).

DOE asserts at page 24 of its Answer that, to be entitled to standing, California must identify an "actual, distinct injury-in-fact associated with any such increased transportation or future routing decisions." DOE further claims that what it characterizes as "California's passing

references to concern over groundwater contamination" do nothing towards establishing standing. However, it is DOE's passing reference to transportation routing decisions and groundwater contamination in their environmental review that is the "procedural injury." DOE's noncompliance with NEPA deprives California of the ability to fulfill her duty to protect the public and state lands, thus injuring the State and its people.

2. California has met the other requirements of the *Friends of the Earth* case for constitutional and prudential standing.

The injuries described above are "fairly traceable to" the DOE's conduct – failure to prepare an adequate EIS – and the NRC can "redress" these injuries by complying with NEPA. As the Supreme Court has explained, "[a] person who has been accorded a procedural right to protect his concrete interests can assert that right without meeting all the normal standards for redressability and immediacy" and, in a NEPA context, need not "establish with any certainty that the [environmental impact] statement will cause" an agency to alter its conduct. *Lujan v. Defenders of Wildlife,* 504 U.S. 555, 572, n.7 (1992). The State Agencies involved here are "persons" within the meaning of 5 U.S.C. § 551(2), entitled to bring suit under the APA. *See Maryland Dep't of Human Resources v. Dept. of Health and Human Svces.,* 763 F.2d 1441 (D.C. Cir. 1985) (APA "persons" include States and State agencies.) And California's claims fall squarely within the zone of interest of NEPA, whose clear purpose is "to protect the environment." *Citizens for Better Forestry,* 341 F.3d at 976 (internal citations omitted). Thus, California has standing to prosecute this action as an intervening party.

3. California has the necessary proximity to establish standing.

Finally, DOE argues that California lacks standing because it lacks the necessary proximity to the repository and its transportation routes. In addition to mistaking the injury that flows from noncompliance with NEPA as discussed above, DOE has not recognized that even

under the cases it cites, California is the geographical area that would be affected by a release of fission products, either from the repository into the groundwater of California, or as the site of an accident in California during transportation to the Repository. Indeed, the People of the State own all waters of the State in a regulatory or supervisory sense. *State of California v. Superior Court* (2000) 78 Cal. App. 1019, 1023. The effect of a release to groundwater, or a release of radioactivity during a traffic accident would inevitably be to impair the ecological integrity of State-owned lands and waters, diminishing the value of these State assets for economic, tourism, research, and other purposes. *See*, *e.g., State of California v. Block,* 690 F.2d 753 (9th Cir. 1982) (upholding California's standing to challenge National Forest land allocations that would "affect lands owned by California . . . in geographical proximity to the Proposed Action's site"). Even an accident that did not release radiation could do significant damage to California's infrastructure or resources, e.g., the retrieval of a dropped cask, even if it did not leak, might cause bank damage, erosion, or fish kills in the Trinity River, and the extreme wear caused by heavy-haul trucks on roads not designed to carry them might damage local infrastructure in places like Humboldt or San Luis Obispo Counties. Because California's waters, real property and land either owned or held in trust by the state may be adversely affected by DOE's noncompliance with NEPA, California has standing to intervene in this action as a party.

B. California Must Be Granted Discretionary Intervention Pursuant to 10 C.F.R. § 2.309(e).

As discussed above, California has standing to participate in these proceedings. However, California has petitioned to intervene as a matter of discretion, in the event that DOE were able to bring forth some justification that would deny California its right to intervene under paragraph (d)(1) of 10 C.F.R. § 2.309.

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). A petitioner who seeks intervention as a matter of discretion must address those six factors set forth in 10 C.F.R. § 2.309(e), which the presiding officer will weigh and balance.

Factors weighing in favor of allowing an entity such as the State of California to intervention include: (1) the extent to which its participation would assist in developing a sound record; (2) the nature and extent of the 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 on the petitioner's interest. 10 C.F.R. § 2.309(e)(1)(i)-(iii).

Factors weighing against permitting a party to intervene include: (1) the availability of other means whereby the petitioner's interest will be protected; (2) the extent to which the petitioner's interest will be represented by existing parties; and (3) the extent to which the petitioner's participation will inappropriately broaden the issues or delay the proceedings. 10 C.F.R. § 2.309(e)(2)(i)-(iii).

DOE attempts to redefine the relevant standard for a grant of discretionary intervention, asserting that "only a *very compelling* showing should support a grant of discretionary intervention." (DOE's response, p.26, emphasis added.) However, in assessing a petition to determine whether the requisite standing elements are met, which the presiding officer must do even though there are no objections to a petitioner's standing, the Commission has indicated that a presiding officer is to "construe the petition in favor of the petitioner." *Georgia Institute of Technology (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995).* As shown in California's Petition to Intervene, transportation is an integral part of these proceedings: NRC's decision on DOE's license application will determine whether hundreds of

shipments of radioactive waste will travel through California on the way to Yucca Mountain on routes of unknown danger. If NRC grants the license, radioactive waste destined for Yucca Mountain will travel through California; if NRC does not grant the license, those shipments will not occur.

In its answer on p.28, DOE claims that "a balancing of the relevant factors warrants denial of the discretionary intervention." However, DOE fails to conduct any sort of balancing. DOE dismisses out of hand the three factors favoring intervention, while wrongfully asserting that there is support for the factors weighing against intervention. An objective analysis of these factors demonstrates that DOE's challenge to California's discretionary standing is without merit.

1. Factors weighing in favor of allowing intervention [10 C.F.R. § 2.309(e)(1)]

a. The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record [10 C.F.R. § 2.309(e)(1)(i)]

DOE asserts that there is "no evidence that California's participation in this proceeding will assist in the development of a sound record." DOE further claims that "California does not…provide the identities or qualifications of any purported experts it will present." (DOE's Answer, p. 26.) These assertions ignore the record in this proceeding, as well as the Petition to Intervene filed by the State of California.

California has proffered the names and qualifications of experts that will testify in these proceedings regarding the inadequacies of DOE's environmental analysis in the areas of transportation of spent nuclear fuel and high- level radioactive waste, and of groundwater impacts. A simple review of the table of contents in California's Petition to Intervene shows that the supporting attachments include affidavits of Fred Dilger and Jan Stepek, two well qualified

experts who have already offered opinions regarding the inadequacy of DOE's environmental analyses, and who may be called upon to testify in the hearing.

Additionally, California will assist in the development of a sound record by providing expert testimony to the NRC demonstrating that it is not practicable to adopt DOE's environmental documents due to its failure to analyze risks that are specific to California, and will demonstrate that the license application does not contain information showing that the health and welfare of Californians will be protected. California is not aware of other potential parties with the same incentive and ability to create a full record, nor has DOE identified such parties in their reply.

b. The nature and extent of the petitioner's property, financial or other interests in the proceeding [10 C.F.R. § 2.309(e)(1)(ii)]

In its Petition to Intervene, California has adequately outlined the nature and extent of its property, financial, and other interests in these proceedings. *See* California's Petition to Intervene, section II.A.3., pp. 8-14. DOE takes issue with California's reference to this section on page 16 of its Petition, apparently arguing that California was required to restate these seven pages in this later section. DOE offers no authority to support this assertion.

California is a proper party to assert the interests of its citizens as well as to safeguard its own property and its ability to protect the health and welfare of its people and natural and economic resources. *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438, 1454, 549 U.S. 497 (2007) (stating that in its capacity of "quasi-sovereign" "the State has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air.") (quoting *Georgia v. Tennessee Copper Co.*, 206 U.S. 230, 237 (1907)); *Alfred L. Snapp & Son, Inc. v. Puerto Rico ex rel Barez*, 458 U.S. 592, 602 & 607 (1982) ("[A]

State has a quasi-sovereign interest in the health and economic well-being – both physical and economic – of its residents in general."); *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 (California has the obligation to protect and preserve California's waters that the state holds in trust.)

In addition, with respect to this licensing decision, Congress and NRC have granted states the procedural opportunity to protect their rights. 42 U.S.C. § 2239; 10 C.F.R. § 2.309(d)(2). The provision of this procedural right and California's stake in protecting its quasi-sovereign interests entitles California to "special solicitude" in standing analysis. *See Massachusetts v. EPA*, 127 S.Ct. at 1454-55. California's apparent interest in these proceedings weighs heavily in favor of intervention.

c. The possible effect of any decision or order that may be issued in the proceeding on the petitioner's interest [10 C.F.R. § 2.309(e)(1)(iii)]

In its Petition to Intervene, California has adequately set forth the possible effect of any decision or order that may be issued in the proceeding on California's interest. *See* California's Petition to Intervene, section II.A.4., pp. 14-15. Here, DOE asserts that "California's issues with respect to alleged threats from transportation routes are outside the scope of this proceeding."

California's Petition to Intervene also demonstrates that the proposed repository poses a threat to California's precious groundwater resources. If NRC grants the license, there is a real possibility that radioactively contaminated groundwater from the repository will migrate into California through the numerous identified discharge points in Death Valley National Park: if NRC does not grant the license, this contamination will not occur. The threatened injuries to California can be redressed in this proceeding. If DOE were to be required to conduct an adequate environmental review before receiving the license, route-specific dangers from the

transportation of radioactive waste to Yucca Mountain through California would be better known. Routes and shipping conditions with greater risk could be identified and minimized; those with relatively less risk could be used instead, and proper mitigation measures could be imposed. Threats to California's precious groundwater resources could be analyzed and evaluated and mitigation measures could be devised rather than deferred or ignored. If NRC grants the license without proper NEPA review, however, these risks will remain unknown and unaddressed.

2. Factors weighing against allowing intervention [10 C.F.R. § 2.309(e)(2)]

a. The availability of other means whereby the petitioner's interest will be protected [10 C.F.R. § 2.309(e)(2)(i)]

In the Petition to Intervene, California has demonstrated that this proceeding may be the only opportunity for California to raise substantive health, safety, and environmental concerns with the shipment of waste to the repository and the impacts on California's groundwater resources. DOE argues that California does not "substantiate its assertion with facts" with respect to its interests. DOE's position ignores the record in these proceedings as well as California's Petition.

DOE has suggested no other alternative means by which California may protect the health and safety of its citizens and its precious groundwater resources. DOE offers nothing to refute the facts and legal arguments as set forth in California's Petition to Intervene regarding the protection of California's interests. Neither the transportation analysis nor the groundwater analyses comply with NEPA, and no other means exists by which California's interests will be protected.

b. The extent to which the petitioner's interest will be represented by existing parties [10 C.F.R. § 2.309(e)(2)(ii)]

No other likely party to this proceeding will represent California's interests, as no other state or party is subject to the same risks from the transportation of radioactive waste through the State of California. Nor is any other state or party situated to protect the State of California from contaminated groundwater originating from the proposed repository site that will enter the state through discharge points within Death Valley National Park or by way of surface runoff. DOE asserts that "other petitioners can be expected to adequately represent California's asserted interests. Other agencies (particularly the State of Nevada) have the resources to oppose the license application vigorously." (DOE's Answer, p. 28) [2] However, DOE offers no facts to support this otherwise bald assertion. No other party has the legal right or obligation to protect California's quasi-sovereign interests in its people and resources.

c. The extent to which the petitioner's participation will inappropriately broaden the issues or delay the proceeding [10 C.F.R. § 2.309(e)(2)(iii)]

DOE asserts that "California's participation may inappropriately broaden the issues in the event certain of California's contentions were admitted." In addition to being unsupported by any factual or legal argument, this assertion is a curious one for DOE to make. DOE fails to explain how an otherwise admissible contention would "inappropriately broaden the issues" before the NRC. [3]

All proffered contentions must be within the scope of the proceeding as defined by the Commission in its initial hearing notice and order referring the matter to the Licensing Board.

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[2] It should be noted that DOE has challenged the standing to participate in these proceedings of the very "other agencies" who DOE claims will "adequately represent California's" interests. DOE cannot have it both ways.

[3] It should be noted that DOE does not argue that California's participation will cause an inappropriate delay in these proceedings.

See Florida Power and Light Company (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-00-23, 52 NRC 327, 329 (2000); Duke Power Company (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-791 (1985). As a consequence, any contention that falls outside the specified scope of the proceeding must be rejected. *See* Portland Generating Company (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-290 n.6 (1979). Any admissible contention cannot broaden the issues before the Commission as it is by definition within the scope of the proceeding.

Each contention must satisfy six criteria that demonstrate that that contention is within the scope of the hearing. Section 2.309(f)(1) requires a petitioner to "set forth with particularity the contentions sought to be raised," and requires that each petitioner provide: (1) a statement of the issue; (2) a brief explanation of the basis of the contention; (3) a demonstration that the issue raised is within the scope of the proceeding; (4) a demonstration 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) a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support petitioner's position and upon which the petitioner intends to rely; and (6) sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact. In that each of California's admissible contentions satisfies the above criteria, each is within the scope of the proceeding.

NRC's Notice of Hearing established that:

> The matters of fact and law to be considered are whether the application satisfies the applicable safety, security, and technical standards of the AEA and NWPA and the NRC's standards in 10 CFR Part 63 for a construction authorization for a high-level waste geologic repository, and also whether the applicable requirements of the National Environmental Policy Act (NEPA) and NRC's NEPA regulations, 10 CFR Part 51, have been met.

Notice of Hearing and Opportunity to Petition for Leave to Intervene, 73 Fed. Reg. 63,029 (Oct. 22, 2008). California's admissible contentions address narrowly defined issues regarding truck and Rail Transportation and groundwater resources. California's challenges are squarely within the scope of the hearing as defined by NRC, as it is arguing that the applicable requirements of NEPA and NRC's regulations have not been met. California's intervention will, therefore, not "inappropriately broaden" the issues before the NRC, nor will California's participation cause delay.

California has demonstrated that it has standing to participate in these proceedings. In conducting an objective balancing of the above six factors, and based on the pleadings filed in this matter, the NRC can come to no other conclusion that California may at the very least be granted discretionary intervention in these proceedings.

III. TRANSPORTATION IS PART OF THE YUCCA MOUNTAIN PROJECT FOR NEPA PURPOSES AND ITS ENVIRONMENTAL IMPACTS MUST BE FULLY CONSIDERED IN THIS PROCEEDING

A. Introduction and General NEPA Principles Applicable to Transportation

DOE argues that no contentions regarding the environmental impacts of the transportation of spent nuclear fuel or high-level radioactive waste to the Yucca Mountain Repository may be admitted in this proceeding, because the NRC lacks direct regulatory authority over transportation to the Repository. DOE Answer, p. 53-54, 65-66, 73-74, etc. While that is correct, it is also irrelevant. Under well established NEPA case law and NRC regulations, the NRC is obligated to analyze and disclose <u>all</u> the environmental effects of the whole of the Yucca Mountain project, not just those effects or those portions of the project over which it has direct regulatory control. Just as, for example, a federal agency must consider the growth-inducing effects on the surrounding municipalities of a permit it proposes

to issue, *Sierra Club v. Marsh*, 769 F.2d 868, 878, 881 (1st Cir. 1985), even though the federal agency has no powers to control local land use, so the NRC here must analyze transportation of nuclear waste to Yucca Mountain, and the effects of that transportation, even though it lacks direct regulatory control over the transport.

Transportation of the radioactive material whose storage and disposal forms the entire purpose for the licensing of the proposed Yucca Mountain Repository must be and is an integral part of that whole project. The NRC has explicitly provided that contentions relating to DOE's NEPA compliance and the practicability of NRC's adoption of DOE's NEPA documentation as NRC's own NEPA compliance may be raised in this proceeding as "new consideration[s]" under the rule set out in *NEI v. EPA*. California believes that this NEPA compliance must include transportation of Yucca Mountain's proposed contents. Further, the District of Columbia Court of Appeals predicated its decision in *NEI v. EPA*, 373 F.3d 1251 (2004) in part on representations by both DOE and the NRC that challenges to DOE's environmental documents could be raised in the licensing proceeding. *Id.*, at 373 F.3d 1313-14. Such challenges can only be made by contention. Therefore, California believes that transportation contentions on this subject must be admitted.

If the a federal agency could avoid considering the full range of environmental effects from a project for which it issues a permit simply because the agency does not directly regulate those effects, NEPA would be a dead letter. NEPA requires each federal agency to consider the entire project, including connected actions and indirect effects of the project, and all their environmental effects. 40 C.F.R. §§ 1508.8, 1508.25.[4] If this were not the rule, then, for example, no agency but the U.S. Environmental Protection Agency (EPA) would be obligated

[4] Both of these sections of the Council on Environmental Quality (CEQ) regulations interpreting NEPA have been adopted by, and are therefore binding on, the NRC (at 10 C.F.R. § 51.14(b)) and DOE (at 10 C.F.R. § 1021.103.

to examine the increased air pollution impacts from increased vehicle traffic caused by any federal project, since EPA is the only federal agency that directly regulates control vehicle emissions. No federal agency would ever be obliged to analyze and disclose localized growth and sprawl impacts of a federal project or permit, since no federal agency possesses local land use authority. This is clearly not the law. Federal highway project EISs regularly examine air pollution impacts, and the Corps of Engineers must analyze and disclose the growth impacts of dredging permits, areas that the agencies involved do not directly regulate. *Sierra Club v. U.S. Dept of Transportation*, 962 F. Supp. 1037, 1045 (N.D. Ill. 1997) ("an impact statement is incomplete without an analysis of the effect the tollroad will have on the production of ozone in the region"); *Sierra Club v. Marsh*, 769 F.2d 868, 880 (1st Cir. 1985).

As discussed below, the CEQ regulations defining the scope of the impacts that a federal agency must take into account and deal with in its environmental analysis includes the full range of environmental harm that the project could do, whether it be "ecological, aesthetic, historic, cultural, economic, social or health, whether direct, indirect, or cumulative." 40 C.F.R. §1508.8(b), adopted by NRC at 10 C.F.R. § 51.14(b). Whether or not the NRC may directly regulate DOE's transportation of nuclear waste to Yucca Mountain, the NRC will not comply with NEPA unless it examines, analyzes, and fully discloses the environmental effects of that transportation.

B. Regulatory Background

As noted above, DOE and NRC have each adopted the definitions in the regulations adopted by the Council on Environmental Quality (CEQ) to interpret NEPA that are found at 40 CFR § 1508.25(a). 10 C.F.R. § 1021.103; 10 C.F.R. § 51.14(b). Having adopted those regulations as their own, under well settled principles of administrative law, both agencies

must now comply with those regulations. *Service v. Dulles*, 354 U.S. 363, 388 (1957) (agencies must comply with own regulations.) We note that the NRC does not consider itself bound by the CEQ regulations in general, although it "has committed 'to take account" of them." *Shipments of Fuel From Long Island Power Authority's Shoreham Nuclear Power Station, etc.*, DD-93-22, 38 N.R.C. 365, nt 13. (1993); see also, *Long Island Lighting* Company, LBP-91-35, 34 N.R.C. 163, 170 (1991) (CEQ regulations "entitled to 'substantial deference' where applicable".) However, the regulations discussed in this section of California's reply are regulations adopted by the NRC itself, and therefore <u>are</u> binding on the agency, and not merely informative or advisory.

In determining the extent and nature of the "project" covered by NEPA, CEQ regulation 40 C.F.R. § 1508.25(a) defines a "project" to include and encompass connected actions, defining all such connected actions as a single project, and specifying that such connected actions should be considered together as a single project. "Connected actions" are defined by §1508.25(a) to include actions that: (i) are closely related; (ii) automatically trigger other actions which may require environmental impact statements; or (iii) are interdependent parts of a large action and depend on the larger action for their justification. *Kerr-McGee Chemical Corporation*, LBP-84-42, 20 N.R.C. 1296, 1316; NRC LEXIS 30, 41 (1984). Under this regulation, adopted by both DOE and the NRC, transportation of spent nuclear fuel and high-level radioactive waste will be considered part of the Yucca Mountain Repository project if that transportation meets any of those tests. California believes it meets each of them.

NEPA imposes on every federal agency the duty "to the fullest extent possible" to examine the environmental consequences of any federal action the agencies may propose that may "significantly affect [] the quality of the human environment." 42 U.S.C. § 4332(2) (C)

(1). NEPA embodies a "sweeping commitment to 'prevent or eliminate damage to the environment and biosphere' by focusing Government and public attention on the environmental effects of proposed agency action." *Marsh v. Oregon Natural Resources Council,* 490 U.S. 360, 371 (1989). In complying with NEPA, agencies are required to examine, analyze, and disclose the full range of the environmental impacts of their proposed actions, both direct impacts and indirect impacts, including impacts on natural resources and ecosystems, and aesthetic, historic, cultural, economic, social, or health impact. 40 C.F.R. § 1508.8, adopted by the NRC at 10 C.F.R. § 51.14(b). See also, e.g.,10 C.F.R§ 51.53(c)(3)(2) (setting out range of environmental impacts applicant must address); *Duke Energy Corporation (Catawba Station)*, LBP-02-04, 55 N.R.C. 49, 74 (2002) ("Part 51 requires the final SEIS to weigh all of the expected environmental impacts of license renewal, both those for which there are generic findings and those described in plant-specific analyses.") As the regulations make clear, agencies may not confine themselves to those types of environmental impacts that they directly regulate, but must take a "hard look" at the full width and breadth of environmental impacts from projects they undertake or approve. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1211 (9th Cir. 1998).

It is clear that transportation of nuclear material is an activity that is subject to NEPA analysis. See, e.g., 10 C.F.R. § 51.53(c)(3)(ii)(J). Specifically relevant to this proceeding, transportation by DOE of nuclear material has explicitly been found to be subject to NEPA. *Sierra Club v. Watkins*, 808 F.Supp. 852 (D.D.C. 1991); *Public Service Co. of Colorado v. Andrus*, 825 F.Supp. 1483 (D. Idaho 1993). These cases covered much smaller amounts of spent nuclear fuel and other materials than the 70,000 MTHM that DOE will ship to Yucca Mountain; a fortiori, the huge amounts being shipped in this project are subject to NEPA.

DOE certainly views transportation of nuclear material to Yucca Mountain as covered by NEPA, having covered this topic in its environmental documents, however inadequately.

It is also important to remember that the fact that the transportation of nuclear material is authorized by statute and complies with applicable regulations does not exempt it as a matter of law from analysis under NEPA. At the risk of stating the obvious, agencies must do NEPA analysis for projects that may significantly affect the environment, even though those projects are fully legal and comply with all other regulatory requirements. It is the purpose of NEPA to impose an additional review, over and above an agency's substantive mandate, to ensure that environmental values are considered, and are not ignored simply because they are not part of an agency's substantive statutes. *Calvert Cliffs' Coord. Com. v. U.S. A. E. Comm.*, 449 F.2d 1109, 1125 (D.C. Dir. 1871). Thus, even though the mechanics of DOE's proposed transport of nuclear material may comply with all NRC, Surface Transportation Board, and other regulations, the transportation of waste to Yucca Mountain is not exempt from NEPA.

C. Transportation Is Part of the Yucca Mountain Repository Project. At a Minimum, It Is a Connected Action That Must Be Considered Together With Repository Licensing.

Under applicable CEQ and NRC regulations, the transportation of nuclear waste to the Yucca Mountain Repository is an integral, inseparable part of the Repository project for which DOE seeks a license from the NRC, and the NRC must exercise its independent judgement and decline to adopt DOE's NEPA documents if they do not adequately analyze the environmental effects of such transportation. 10 C.F.R. § 51.109(c); 53 F.R. 16131 (May 5, 1988)("[T]he commission would be authorized to adopt the EIS prepared by DOE *provided* that the statement meets the standards for an adequate statement under CEQ regulations. . . . [T]he IES (sic) can only be adopted if it meets the standards for an 'adequate statement.'")(Emphasis added.)

The governing regulation here is 10 C.F.R. § 51.14(b), wherein NRC adopts the definition of "project" in the CEQ regulations at 40 C.F.R. §1508.25(a). This subdivision defines an "action" to be analyzed under NEPA by a federal agency as follows:

> (a) Actions (other than unconnected single actions) which may be:
>
> (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:
>
> > (i) Automatically trigger other actions which may require environmental impact statements.
> >
> > (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
> >
> > (iii) Are interdependent parts of a larger action and depend upon the larger action for their justification.

Transportation of nuclear waste to the Yucca Mountain Repository and the Repository itself are "connected" actions under these criteria.

First, the authorization of the Repository would indisputably trigger the need to transport the waste to it, since there is no need of or use for the Repository without waste to store and dispose of there. Second, transportation of the waste will not proceed unless another action, namely the licensing of the Repository, is taken first. It is absurd to imagine that transportation of the spent fuel and high-level waste would be done unless there is a licensed Repository; DOE will not hire trucking or barging companies, or contract with rail carriers for trucks, barges, or trains that simply transport waste without a destination and do not actually deliver the waste to a repository. Third, and most on point, the Repository and transportation of nuclear waste to it are interdependent parts of one larger action, namely safe storage and disposal of the nation's nuclear wastes, and both depend on that larger action for their justification.

The combination of licensing of the Repository and transportation of waste to it are inextricably linked, not just closely related. Effectuation of the entire purpose of the Repository – to safely store and dispose of nuclear waste -- is completely dependent upon the waste being transported to it, and effectuation of the entire purpose of transporting the waste -- to store and dispose of it in a centralized repository as dictated by the Nuclear Waste Policy Act -- is completely dependent upon there being a licensed repository to which to transport it. Yucca Mountain is a textbook example of interdependent parts of a larger whole, since transportation of the waste could not be justified without a place to which to transport it, and the Repository cannot be justified without waste being transported to it for storage and disposal. Without transportation of the waste to it, Yucca Mountain would be just a very large, fancy, and expensive hole in a mountain; transportation of the waste to the Repository is an inseparable and interdependent part of the overall project. *Duke Energy Corporation*, LBP-04-04, 59 N.R.C. 129 (2004) (crucial factor for characterization of actions as connected is "'interdependence' going in both directions").

Many cases have construed the "connected actions" regulation in the context of particular fact situations, of which the classic case is one of building a road -- in other words, providing transportation -- to service a project such as a logging project. For example, in *Thomas v. Peterson*, 753 F.3d 754 (9th Cir. 1985), the court held that the NEPA analysis prepared by the Forest Service for a road that was being built to service a logging project had to also analyze and disclose the environmental impacts of the logging project itself, because "it is clear that the timber sales cannot proceed without the road, and the road would not be built

but for the contemplated timber sales." *Id* at 758. See also *Save the Yaak Comm. v. Block*, 840 F.2d 714, 720 (9th Cir. 1988). A similar connection between the transportation of waste and the licensing of the Repository exists here: neither would be practical without the other.

The test that has emerged in many cases is the one noted in *Duke Energy*, supra, derived from *Webb v. Gorsuch*, 699 F.2d 157, 161 (4th Cir. 1983), which held:

> Generally, an administrative agency need consider the impact of other proposed projects when developing an EIS for a pending project only if the projects are so interdependent that it would be unwise or irrational to complete one without the other.

Here, that test fits like a glove: undertaking the Repository without transportation to bring waste to it would be irrational, and undertaking to transport waste without a licensed repository to which to deliver it would be equally irrational. Even more than the road-and-logging-project cases, the licensing of the Repository has connected actions that must be analyzed together with the Repository. The Repository is a vessel that is designed and built to hold only one kind of content; the intended content can only legally be disposed of in this particular container. Undertaking either without the other would be irrational. Nor would either action have "independent utility" without the other, another common test for "connected actions." *Wetlands Action Network v. U.S. Army Corps of Eng'ers*, 222 F.3d 1105, 1118 (9th Cir. 2000), *cert. den.*, 122 S.Ct. 41 (2001). The two are part on one larger project and the CEQ and NRC regulations direct that they be considered together.

D. Transportation Is an Indirect Effect of the Operation of the Repository.

Even if the operation of Yucca Mountain Repository and the transportation of waste that makes that operation possible were not connected actions (as they are), NEPA would still require the NRC's NEPA compliance to cover transportation to the Repository, because such transportation is an indirect impact of operating the Repository.

NEPA requires that indirect, as well as direct, impacts of projects be examined. The CEQ includes such impacts within the definition of "project" in 40 C.F.R. § 1508.8(b), one of the CEQ regulations that both DOE and the NRC have adopted. Indirect impacts (also called indirect effects) are defined by the CEQ in pertinent part as follows:

> Section 1508 Effects
>
> *Effects* include:
>
> . . .
>
> > (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. . . .

Agencies must analyze and disclose the indirect environmental effects of their projects, just as they must the direct effects. *Sierra Club v. Marsh*, 769 F.2d 868, 877-878 (1st Cir. 1985). Indirect impacts covered by NEPA range from the growth-inducing effects of highway construction, *City of Davis v. Coleman*, 521 F.2d 661(9th Cir. 1975), to the development pressure created by permitting a research park, *Florida Wildlife Federation v. U.S. Army Corps of Eng'ers*, 401 F.Supp.2d 1298 (S.D. Fla. 2005), to changes in land use pattern caused by remediation of a radiologically contaminated site, *NRDC v. DOE*, 2007 U.S. Dist LEXIS 32374 (N.D. CA 2007). An environmental impact that is causally related to the project and is reasonably foreseeable must be included in the environmental documents for the project. Courts will find an impact "reasonably foreseeable" if it is "sufficiently likely to occur that a person of ordinary prudence would take it into account in reach a decision." *Sierra Club v. Marsh*, 976 769 F.2d 763, 767 (1st Cir. 1992).

Here, it is more than just reasonably foreseeable that constructing and operating the Repository will cause nuclear waste to be transported to it; receiving and containing such waste,

now located at various points around the nation and needing to be transported to the Repository, "are its raison d'etre." *City of Davis*, supra, 521 F.2d at 675. NRC's NEPA compliance for the project must include a full analysis and disclosure of transportation of the waste as an indirect effect of Yucca, and must analyze and disclose transportation's "related effects on air and water and other natural systems, including ecosystems," as required by the NEPA regulation that both DOE and NRC have adopted.

E. The Supreme Court's Decision in *Public Citizen v. NHTSA* Does Not Apply to This Licensing Proceeding.

DOE argues that its transportation decisions are beyond the scope of this proceeding because NRC has no authority under the Atomic Energy Act or the Energy Reorganization Act to regulate DOE's transportation of nuclear waste to the Yucca Mountain Repository. DOE Answer at 53. DOE then goes on to make the unsubstantiated and invalid leap of arguing that, because the NRC lacks statutory authority to directly control or regulate DOE's substantive decisions regarding transportation of nuclear waste to Yucca Mountain, DOE's compliance with NEPA as to transportation is also beyond the scope of this proceeding. According to DOE, the "NRC must take DOE's decisions concerning transportation facilities and activities as a given in considering the cumulative impacts of the proposed repository." DOE Answer at p. 65, 74, etc. In determining whether it is practicable for the NRC to adopt DOE's NEPA compliance as its own, DOE appears to argue that the NRC may limit its review of DOE's NEPA documents to matters that are completely within the NRC's own regulatory purview.

This is not, and never has been, the law. NEPA requires all federal agencies to perform the "action-forcing" mandates of the statute, including full environmental analysis and disclosure, to "the fullest extent possible. . . ." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 359 (1989); 42 U.S.C. § 4332. As discussed above, NEPA requires a federal

agency to examine and fully disclose the environmental effects of the *entire* project before it, including connected actions. As also discussed above, an agency must comply with NEPA's full disclosure requirements as to *all* environmental effects of the entire project before it. 40 C.F.R. §1508.8, adopted by the NRC at 10 C.F.R. § 51.14(b). Under the statute and the applicable regulations, the NRC may not limit its NEPA compliance to only those environmental effects that it directly regulates. Nor, pursuant to 10 C.F.R. § 51.109(c), may the presiding officer (and by extension, the NRC) adopt DOE's NEPA documents as the NRC's own NEPA compliance if DOE's EISs are inadequate. See *NEI v. EPA*, 373 F.3d at 1314 ("[I]t would not be 'practicable' [for the NRC] to adopt the FEIS unless it meets the standards for an 'adequate statement' under the NEPA and the Council for Environmental Quality's NEPA regulations.")

1. *Public Citizen* was decided in a context that does not apply here.

DOE cites as its authority for its argument that transportation impacts are outside the scope of the NRC's required NEPA compliance the Supreme Court's holding in *Public Citizen v. DOT*, 541 U.S. 752 (2004). *Public Citizen* does not disturb the key NEPA principle that one of NEPA's most fundamental purposes is to make agencies aware of the environmental consequences of their proposed action, and to force agencies to analyze, publicly disclose, and consider those environmental consequences in their decision making. As the Supreme Court held in *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989), "NEPA promotes its sweeping commitment to 'prevent or eliminate damage to the environment and biosphere' by focusing Government and public attention on the environmental effects of proposed agency action. [Citation omitted.] By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." Requiring federal agencies to have full information on the environmental consequences

of their actions, and the full range of those environmental consequences, is a central mandate of NEPA. The CEQ regulations discussed above as to the scope of the environmental effects an agency must take into account make clear that effects beyond the direct statutory mandate or authority of the agency are included. *Public Citizen* did not somehow repeal those provisions of NEPA and the CEQ regulations. As both the Supreme Court and the lower courts have made clear since *Public Citizen* was decided, the holding of that case is a narrow one. It is completely inapplicable here.

First, it is important to understand the very unusual context in which the federal action in *Public Citizen* arose, a context that has no parallel here. The action involved in *Public Citizen*, namely opening the U.S. border to the entry of trucking companies based in Mexico, was taken in response to a commitment made by the United States in the North American Free Trade Agreement (NAFTA), and a ruling by an arbitration panel convened under NAFTA that held that the U.S. was obligated under that international trade agreement to honor its commitment to Mexico and open its borders to Mexican trucking companies. 541 U.S. at 759-760. Obviously, there is no international trade agreement involved here, no commitment by the United States to take a specific action vis à vis another sovereign nation that is now being challenged, no decision by an international arbitration panel that the U.S. has breached any trade agreement obligation. The context is completely different.

Second, the essential decision being challenged in *Public Citizen* was the opening of the United States-Mexico border to Mexican trucking companies. This decision was entrusted by Congress to the sole discretion of the President of the United States, who is not subject to NEPA. *Cetacean Community v. Bush*, 249 F.Supp.2d 1206, 1213 (D. HI 2003). The agency being sued, the Federal Motor Carrier Safety Administration (FMCSA) had no part in the decisions to allow

the trucks into the U.S., and was required by statute to issue licenses to trucks operating in the U.S. if the trucks met specified safety and financial responsibility criteria. 541 U.S. 765. Once the President, who had no NEPA obligations whatever, allowed the trucks into the U.S. and they were here legally, FMCSA had no discretion by law to eject them from the country, or to refuse to license them if they met specified criteria. Thus, the decision that the Court viewed as causing the potential environmental impacts was made by an actor who is beyond the reach of NEPA, and the agency to which NEPA did apply had no discretion, by statute, to undo that action or attach environmental conditions. Again, the context here is completely different. No actor here is exempt from NEPA. The licensing decision that will directly or indirectly result in environmental impacts is being made by the NRC, which is subject to NEPA. Finally, the NRC, as discussed below, has broad discretion either to refuse to make the decision, or to condition the issuance of a license to DOE so as to protect environmental values.

2. The Supreme Court and the lower courts consistently interpret *Public Citizen* as exempting an agency from NEPA compliance as to an action only where the agency has no discretion as to the action, not merely when the agency lacks direct regulatory control.

Public Citizen and its progeny, both in the Supreme Court and in the lower courts, have all been very clear that the holding of *Public Citizen*, and its exemption from NEPA, is limited to situations in which the agency involved, by statute, has no discretion to decline or refuse to take the action that will result in environmental impacts. In *Public Citizen*, the FMCSA did not have statutory authority to close the border to Mexican trucks after the President had opened it; Congress gave the President sole authority to keep the border closed or open it. 541 U.S. at 769, citing 49 U.S.C. § 10922; D. Mendelker, *NEPA Law and Litigation*, 2d ed, p. 8-111 (President, not FMCSA, was responsible for lifting moratorium on Mexican trucks entering U.S.) It was this complete lack of authority to refuse to allow Mexican trucks into the country that excused

FMCSA from examining and disclosing the environmental effects of opening the border and admitting those trucks. Rather, the Court ratified FMCSA's decision to analyze and disclose only the environmental impacts of the action it did have statutory authority to take or not take, namely the details of permitting the trucks that the President had allowed into the country. *Id.*

DOE reads this case very broadly, selectively quoting language about tort law and proximate causation. However, the Court itself made clear and explicit the narrow scope of its holding:

> We hold that where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect. Hence, under NEPA and the implementing CEQ regulations, the agency need not consider these effects in its EA when determining whether its action is a 'major Federal action.' Because the President, not FMCSA, could authorize (or not authorize) cross-border operations from Mexican motor carriers, and <u>because FMCSA has no discretion to prevent the entry of Mexican trucks</u>, its EA did not need to consider the environmental effects arising from the entry.

541 U.S. at 2217 (emphasis added). Thus, *Public Citizen* itself holds that an agency is excused from complying with NEPA by this case only where it has "no discretion" to prevent or refuse to take the action involved.

The Supreme Court reiterated the very narrow scope of the *Public Citizen* holding in *National Association of Homebuilders, et al. v. Defenders of Wildlife, et al.* ,127 S. Ct. 2518, 2535 (2007) (internal citations and quotation marks omitted), stating:

> The Court held [in *Public Citizen*] that the National Environmental Policy Act (NEPA) did not require the agency to assess the environmental effects of allowing the trucks entry because the legally relevant cause of the entry of the Mexican trucks is not FMCSA's action, but instead the actions of the President in lifting the moratorium and those of Congress in granting the President this authority while simultaneously limiting FMCSA's discretion. The Court concluded that where an agency has no ability to

> prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant cause of the effect.

In construing its own holding in *Public* Citizen, the Court reiterated that the "basic principle announced in *Public Citizen*" is "that an agency cannot be considered the legal 'cause' of an action that it has no statutory discretion not to take." *National Homebuilders*, supra, 127 S.Ct. at 2535. Under this holding, the NRC must comply with NEPA as to all aspects of the environmental effects of licensing Yucca Mountain unless the NRC has no statutory discretion to deny the license, discretion that it clearly does have.

The lower courts have been consistent in confining the reach of *Public Citizen*'s NEPA exemption to situations where a federal agency is without power or authority to stop an action that will have environmental impacts. See, e.g., *Center for Biological Diversity, et al. v. National Highway Traffic Safety Administration,* 538 F.3d 1172, 1212 (9th Cir. 2008) ("The Court reasoned [in *Public Citizen*] that where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect. . . . The 'critical feature' of the case was the fact that 'FMCSA has no ability to countermand the President's lifting of the moratorium or otherwise categorically to exclude Mexican motor carriers from operating within the United States'"); *Defenders of Wildlife v. United States EPA,* 420 F.3d 946, 963 (9th Cir. 2005) (*Public Citizen* applies only where "an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions"). At least one NRC decision has also recognized that this is the central holding of *Public Citizen*. *Entergy Nuclear Vermont Yankee, LLC, & Entergy Nuclear Operations, Inc.*, CLI-07-16, 65 N.R.C. 371, 388 ("Because the Federal Motor Carrier Safety Administration 'has no ability to prevent such cross-border operations, it lacks the

power to act on whatever information might be contained in an EIS and could not act on whatever input the public could provide.'")

3. The NRC has broad discretion as to the licensing of Yucca Mountain, making *Public Citizen* inapplicable.

Here, the rule of *Public Citizen* is inapplicable, and the environmental effects of transportation are within the scope of this proceeding. Unlike the FMCSA's lack of authority to allow or deny permission for Mexican trucks to cross the border, the NRC has full statutory authority to grant or deny a license to DOE for the construction and operation of the Yucca Mountain Repository. Indeed, the question of whether to grant or deny the license is the heart and subject of this proceeding. Further, the NRC has clear authority to attach conditions to any license for Yucca Mountain to protect the environment. The presiding officer in this matter has been vested with broad discretion under 10 C.F.R. § 51.109(e)(1), (e)(2), and (e)(5) to independently consider the balance between conflicting factors in the record, to determine, after weighing the environmental, economic, technical and other benefits against the environmental cost of the proposed project, whether the "license should be issued, *denied, or appropriately conditioned* to protect environmental values," and, finally, to determine whether the "license should be issued as proposed." (Emphasis added.) The regulations thus grant the presiding officer in this proceeding, and, by extension, the NRC, broad and extensive discretion to deny, or to condition the license for the Yucca Mountain project as DOE has proposed it. This discretion, on its face, is fully broad enough to authorize denial of the license because of the environmental effects of the project.[5] Indeed, protection of environmental values is a specific ground upon which the license may be denied or conditioned.

[5] We note that even if NRC regulations did not provide such discretion, *Public Citizen* still would not apply to this matter. Under *Sierra Club v. Mainella*, 459 F. Supp. 2d 76, 104 (D.D.C. 2006), "the holding in *Public Citizen extends* only to those situations where an agency has 'no ability' because of lack of 'statutory authority' to address

Transportation of the waste to Yucca Mountain is an inextricable part of the Yucca Mountain Repository project. Therefore, the presiding officer, and the Commission, have the power under the NR's own regulations to deny the license or condition it because of the environmental impacts of nuclear waste transportation, which, as argued above, is both a connected action and an indirect effect of granting a license for Yucca Mountain. Given the NRC's broad power and discretion, it is not exempt from its NEPA duties under *Public Citizen*, and DOE's argument that transportation is outside the scope of this proceeding fails.

F. California's Contentions Concern the Adequacy Under NEPA of DOE's Environmental Documents, and Are Not Challenges to DOE's Transportation Decisions Themselves.

To support its argument that all contentions concerning transportation are beyond NRC's authority to consider in this proceeding, DOE makes a strange argument: that challenges to DOE's 2004 and 2008 transportation-related Records of Decision must be made at the Court of Appeals, and not in this proceeding. DOE Answer at pp. 54-57. The strangest thing about this argument is that California has not submitted any contentions challenging these Records of Decision. California's transportation-related contentions instead challenge whether, pursuant to 10 C.F.R. § 51.109(c), DOE's environmental documents are adequate statements under NEPA and are therefore practicable for adoption by NRC.

DOE argues that challenges to its 2004 decision to choose a mostly rail scenario and challenges to its October 10, 2008, decision selecting the Caliente corridor as its preferred Nevada rail line must be brought in the Court of Appeals according to section 119 of the NWPA. Whether that is true or not is irrelevant, because California is not in this proceeding challenging the wisdom of DOE's 2004 and 2008 transportation choices or whether its decisions were

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the impact." If an agency "is only constrained by its own regulation from considering impacts", that is not enough to fit within the holding of *Public Citizen*.

arbitrary or capricious. Neither is California challenging in this proceeding the wisdom of DOE's decision to submit a license application or to transport waste to Yucca Mountain at all.[6] As clearly spelled out in its contentions, California is challenging the NEPA adequacy of DOE's environmental documents. A NEPA challenge of this type is specifically contemplated by 10 C.F.R. § 51.109(a) and specifically authorized by *NEI v. EPA*.

To the extent that what DOE is actually trying to say is that all transportation-related NEPA challenges must be brought in the Court of Appeals instead of litigated in this proceeding, DOE's interpretation is directly contrary to NRC's view of its responsibilities. The Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). *See also* State of Nevada; Denial of Petition for Rulemaking, 73 Fed. Reg. 5762, 5765 (Jan. 31, 2008) ("NRC will treat Nevada's substantive claims against the FEIS as 'new considerations' within the framework of § 51.109(c)."); Letter from Bradley W. Jones, Assistant General Counsel for Rulemaking & Fuel Cycle, Nuclear Regulatory Commission, to Martin G. Malsch, Egan, Fitzpatrick & Malsch, PLLC (Mar. 20, 2008) (hereinafter "Jones to Malsch Letter") (referenced in the Notice of Hearing as governing the interpretation of 10 C.F.R. § 51.109(c)). If DOE thought that NRC's NEPA contention regulation at 10 C.F.R. § 51.109(a) was a violation of NWPA section 119, it should have challenged that regulation when it was adopted 21 years ago.

[6] While California is not challenging DOE's RODs in this proceeding, California reserves the right to challenge those decisions or any action or failure to act by DOE associated with the repository in the Court of Appeals to the extent allowed by NWPA § 119.

DOE next implies, but does not directly argue, that NRC cannot perform the NEPA review of DOE's environmental documents that is mandated by 10 C.F.R. § 51.109(c) because issues involving *some* of the same DOE environmental documents were previously litigated in *Nevada v. Dep't of Energy*, 457 F.3d 78 (D.C. Cir. 2006), and some were even ruled on. While it is difficult to understand exactly what effect DOE believes *Nevada v. Dep't of Energy* has on this proceeding, a few things are clear. First, no court or other body has ever considered the adequacy of the 2008 Repository SEIS, which is the primary environmental document DOE is using to support the licensing application, is one of the documents NRC must evaluate for adoption, and is one of the documents California contends is inadequate under NEPA. If all NEPA issues related to the licensing proceeding had been settled by the *Nevada v. Dep't of Energy* court's partial consideration of the 2002 Yucca Mountain FEIS, then presumably DOE would not have felt the need to spend years writing a supplement to it and basing its license application on that 2008 supplement. Second, whether *Nevada v. Dep't of Energy* is *res judicata* as to Nevada on some issues is irrelevant to California's ability to bring challenges in this proceeding. California was not a party to the earlier proceeding and thus does not suffer whatever claim preclusion applies to Nevada. *McCandless v. Merit Sys. Protection Bd.*, 996 F.2d 1193, 1197-98 (Fed. Cir. 1993). In addition, as described above, the issues decided in that case are not the same as those NRC must consider in this proceeding pursuant to 10 C.F.R. § 51.109. Most importantly, *res judicata* applies only to claims that could have been raised in a prior action. In 2006, when *Nevada v. Dep't of Energy* was decided, California could not have challenged the NEPA adequacy of DOE's 2008 Repository SEIS, nor could it have challenged whether that document would be sufficient to support a licensing decision NRC has yet to even make. *See Nevada v. Dep't of Energy*, 457 F.3d at 84-85 (holding that Nevada's challenge to

DOE's 2002 Yucca Mountain FEIS was not ripe until the document "is used to support a concrete decision"); *McCandless*, 996 F.2d at 1197-98.

DOE's confusing and, at best, irrelevant discussion of the Court of Appeals jurisdiction over challenges to its RODs has no bearing on the NEPA adoption decision NRC must make in this proceeding and should be disregarded in ruling on California's NEPA contentions.

IV. CALIFORNIA MET ITS CONTENTION PLEADING BURDEN

DOE and the Staff both argue that California failed to submit a single admissible contention because California's contentions do not comply with what DOE and the Staff consider to be mandatory pleading requirements. DOE and the Staff are mistaken on these requirements for two separate but related reasons: First, by ignoring the mandates of *NEI v. EPA*, DOE and the Staff misconstrue what a petitioner's ultimate NEPA burden of proof is in this proceeding. Second, based on their overly restrictive interpretation of this burden, DOE and the Staff urge NRC to ignore both the text and purpose of 10 C.F.R. § 51.109 to impose a nonsensical, hypertechnical, and impermissibly high NEPA pleading requirement.

A. Contentions Challenging DOE's Substantive NEPA Compliance Are Admissible.

A NEPA contention is admissible in this proceeding if it identifies an omission or presents information that, if true, calls into question whether DOE's environmental documents comply with NEPA. NRC may fulfill its NEPA obligations by adopting DOE's environmental impact statements, as required by 10 C.F.R. § 51.109(c), only if it is "practicable" to do so. Under NRC's interpretation of its own regulations and the commands of *NEI v. EPA*, the claim that "it is not practicable to adopt the DOE environmental impact statement" (10 C.F.R. § 51.109(a)(2)) is identical to the claim that DOE's environmental documents are not an adequate statement under NEPA. As explained by the D.C. Circuit Court of Appeals, "it would

not be 'practicable' to adopt the FEIS unless it meets the standards for an 'adequate statement' under the NEPA and the Council for Environmental Quality's NEPA regulations." *NEI v. EPA*, at 1314 (explaining that "any substantive defects in the FEIS clearly would be relevant to the 'practicability' of adopting the FEIS").

NRC has interpreted its NEPA contention requirements to make them compatible with the *NEI v. EPA* ruling. According to 10 C.F.R. § 51.109(a)(2) the permissible bases for the claim that the NEPA document cannot be adopted are those "principles set forth in paragraphs (c) and (d) of this section."[7] Paragraph (c)(2) states that NRC will adopt DOE's NEPA documents unless "Significant and substantial new information or new considerations render such environmental impact statement inadequate." 10 C.F.R. § 51.109(c)(2). The term "new considerations" has been further explained: The *NEI v. EPA* court ruled that substantive NEPA claims "would certainly raise 'new considerations' with regard to any decision to adopt the FEIS. Moreover, . . . any substantive defects in the FEIS clearly would be relevant to the 'practicability' of adopting the FEIS." *NEI v. EPA*, at 1314.

Consistent with the *NEI v. EPA* court's ruling, NRC has interpreted "new considerations" described in 10 C.F.R. § 51.109(c)(2) to include challenges to the sufficiency of DOE's environmental documents that call into question the adequacy of the documents under NEPA. NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg.

[7] DOE and California agree that the standards in 10 C.F.R. § 51.109(c)(1) are not relevant at this time. DOE Answer at p. 45. Part 10 C.F.R. § 51.109(d) says that adoption of the DOE documents constitutes compliance with NRC's NEPA obligations. It describes the effect of adoption on NRC's NEPA compliance, but does not seem to be an independent basis for a NEPA contention.

63,029, 63,031 (Oct. 22, 2008). *See also* State of Nevada; Denial of Petition for Rulemaking, 73 Fed. Reg. 5762, 5765 (Jan. 31, 2008) ("NRC will treat Nevada's substantive claims against the FEIS as 'new considerations' within the framework of § 51.109(c)."); Letter from Bradley W. Jones, Assistant General Counsel for Rulemaking & Fuel Cycle, Nuclear Regulatory Commission, to Martin G. Malsch, Egan, Fitzpatrick & Malsch, PLLC (Mar. 20, 2008) (hereinafter "Jones to Malsch Letter") (referenced in the Notice of Hearing as governing the interpretation of 10 C.F.R. § 51.109(c)).

DOE is correct that not every minor error or omission in its NEPA documents would render them inadequate statements under NEPA. *See* DOE Answer at p. 47. An environmental document will fail to carry out the "action-forcing" provisions of NEPA if it fails to take the "hard look" at environmental effects that NEPA requires, thereby failing to provide both the agency and the public with full environmental information, and to provide the public with assurance that the agency "'has indeed considered environmental concerns in its decision-making process.'" *Robertson v. Methow Valley Citziens Council*, 490 U.S. 332, 349 (1989) (quoting *Baltimore Gas & Electric Co. v. Natural Resources Defense* Council, 462 U.S. 87, 97 (1981)). This "hard look" NEPA standard is compatible with the NRC's own NEPA adoption regulations. Not every minor shortcoming would render DOE's documents impracticable to adopt under 10 C.F.R. § 51.109(c). Instead, only those errors or omissions that are "significant and substantial" instances of NEPA non-compliance would make adoption impracticable. 10 C.F.R. § 51.109(c). *NEI v. EPA* says that substantive NEPA non-compliance is a "new consideration" under 10 C.F.R. § 51.109(c)(2), but 10 C.F.R. § 51.109(c) allows NRC to adopt DOE's environmental documents unless the non-compliance is "significant and substantial."

To be admissible, therefore, California's contentions each must identify a failure in

DOE's NEPA documents that, if true, is significant and substantial enough that DOE's documents are inadequate statements under NEPA; in that case, it is impracticable for NRC to adopt those documents. California's contentions allege only significant and substantial failures of DOE to comply with NEPA, and they should therefore be admitted.

B. Affidavits Supporting NEPA Contentions Need Only Set Forth Factual and/or Technical Bases for the Claim That DOE's Environmental Documents Are Inadequate.

NEPA contentions must be accompanied by affidavits that "set forth factual and/or technical bases" for a claim that DOE's environmental documents are not an adequate statement under NEPA. 10 C.F.R. § 51.109(a)(2). This is a heightened pleading standard[8] compared to what NRC requires for contentions outside of the high level waste repository context, as NRC's standard contention requirements in 10 C.F.R. § 2.309 do not mandate that contentions be accompanied by affidavits setting forth "factual and/or technical bases" of the claims made in those contentions. *Compare* 10 C.F.R. § 51.109(a)(2) *with* 10 C.F.R. § 2.309(f)(1)(v) (requiring petitioners to "Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing").

The presiding officer will determine whether California's supporting affidavits contain "factual and technical bases" to support its claims that DOE's documents are impracticable to adopt because they are inadequate statements under NEPA. The affidavits of Fred Dilger and Jan Stepeck supply the factual and technical bases of California's claim that DOE's NEPA documents do not comply with NEPA, and thus California has complied with the requirements

[8] DOE argues that NRC's Hearing Notice mandates that proposed environmental contentions be subjected to "substantially heightened admissibility standards." DOE Answer at p. 45. DOE provides no reference for this conclusion nor any explanation of what it means, and such a statement does not appear in NRC's Hearing Notice.

of 10 C.F.R. § 51.109(a)(2).

By its own terms, 10 C.F.R. § 51.109(a)(2) specifies only what must be contained in *affidavits* accompanying NEPA contentions.[9] Contrary to DOE and the Staff's arguments, it does not specify some incantation that must be recited in NEPA *contentions*. While the first sentences of 10 C.F.R. § 51.109(a)(2) tell a *petitioner* what must be included in a NEPA contention (subject of course to *NEI v. EPA*), the last sentence of 10 C.F.R. § 51.109(a)(2) provides direction to the *presiding officer* as to how to resolve NEPA disputes in this proceeding.

> The presiding officer shall resolve disputes concerning adoption of the DOE environmental impact statement by using, to the extent possible, the criteria and procedures that are followed in ruling on motions to reopen under Sec. 2.326 of this chapter.

On its face, this sentence of 10 C.F.R. § 51.109(a)(2) says nothing about what must be alleged in a contention or what an affidavit must contain or even how admissibility of NEPA contentions is to be determined. Instead, it provides guidance to the presiding officer as to what standards should be used in ultimately determining whether NRC can adopt DOE's environmental documents. Even the guidance this regulation provides to the presiding officer is not mandatory, but instead instructs that motion to reopen criteria and procedures should be used to resolve NEPA adoption disputes *to the extent possible*.[10]

Certainly a petitioner, aware that the presiding officer may follow some or all of the 10 C.F.R. § 2.326 motion to reopen criteria and procedures in ultimately ruling whether DOE's documents can be adopted, would be wise to include in its petition enough information to show

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[9] "Any other party to the proceeding who contends that it is not practicable to adopt the DOE environmental impact statement, as it may have been supplemented, shall file a contention to that effect . . . . Such contention must be *accompanied by* one or more affidavits which set forth factual and/or technical bases for the claim that, under the principles set forth in paragraphs (c) and (d) of this section, it is not practicable to adopt the DOE environmental impact statement, as it may have been supplemented." 10 C.F.R. § 51.109(a)(2) (emphasis added).

[10] The flexibility this regulation gives to the presiding officer is important, because it allows NRC to comply with *NEI v. EPA*, as explained below.

that it is prepared to litigate on those terms. For instance, a petition should be timely submitted (10 C.F.R. § 2.326(a)(1)) and address a significant environmental issue (10 C.F.R. § 2.326(a)(2)). And, if a petitioner ultimately prevails in demonstrating that it is impracticable to adopt DOE's NEPA documents, then there would be a materially different result (10 C.F.R. § 2.326(a)(3)), because documentation that does comply with NEPA would have to be prepared. California already explained these things in its petition.[11]

But just because the presiding officer *may* use these factors in making its ultimate adoption decision does not mean that each and every element of 10 C.F.R. § 2.326 is literally a mandatory pleading requirement of 10 C.F.R. § 51.109(a)(2) at the threshold. Instead, 10 C.F.R. § 51.109(a)(2) already contains its own directions to the petitioner: accompany NEPA contentions with an affidavit supplying the factual and technical bases of the NEPA claim. Whether California's affidavits do in fact properly set forth these factual and technical bases in sufficient detail at this early stage of the proceeding[12] is a proper issue for the presiding officer to

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[11] California's Petition alleges as follows:

> First, California's petition to intervene is timely, as it is filed within the 60-day time provided by the October 22, 2008, Notice of Hearing. Second, California's contentions address significant safety or environmental issues, as described in detail in each of the contentions. Third, had DOE included in its environmental analysis the information that California's contentions state is lacking, a materially different result would be or would have been likely in that NRC would have had more complete information, and, more specifically, information that complies with NEPA, upon which to base its decision on the license application; in addition, California and the public at large would have had been assured that NRC was basing its licensing decision on adequate environmental review and would have had the opportunity to comment and contribute to the same.

California's Petition at p. 8.

[12] In reviewing whether California has properly alleged the required "factual and technical bases," the presiding officer must take into account that this is an early stage of the proceeding, where petitioners need not supply as much evidence as might be required to ultimately prevail on the substantive claim.

> The Commission has . . . explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition

address in determining contention admissibility; the presiding officer will also presumably consider whether the failings in DOE's NEPA documents alleged by California are, if proven to be true, significant enough to render DOE's documents an inadequate statement under NEPA.

DOE and the Staff, however, argue that affidavits accompanying NEPA contentions must – as a threshold pleading matter – literally provide evidence to prove each of the factors in 10 C.F.R. § 2.326(a)(1) through (3), or else the contention is not admissible.[13] This is simply not a requirement of the regulations governing this proceeding. Such an expansive reading of 10 C.F.R. § 51.109(a)(2)'s direction to the presiding officer to consider 10 C.F.R. § 2.326 criteria leads to absurd results that cannot have been intended by NRC.

According to DOE and the Staff's interpretation, expert affidavits supporting NEPA contentions must "separately address" under penalty of perjury that:

(1) The petition is timely. 10 C.F.R. § 2.326(a)(1).

But such an allegation is unnecessary and irrelevant, since timeliness will be determined

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> motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons."

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), 64 N.R.C. 257, 356, (ASLBP No. 06-848-02-LR) (2006); *see also In the Matter of Crow Butte Resources, Inc. (License Amendment for the North Trend Expansion Project)*, 67 N.R.C. 241, 2008 WL 4790123, *30 (ASLBP No. 07-859-03-MLA-BD01) (2008).

[13] *See, e.g,* DOE Answer at pp. 45-46 & n.12 ("[E]nvironmental contentions must also meet the requirements of … 10 C.F.R. § 2.326"; stating that "each criteria in 10 C.F.R. § 2.326 must be addressed separately"; stating that affidavits must comply with 10 C.F.R. § 2.326); DOE Answer at p. 50 ("supporting material required by § 2.326(b) . . . 'must be more than mere allegations; it must be tantamount to evidence'"); DOE Answer at p. 52 (stating that 10 C.F.R. § 2.326 requires the submission of "evidence" of environmental significance and that a materially different result is likely); DOE Answer at p. 63 ("California's witness, Dr. Dilger, does not . . . provide a specific explanation of why the requirements of § 2.326 have been met."); Staff Answer at p. 1072 (arguing that California's petition fails to comply with the motion to reopen standards because it did not "put forth any new information . . . that would 'demonstrate that a materially different result would be or would have been likely' had it been considered."); Staff Answer at p. 1089 ("[S]ections 2.326(b) and 51.109(a)(2) also require that a NEPA contention be supported by an affidavit. The Staff submits that California has not complied with the requirement in 10 C.F.R. §§ 2.326(a)(3), 2.326(b) and 51.109(a)(2) to file a supporting affidavit.")

based on whether the petition was filed within the time allowed by the notice of hearing, not whether the expert witness thinks it is timely. NRC presumably did not intend that a contention is inadmissible unless accompanied by an affidavit stating that the petition was timely, but that is DOE and the Staff's interpretation of the relationship between 10 C.F.R. § 51.109(a)(2) and 10 C.F.R. § 2.326.

(2) The environmental issue is significant. 10 C.F.R. § 2.326(a)(2).

Significance of the alleged NEPA non-compliance is one of the factors the presiding officer ultimately must evaluate in ruling on the adoption decision (10 C.F.R. § 51.109(c)(2)), and the affidavit must contain "factual and technical bases" supporting the contention that NEPA non-compliance is significant (10 C.F.R. § 51.109(a)(2)). DOE and the Staff say that 10 C.F.R. § 2.326 requires something else in the affidavit, but they cannot articulate what it could be other than a bare statement by the expert affiant that "the environmental issue is significant," which of course adds nothing to that evaluation and would be an unnecessary formalism.

(3) A materially different result would be or would have been likely. 10 C.F.R. § 2.326(a)(3).

But if a petitioner prevails on its claim that DOE's environmental documents do not comply with NEPA and therefore cannot be adopted, there will automatically be "materially different result"; that is, further NEPA analysis will be required before the documents can be adopted. Since NEPA is a procedural statute, requiring further analysis is the goal of all NEPA contentions in this proceeding. The materially different result is therefore the *consequence* of a successful NEPA challenge. It thus adds nothing (and is legally irrelevant) for an expert affiant to state that if further NEPA review is ordered by the presiding officer a "materially different result" would occur. NRC did not intend that expert affidavits supporting contentions contain this axiomatic legal conclusion or else be rejected at the threshold.

While the presiding officer may decide that it is possible to use some of the 10 C.F.R. § 2.326 criteria and procedures in ruling on adoption of the NEPA documents, NRC's regulations simply do not require a petitioner at the outset to plead or answer in an affidavit every single aspect of the motion to reopen requirements.[14]

C. DOE and the Staff's Interpretation of the 10 C.F.R. § 51.109(a) Pleading Requirements Is Contrary to the Purpose of That Rule.

The history of these regulations shows the fallacy of DOE and the Staff's hypertechnical interpretation. Twenty-one years ago, long before the D.C. Circuit decided in the *NEI v. EPA* case that NEPA challenges were not yet ripe, NRC proposed adding 10 C.F.R. § 51.109 to its regulations to govern the litigation of NEPA claims in this proceeding. NEPA Review Procedures for Geologic Repositories for High-Level Waste (Proposed Rule), 53 Fed. Reg. 16,131 (May 5, 1988). The regulation was based in large part upon the theory that the future administrative litigation of NEPA issues before the NRC should be limited because many of the issues would have already had the opportunity to be litigated in court. The 1988 NRC assumed that many NEPA issues would be *res judicata* by the time NRC considered the license application. *Id.* at 16,139-40. Thus, NRC's NEPA regulations for the repository were designed to focus on new issues that could not have previously been litigated in another forum, and to discourage relitigation of already-decided matters. In the preamble to the final rule adopting 10 C.F.R. § 51.109, NRC stated that, "The Commission anticipates that many environmental questions would have been, or at least could have been, adjudicated in connection with an environmental impact statement prepared by DOE, and such questions should not be reopened in

[14] Notably, although DOE and Staff believe that 10 C.F.R. §51.109(a)(2) literally incorporates each and every requirement of 10 C.F.R. § 2.326 as a threshold contention pleading requirement, they do not criticize California for failing to address 10 C.F.R. § 2.326(d). That section requires a motion to reopen based on a new contention (which all obviously are in this proceeding) to plead and support 10 C.F.R. § 2.309(c)'s requirements for nontimely contentions. DOE and Staff seem to concede that not literally *all* of the criteria and procedures of 10 C.F.R. § 2.326 must be plead, but they supply no authority for their ability to pick and choose which ones do.

proceedings before NRC." NEPA Review Procedures for Geologic Repositories for High-Level Waste (Final Rule), 54 Fed. Reg. 27,864, 27,865 (July 3, 1989).[15] For this reason, the regulations in 10 C.F.R. § 51.109(a)(2) direct the presiding officer to use – when possible – the standards governing motions to reopen when ruling on EIS adoption. In 1988 NRC assumed that re-litigating these issues in the licensing proceeding would be similar to re-opening the record on an already litigated matter.

Contrary to NRC's expectation in 1988, however, the adequacy under NEPA of DOE's environmental documents supporting the license application was not adjudicated prior to the hearing on the license. Indeed, when Nevada tried to raise the adequacy of DOE's NEPA review in the *NEI v. EPA* case, DOE successfully argued that the controversy was not ripe for judicial review. Nevada appealed and the *NEI v. EPA* court agreed with DOE. Claims that DOE's environmental documents are inadequate statements under NEPA to support the licensing decision have not been adjudicated in any forum. Thus, the original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists.

The guidance to the presiding officer in 10 C.F.R. § 51.109(a)(2) to look to the motion to reopen procedures remains in the regulations, however, and of course cannot simply be ignored.

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[15] NRC goes on to explain that its regulations are proper because NEPA issues would have already been litigated:

> But the Commission firmly believes that the law was intended to have all matters associated with the environmental impacts of repository development considered and decided, to the fullest extent practicable, apart from NRC licensing proceedings. . . . Concerns arising under NEPA -- if not resolved through the negotiation procedures established by NWPA -- would be adjudicated early, with finality, and with every reasonable argument being capable of being advanced to the oversight of Congress and the courts. From that point on, in the absence of substantial new information or other new considerations, it would be proper to inquire only whether the specific detailed proposal of the Department of Energy could be implemented in a manner consistent with the health and safety of the public.

Id.

Fortunately, the history of 10 C.F.R. § 51.109(a)(2) shows that, not only are those procedures not mandatory rules of NEPA contention pleading, but the presiding officer has the authority to use as much of the motion to reopen guidance as is practical.

Both the proposed and final regulation contain the same caveat that is in the rule today: the presiding officer is to use the motion to reopen standards *to the extent possible*. Because 10 C.F.R. § 51.109(a)(2)'s reference to the motion to reopen standards was not changed between the proposed rule in 1988 and the final rule in 1989, the only explanation of this provision is contained in the preamble to the proposed rule. NRC explained that:

> Whatever the staff position [on adoption] may be, any other party may seek to have the issue regarding practicability of adoption resolved by the presiding officer, but any contentions to that effect must set forth the basis of the claim under the criteria set out in the proposed rule [e.g., "new considerations"]. Moreover, it is contemplated that the procedures that would be used by the presiding officer to resolve disputes regarding adoption would *resemble* those employed to rule on motions to reopen records. See 10 CFR 2.734 [later renumbered as 2.326].

53 Fed. Reg. at p. 16,142 (emphasis and text in brackets added).

Thus, far from being technical contention pleading requirement or an evidentiary threshold to admission, the motion to reopen standards –or other procedures that "resemble" them—would guide the presiding officer's review only "to the extent possible." Because *NEI v. EPA* commands that petitioners must "not be foreclosed from raising substantive claims against the FEIS in administrative proceedings," (*NEI v. EPA* at 1314), those motion to reopen standards should be applied by the presiding officer in a way that allows NEPA contentions to be admitted when they meet (1) the pleading requirements of 10 C.F.R. § 2.309(f)(1)[16] and (2) the "factual

[16] These pleading requirements do not require the level of proof that a petitioner would need to ultimately prevail on its claim. *In the Matter of: Entergy Nuclear Generation Company & Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station) 64 N.R.C. 257, 356.

and/or technical bases" evidentiary requirement of 10 C.F.R. § 51.109(a)(2), not in a way that imposes the absurd pleading requirements requested by DOE and the Staff.

D. The Motion to Reopen Standards Can and Must Be Reconciled with *NEI v. EPA*.

In spite of the command of *NEI v. EPA* that substantive NEPA contentions be allowed in this proceeding, DOE and the Staff nevertheless take the position that the NEPA pleading requirements are so great that none of the dozens of proffered NEPA contentions can be admitted. DOE and the Staff focus in particular on California's alleged failure to demonstrate through affidavits that a "materially different result" will be had if California prevails in its contentions, citing to 10 C.F.R. § 2.326(a)(3). DOE and the Staff urge NRC to apply the motion to reopen standard in a way that would allow very few if any NEPA contentions to be admitted. DOE acknowledges as much. DOE Answer at p. 52 ("[A] presiding officer should admit environmental contentions in this proceeding only under very limited circumstances.") These views are directly contrary, however, to the command of *NEI v. EPA* that petitioners must "not be foreclosed from raising substantive claims against the FEIS in administrative proceedings." *NEI v. EPA* at 1314.

In addition to disregarding the rule of *NEI v. EPA*, DOE and the Staff's interpretation of the "materially different result" standard are illogical because they ignore that NEPA is fundamentally a procedural statute. NEPA does not command one outcome or another. *Robertson v. Methow Valley*, supra, 490 U.S at 350 ("NEPA itself does not mandate particular results, but simply prescribes the necessary process.) Two of NEPA's main purposes are to ensure that a decision maker has a full and accurate record of the facts upon which the decision is based and to give the public the opportunity to participate in the environmental review process. *Marsh v. Oregon Natural Resources Defense Council*, 490 U.S. 360, 371 ("NEPA promotes its

sweeping commitment to 'prevent or eliminate damage to the environmental and biosphere' by focusing Government and public attention on the environmental effects of proposed agency action. . . . Similarly, the broad dissemination of information mandated NEPA permits the public and other governmental agencies to react to the effects of a proposed action at a meaningful time.") If the information in the NEPA documents is incomplete, those purposes cannot be fulfilled and NEPA is violated. California has pointed out that DOE's environmental documents are lacking specific analyses. If DOE's documents had included these analyses, a materially different result would be achieved, namely, the decision maker would have a full and accurate record upon which to base its decisions and the public would also be fully informed. This is a materially different result in the NEPA context. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.")

If, as DOE and the Staff say, the "materially different result" that must be proven is that the decision maker would have made a different decision, then lack of NEPA compliance could *never* be the basis for a contention because NEPA compliance does not determine *any* outcome. A decision maker could reach the same result based on a document that complies with NEPA as it could by using one that does not comply with NEPA, because NEPA does not prohibit bad results or require good ones. Thus, a petitioner could never prove that a NEPA document's failings – no matter how severe – lead to a materially different result. And yet, *NEI v. EPA*, 10 C.F.R. § 51.109(a)(2), and the Notice of Hearing all state that petitioners may challenge the

adequacy under NEPA of DOE's environmental documents.

The Staff, however, would require that to even frame an admissible NEPA contention, a petitioner must submit affidavits including technical details that: "raise[] new concerns of sufficient gravity such that another, formal in-depth look at the environmental consequences of the proposed action is necessary" and "paint a seriously different picture of the environmental landscape to warrant a supplement." Staff Answer at p. 1088. The Staff reaches this expansive conclusion by stating that, "With regard to the third prong of the motion to reopen standard, in the context of an EIS, section 2.325(a)(3) [sic] is analogous to the standard for requiring a supplemental EIS." Staff Answer at p. 1088. The Staff does cite to *Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation)*, CLI-06-3, 63 NRC 19, 27 (2006), for this "analogy," but that decision does not discuss the unique character of this proceeding or provide authority to import its standards by "analogy." Similarly, DOE cites to *Private Fuel Storage* and argues 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.'" DOE Answer at p. 52.

DOE and the Staff's reliance on standards lifted from NRC decisions that involved actual motions to reopen closed adjudications are not applicable to this unprecedented and unique proceeding.[17] In *Private Fuel Storage* Utah, by reintroducing a new contention based on "new information," sought to reopen an administrative adjudication after NRC had already issued its final adjudicatory decision or to compel NRC to require a supplemental EIS. NRC denied the motion to reopen because the "new information would not be likely to change the outcome of the

[17] *See* 73 Fed. Reg. 62933 (Oct. 22, 2008) ("An examination of the Commission's development of the position that a hearing would be held for Yucca Mountain indicates that it evolved from the unique nature of any decision on an application for a HLW repository, not from the regulatory framework for reactor licensing."); DOE Answer at p. 46 (describing this proceeding as "*sui generis*").

proceeding or affect the licensing decision in a material way." NRC explained "In such a case as this, with the record long closed, we do not lightly reopen our adjudicatory proceedings." NRC also found that the "new information" would not rise to the level requiring the preparation of a supplemental EIS because it did not "raise[] new concerns of sufficient gravity such that another, formal in-depth look at the environmental consequences of the proposed action is necessary . . . [or] paint a seriously different picture of the environmental landscape." *Private Fuel Storage, LLC*, CLI-06-3, 2006 WL 1704520, *5 (internal quotation marks omitted).

Nothing in the *Private Fuel Storage* decision supports DOE and the Staff's argument that in this unique proceeding the standards for supplementing an EIS should literally be imported into the section 2.326 motion to reopen standards, which should then themselves be literally imported into the section 51.109(c)(2) "new information" NEPA contention pleading requirement. More importantly, such a constrained view of what constitutes "new considerations" in a NEPA contention is directly contrary to *NEI v. EPA*'s ruling that "new considerations" under 51.109(c)(2) includes substantive challenges to DOE's environmental documents.[18]

The materially different result that will occur if California prevails is that proper NEPA procedures will be followed: NRC will have more complete information that complies with NEPA upon which to base its decision on the license application, and California and the public at large will be assured that NRC is basing its licensing decision on adequate environmental review

[18] NRC has formally adopted the *NEI v. EPA* standard. In the Notice of Hearing NRC ordered that "The requirements of section 51.109 should be applied consistent with *Nuclear Energy Institute, Inc. v. EPA*, 373 F.3d 1251, 1313 14 (D.C. Cir. 2004), a court decision discussing section 51.109, and consistent with the Commission's denial of the State of Nevada's petition to amend section 51.109 (73 FR 5762; January 31, 2008), and the Office of the General Counsel's subsequent letter clarifying the Commission's denial (Letter from Bradley W. Jones, Assistant General Counsel to Martin G. Malsch, dated March 20, 2008, ADAMS accession number ML080810175)." Notice of Hearing and Opportunity to Petition for Leave to Intervene, 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008).

and will have had the opportunity to comment and contribute to the same. California's contentions and affidavits contain the required factual and technical bases for its claims that DOE's environmental documents do not comply with NEPA and cannot be adopted. According to *NEI v. EPA*, the adequacy under NEPA of DOE's environmental documents constitute "significant and substantial information" that make it not practicable for NRC to adopt those documents. If NRC ultimately agrees with California on any one of its contentions, further NEPA analysis must be conducted. And in the context NEPA – an inherently procedural statute – a materially different result will be achieved.

V. CALIFORNIA'S SUPPORTING AFFIDAVITS ARE PROPER

A. Dr. Dilger's Affidavit Meets the Requirements of 10 C.F.R. § 51.109(a)(2).

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the Staff concedes, the regulations do not specify what should be contained in an affidavit, other than it should set forth factual and/or technical bases for each claim (10 C.F.R. § 51.109(a)(2)) and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Dr. Dilger's affidavit meets these requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which sets out the facts and technical basis for the contention. This is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the expert opinions to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae*, attached to his affidavit, clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum* vitae, a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of each contention.

The Staff further argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

B. Mr. Stepek's Affidavit Meets the Requirements of 10 C.F.R. § 51.109(a)(2).

Contrary to the DOE's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy (High-Level Waste Repository: Pre-Application Matters, APAPO Board)*, LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. DOE has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. DOE's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

The affidavit of Jan Stepek sets forth his qualifications. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. I hereby adopt as my own opinions the factual and technical

statements contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

VI. RESPONSES IN SUPPORT OF SPECIFIC CONTENTIONS

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

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to transportation issues, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the

Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the

rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC has no regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the Repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own

regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other document, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court or appeals or that such a challenge is time-barred, is also unavailing, see section III F. above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervener to make its case at [the contention] stage

> of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) 64 N.R.C. 257, 356

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences from the transportation of nuclear waste to Yucca Mountain that is an essential and inextricable part of the project, or at least is a connected action, and an indirect effect of the project. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

The specific material issue raised by California is that DOE's NEPA documents do not examine, analyze, and disclose the environmental impacts of transporting spent nuclear fuel and high level radioactive waste through California. DOE uses computer modeling to perform a generalized, non-specific analysis of radiological impacts from shipment of nuclear waste through each state, but does no detailed examination of the full environmental effects of such transportation for any state other than Nevada. Such impacts as increased air pollution in California's already severely polluted South Coast Air Basin or San Joaquin Valley Air Basin,

effects on the State Water Project (upon which much of the State depends for daily drinking water) of a dropped cask, damage to the State's transportation infrastructure from its use by heavy-haul trucks carrying huge and weighty casks, including over such roads as State Highway 299 that were never designed or built to carry such trucks and are insufficient to accommodate them, or effects on the capacity of small-town emergency responders that may rely on volunteers and that DOE does not even attempt to show are funded or equipped to deal with even a transportation incident that does not involve a release of radiation, let alone one that does, are totally or substantially ignored in the vague, nationalized, computer-model-driven discussion in the documents.

Further, even the generalized analysis of transportation of nuclear waste through California that DOE's NEPA documents do make may be substantially inaccurate (as well as inadequate), since the documents use only "representative routes," some of which may or may not correspond to the actual rail and truck routes the shipments will travel. California has shown in Sections III A-D above that transportation is an integral part of the Yucca Mountain project. DOE's NEPA documents are inadequate, and impracticable for NRC adoption, because they do not adequately analyze the environmental impacts of transportation through California.

DOE asserts that it is entitled to deference in how it went about its analysis, DOE Answer at 68-69, in using "representative routes" and in examining chiefly the radiological effects expected from transport on these purportedly representative routes, although one or two other environmental effects receive a passing mention. While DOE is correct that courts are required to show deference to agency decisions within that agency's area of expertise, the NRC, a sister agency with the same degree of expertise in the handling and management of nuclear materials, is not required to show that deference, but should independently review DOE's analysis based on

the standards contained in 10 C.F.R. 51.109(c), which requires a consideration of significant and substantial new information, as w offered by California in this contention. The NRC must assure, no matter what methodologies DOE used, that the adverse environmental effects of the proposed action are adequately identified and evaluated. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

DOE also argues that it is entitled to "considerable discretion" in determining the scope of its NEPA documents, and that considering only "representative routes" was a reasonable definition of the scope of DOE's EISs. DOE Answer at 68. In support of the argument, DOE cites a portion of a sentence in *Wetlands Action Network v. U.S. Army Corps of Eng'rs*, 222 F.3d 1105, 1118 (9th Cir. 2000), which holds that an agency's discretion as to the scope of its NEPA compliance will be upheld unless it is "arbitrary and capricious". However, the remainder of the sentence DOE selectively quotes says that: "connected or cumulative actions must be considered together to prevent an agency from "dividing a project into multiple 'actions,' each of which individually has an insignificant environmental impact, but which collectively have a substantial impact." 222 F.3d at 1118. It is precisely the scope of DOE's documents, which omit analysis and disclosure of the connected action of transportation, that California challenges in this contention.

DOE correctly cites to the CEQ regulations that agencies should integrate the NEPA process at the earliest possible time. 40 C.F.R. § 1501.2. Analysis of the environmental impacts of DOE's transportation decisions should be addressed in the existing NEPA documents, not at some time in the future. *See Neighbors of Cudahy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect

environmental values." *Andrus v. Sierra* Club, 442 U.S. 347 (1979). What DOE gets wrong is its compliance with these principles. Delaying the discussion of impacts of transportation of nuclear waste to the repository to a later planning process, as was done here, violates this basic rule of law.

In *Scientists' Institute For Public Info., Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1084 (D.C. Cir. 1973), the court decided the question of when an EIS is premature and when it is tardy: "Statements must be written late enough in the development process to contain meaningful information, but they must be written early enough so that whatever information is contained can practically serve as input into the decision making process." The purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). DOE's NEPA documents fail to so apprise the NRC, because they omit a major portion of the environmental impacts that may result from the licensing of the Repository. The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982).

Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and one element of the overall Repository project is transport through California, the time is ripe for an adequate environmental review of all environmental impacts from the project, including all transportation impacts.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion.

f. **Information showing that a genuine dispute exists on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents and their refusal to adequately analyze transportation impacts of the licensing application. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-1)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore,

DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008).

Dr. Dilger's affidavit otherwise meets the requirements.[19] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and

[19] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only

if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that DOE has not adequately analyzed one of the most important areas of environmental impacts from this project -- transportation of the radioactive waste, including through California. Specifically, California contends that DOE's NEPA documents are inadequate in that they only consider the generic transportation effects of "representative routes," rather than taking the "hard look", *Natural Resources Defense council v. Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972), at the environmental impacts, and all significant environmental impacts, in California of transportation of the massive quantities of spent nuclear fuel and high-level radioactive waste through the State that DOE contemplates.

The Staff argues that DOE is allowed to tier its approach and that this level of analysis was acceptable for this stage of the proceeding, and cites *Nevada v. DOE*, 457 F.3d 78 (D.C. Cir. 2006) as approving a tiered approach. However, the Staff's premise that DOE is tiering its environmental compliance is wrong, by DOE's express admission. DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. DOE Answer at 142. And, since DOE regards the use of

"representative routes" and generic impact analysis as fully satisfying NEPA even as to state-specific impacts, DOE Answer at 94, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. DOE has no stated plans to do a full NEPA analysis of the impacts of transporting at least 70,000 MTHM of radioactive material through the nation's most populous state; transport will almost certainly go without any adequate analysis by DOE. DOE did not characterize the documents as first-tier NEPA compliance, and does not commit to prepare appropriate site-specific documents in the future. California refers the Staff to DOE's recent National Transportation Plan," DOE/RW-0603. LSN # CEC000000617. In that document, DOE says only that the representative routes in the SEIS "will be considered"; no further NEPA analysis is mentioned or discussed in the list of "Critical Decisions" DOE will make on it transportation plan. See, e.g., *id.* at 2.

The Staff argues that California has failed to show how the inadequacy it alleges in this contention "would result in a significant difference in the NEPA analysis." Staff Answer at 1075. Again, the significant difference is that the environmental information that NEPA demands be given to both the public and the decision maker would be developed and made available. Contention Cal-NEPA-1 alleges that DOE's NEPA documents omit adequate – sometimes any -- information on the impacts of waste transport on air quality, on the air pollution and economic impacts of accidents that block major highways, ports or intermodal facilities, on the impacts on water quality or the State Water Project upon which California's drinking water depends of accidents, or on the impacts on the transportation infrastructure of extended use of heavy-haul trucks. A full analysis and disclosure of these impacts and others to the public and the decision makers would be a materially different result under NEPA, because it would carry out NEPA's action-forcing procedural requirements, regardless of whether the

overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.") Although, or perhaps because, NEPA is a procedural statute and not a substantive one, "[t]he procedural provisions of NEPA . . . are not flexible. Indeed they establish a strict standard of compliance." *Sierra Club v. Watkins*, 808 F.Supp 852, 859 (D.D.C. 1991).

Contrary to the Staff's assertion that it is too early for this discussion, the environmental consequences of an action need to be considered "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. (9th Cir. 1984) ("Reasonable forecasting and speculation is … implicit in NEPA") (internal citations omitted). The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989) (emphasis in original).

The Ninth Circuit has further warned that delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated. *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable

commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This is exactly what DOE should have done with respect to the transportation of waste as a part of the overall project. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts resulting from its expected transport activities. Using the most probable transportation routes, DOE should have analyzed the actual, state-by-state problems and impacts of at least 30 years of shipments of nuclear waste in heavy-haul trucks over increasingly crowded roadways, or on trains that may also be carrying other material (since DOE is now stating publicly that it is not committing to using only dedicated trains for this material), as well as on air, water, intermodal facilities, and emergency response capacity. Without an examination of all direct and indirect effects of the transportation component of the project, 40 C.F.R. § 1508.8, the DOE NEPA documents are inadequate and impracticable for adoption by the NRC.

Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. For the reasons stated above, Dr. Dilger's affidavit met the regulatory requirements and this contention is admissible

CAL-NEPA-2

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

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA as to transportation issues. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to transportation routing issues, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22,

2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate

affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed agency action at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other document, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court or appeals or that such a challenge is time-barred, is also unavailing, see section III F. above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a

> summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons."

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences from choosing and employing the specific routes for rail and truck transportation of nuclear waste to Yucca Mountain that is an essential and inextricable part of the project, or at least is a connected action, and an indirect effect of the project. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

The specific material issue raised by California is that the NEPA documents at issue are inadequate in that they have failed to identify and analyze the environmental impacts of the actual routes DOE will use to transport nuclear waste through California to Yucca Mountain. The volume of nuclear waste that DOE's "representative routes" show passing through California is daunting: the NEPA documents indicate that over 800 truck shipments and over 700 rail casks shipments of spent nuclear fuel will be transported through San Bernardino County (in Southern California) alone over the life of the project if the Caliente route is chosen. SEIS, App. G, G-10. Despite this high volume of expected shipments through California, DOE has segmented and postponed selection of actual routes for the rail and truck shipments until

some time in the future. However, DOE has no stated plans to identify specific routes through California and do a full NEPA analysis of the impacts of transporting at least 70,000 MTHM of radioactive material over them. In fact, DOE has now issued a "National Transportation Plan," DOE/RW-0603, LSN # CEC000000617, and it contains neither an identification of specific transportation routes or any commitment to prepare and certify supplemental EISs when such routes are chosen. In that document, DOE says only that the representative routes in the SEIS "will be considered" when actual routes are chosen; no further NEPA analysis is mentioned or discussed in the list of "Critical Decisions" DOE will make on it transportation plan. See, e.g., *id.* at 2. Neither the public nor the NRC can know before the licensing proceeding will probably be completed whether all, or any, of the "representative routes" in the current NEPA documents will be used.

DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. DOE Answer at 142. And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA even as to state-specific impacts, DOE Answer at 94, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. It may well be that many routes will eventually be selected by DOE will receive no NEPA analysis at all; it is certainly the case that such analysis, if DOE ever does it, will come far too late under DOE's current schedule for the presiding officer to be able to consider it in making the decisions called for under NRC regulations at 10 C.F.R. §51.109(e). As noted in the contention, DOE's "Project Decision Schedule (PDS)", LSN # CEC000000622, does not even list route selection, except in Nevada, as a decision point in the project. Transportation is an integral part of the project, is a connected action, and is an indirect effect of the project. See sections III A-D, above. DOE has

failed to identify or analyze in any route-specific way the routes it will use to transport nuclear waste through California, leaving this integral portion of the Repository project very inadequately analyzed. That DOE is capable of identifying and analyzing state-specific routes is shown by the analysis it has done of routes within Nevada. Since such analysis is feasible, it must be done for California, as well, for the DOE NEPA documents to be adequate under NEPA.

DOE asserts that it is entitled to deference in how it went about its analysis (DOE Answer at 76-77), in using "representative routes" for transport and examining chiefly the radiological effects expected from transport on these purportedly representative routes, although one or two other environmental effects receive a passing mention. While DOE is correct that courts are required to show deference to agency decisions within that agency's area of expertise, the NRC, a sister agency with the same degree of expertise in the handling and management of nuclear materials, is not required to show that deference. NRC should independently review DOE's analysis based on the standards contained in 10 C.F.R. § 51.109(c), which requires a consideration of significant and substantial new information, as was offered by California in this contention. The NRC must assure, no matter what methodologies DOE used, that the adverse environmental effects of the proposed action are adequately identified and evaluated. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332,350 (1989).

DOE also argues that it is entitled to "considerable discretion" in determining the scope of its NEPA documents, and that considering only "representative routes" rather than identifying actual routes and analyzing their environmental impacts was a reasonable definition of the scope of DOE's EISs. DOE Answer at 77. In support of the argument, DOE cites a portion of a sentence in *Wetlands Action Network v. U.S. Army Corps of Eng'rs*, 222 F.3d 1105, 1118 (9th Cir. 2000), which holds that an agency's discretion as to the scope of its

NEPA compliance will be upheld unless it is "arbitrary and capricious". However, the remainder of the sentence DOE selectively quotes says that: "connected or cumulative actions must be considered together to prevent an agency from "dividing a project into multiple 'actions,' each of which individually has an insignificant environmental impact, but which collectively have a substantial impact." 222 F.3d at 1118. It is precisely the scope of DOE's documents, which omit analysis and disclosure of connected actions, that California challenges in this contention. As the district court held in *Sierra Club v. Watkins*, 808 F.Supp. 852, 863 (D.D.C. 19910, "the crucial issue is whether the various agency actions, when combined, have an effect on the environment that might be overlooked if examined separately. . . ." Here, by segmenting route selection and characterization from the consideration of transportation, DOE has overlooked environmental impacts from transportation that would be apparently if actual routes were examined.

DOE correctly cites to the CEQ regulations that agencies should integrate the NEPA process at the earliest possible time. 40 C.F.R. § 1501.2. Analysis of the environmental impacts of DOE's transportation decisions should be addressed in the existing DOE NEPA documents, not at some time in the future. *See Neighbors of Cudahy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect environmental values." *Andrus v. Sierra* Club, 442 U.S. 347 (1979). What DOE gets wrong is its compliance with these principles. Delaying the discussion of impacts of route selection for transportation of nuclear waste to the repository to a later planning process, as was done here, violates this basic rule of NEPA law.

DOE believes it has done an adequate analysis for "this stage of the process." In *Scientists' Institute For Public Info., Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1094 (1983), the Court decided the question of when an EIS is premature and when it is tardy. "Statements must be written late enough in the development process to contain meaningful information, but they must be written early enough so that whatever information is contained can practically serve as input into the decision making process." The purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). DOE's NEPA documents fail to so apprise the NRC, because they omit a major portion of the environmental impacts that may result from the licensing of the Repository, namely the selection and environmental analysis of specific transportation routes through California and their specific environmental effects.

The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982).

This is exactly what DOE has done as to route selection through California. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE

intends to transport nuclear waste through California to the Repository, the time is ripe for environmental impact review of all impacts resulting from the expected transport activities. Contrary to DOE's argument at 78, California is not saying that DOE did its analysis too early, California is saying that DOE is waiting until too late, if ever, to do the analysis.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion.

f. **Information showing that a genuine dispute exists on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents and their refusal to identify and adequately analyze transportation impacts of specific routes through California. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-2)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states

that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008).

Dr. Dilger's affidavit otherwise meets the requirements.[20] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum* vitae, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in

[20] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only

if they are adequate, and its duty to allow parties to raise environmental considerations, explicitly including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that insofar as DOE has analyzed one of the most important areas of environmental impacts from this project -- transportation of the radioactive waste – it has analyzed only "representative" routes. The DOE NEPA documents contain no identification of specific routes, and present no route-specific analysis of transportation on such routes' unique geography, hazards, resources, or population. Specifically, California contends that DOE's NEPA documents are inadequate in that they only consider the generic transportation effects of "representative routes," rather than taking the "hard look", *Natural Resources Defense council v. Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972), at the environmental impacts in California on specific, reasonably foreseeable routes, of transportation of the massive quantities and high number of shipments of spent nuclear fuel and high-level radioactive waste through the State that DOE contemplates. *Sierra Club v. Watkins*, 808 F.Supp. 852, 875 (D.D.C. 1991) ("[I]t is relevant [to a NEPA analysis] that multiple shipments passing over the same route will expose many of the same people to the incident-free dose each time fuel rods are transported.")

The Staff argues that DOE is allowed to tier its approach and that this level of analysis was acceptable for this stage of the proceeding, and cites *Nevada v. DOE*, 457 F.3d 78 (D.C. Cir. 2006) as approving a tiered approach. However, the Staff's premise that DOE is tiering its environmental compliance is wrong, by DOE's express admission. DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. DOE Answer at 142. And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA even as to state-specific impacts, DOE Answer at 94, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. DOE has no stated plans to identify specific routes through California and do a full NEPA analysis of the impacts of transporting at least 70,000 MTHM of radioactive material over them. In fact, DOE has now issued a "National Transportation Plan," DOE/RW-0603, LSN # CEC000000617, and it contains neither an identification of specific transportation routes or any commitment to prepare and certify supplemental EISs when such routes are chosen. In that document, DOE says only that the representative routes in the SEIS "will be considered" when actual routes are chosen; no further NEPA analysis is mentioned or discussed in the list of "Critical Decisions" DOE will make on it transportation plan. See, e.g., *id.* at 2. Neither the public nor the NRC can know whether all the "representative routes" in the current NEPA documents will be used. It may well be that many routes will eventually be selected by DOE will receive no NEPA analysis at all; it is certainly the case that such analysis, if DOE ever does it, will come far too late under DOE's current schedule for the presiding officer to be able to consider it in making the decisions called for under NRC regulations at 10 C.F.R. §51.109(e). As noted in the contention, DOE's "Project Decision

Schedule (PDS)", LSN # CEC000000622, does not even list route selection, except in Nevada, as a decision point in the project.

NEPA requires that all significant environmental impacts, direct and indirect, of a project be analyzed and disclosed. See discussion at section III D, above. As to the Repository, this must include such analysis and disclosure of the impacts of transportation, including a route-specific analysis that takes account of the unique features, dangers, and resources of each potential specific route. The NRC cannot practicably adopt DOE's NEPA documents as first-tier, programmatic EISs when DOE does not commit to prepare appropriate site-specific documents in the future.

The Staff argues that California has failed to show how the inadequacy it alleges in this contention would result in a significant difference in the NEPA analysis or the Staff's adoption of DOE's NEPA documents. Staff Answer at 1079-1080. Again, the significant difference is that the environmental information that NEPA demands must be given to both the public and the decision maker would be developed and made available. Contention CAL-NEPA-2 alleges that DOE's NEPA documents omit adequate, or any, route-specific information on the impacts of waste transport on air quality, on the air pollution and economic impacts of accidents that block major highways, ports or intermodal facilities, on the impacts on water quality or the State Water Project upon which California's drinking water depends of accidents, or on the impacts on the transportation infrastructure of extended use of heavy-haul trucks. A full analysis and disclosure of these impacts and others to the public and the decision makers would be a materially different result under NEPA, because it would carry out NEPA's action-forcing procedural requirements, regardless of whether the overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking

process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.") Although, or perhaps because, NEPA is a procedural statute and not a substantive one, "[t]he procedural provisions of NEPA . . . are not flexible. Indeed they establish a strict standard of compliance." *Sierra Club v. Watkins*, 808 F.Supp. 852, 859 (D.D.C. 1991).

Contrary to the Staff's assertion that it is too early for this discussion, the environmental consequences of an action need to be considered "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. (9th Cir. 1984) ("Reasonable forecasting and speculation is … implicit in NEPA") (internal citations omitted). The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989) (emphasis in original).

The Ninth Circuit has further warned that delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated. *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761

(1982). This is exactly what DOE should have done with respect to identification of routes and analysis of route-specific impacts. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts resulting from its expected transport activities. DOE should have used the best information available to it to identify and analyze the route-specific and site-specific problems and impacts of at least 30 years of shipments of nuclear waste in heavy-haul trucks over increasingly crowded roadways, or roadways such as those leading from California's Humboldt or Diablo Canyon plants that were never designed for such transport, or on trains that would be going over the treacherous curves of California's Cajon Pass or through the Sierra Nevada Mountains, and that may also be carrying other material (since DOE is now stating publicly that it is not committing to using only dedicated trains for this material), as well as on air, water, intermodal facilities, and emergency response capacity. Delaying the discussion of all of the impacts of transportation of nuclear waste to a later planning process violates this basic principle of law.

Concise Statement of Supporting Facts or Expert Opinion

The Staff asserts that specific routes do not need to be identified or analyzed now. As set out in the preceding section, NEPA requires an accurate description of the project and an early analysis of all significant impacts of the proposed action. In the area of route selection and analysis, this has not been done. The Staff also attacks this contention as based on Dr. Dilger's affidavit. Dr. Dilger has given his expert opinion as to the route selection omissions in DOE's NEPA documents, and that is adequate to meet the contention pleading requirements, as discussed above. This contention is admissible.

CAL-NEPA-3

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

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that the *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to transportation routing issues and the choice between the Caliente and the Mina routes, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22,

2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate

affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement.

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have direct regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed agency action at issue here. The project here is to establish a repository for the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a), adopted by NRC at 10 C.F.R. § 51.14(b). "Connected actions" are actions that are closely related, so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but are inadequate in that they avoid discussing transportation impacts outside of Nevada). See section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in

Public Citizen prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals, or that such a challenge is time-barred, is also unavailing, see section III F above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its

> contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) 64 NRC 257, 356

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from the choice between the Caliente and the Mina route for transport of nuclear material to the Repository. DOE's NEPA documents indicate that vastly different numbers of truck shipments and rail cask shipments of spent nuclear fuel will be transported through California over the life of the project, depending on whether the Caliente route or the Mina route is chosen.

If the Mina route is chosen well over 1,000 additional rail casks will be shipped through California than if the Caliente route is chosen, SEIS Chapter 6, at 6-18-19, App. G at G-16-18, and they will travel hundreds of miles further than if the Caliente route is chosen. SEIS App. G, Fig. G-2. Many tens of thousands of California residents may be exposed to radiation from these shipments if the Mina Route is chosen that will not be so exposed if the Caliente route is chosen. In addition, high-level radioactive waste from DOE's Hanford facility will pass through

California if the Mina route is chosen, but not if the Caliente route is chosen, SEIS App. G, Fig. G-2, significantly altering the radiation to which California residents will be exposed.

DOE attempts to brush off this contention on the basis that the Caliente route is the preferred route, so a failure to adequately analyze the Mina route could not lead to a materially different outcome of the proceeding. There are three answers to this argument. First, as set out previously, NEPA is primarily a procedural statute, *Marsh v.* Oregon, 490 U.S. 360, 371 (1989). The gathering and making public of the information produced by the "hard look" it requires federal agencies to take at the environmental consequences of their actions and decisions, information proved to both the decision maker and the public, is a prime goal of the law. *Maryland-Nat'l Capital Park & Planning Comm'n v. U.S. Postal Serv.*, 487 F.2d 1029, 1040 (D.C. Cir. 1973); Rodgers, "A Hard Look at *Vermont Yankee*: Environmental Law Under Close Scrutiny," 67 Gep. L.J. 699, 705-706 (1979)(footnote omitted). For DOE to provide the information this contention seeks would itself be a materially different result. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989).

Second, NEPA requires that all alternatives be adequately analyzed and their environmental impacts fully disclosed. 40 C.F.R. section 1502.14 (analysis of alternatives "is the heart of the environmental impact statement"); *Oregon Natural Desert Assn. v. Bureau of Land Management*, 531 F.3d 1114, 1121 (9th Cir. 2008). Failure to adequately analyze an alternative makes an EIS inadequate. *Westlands Water Dist. V. U.S. DOI*, 376 F.23d 853, 868 (9th Cir. 2004). Here, there are two transportation route alternatives whose environmental consequences for California DOE has failed to analyze and disclose. It the full analysis is done, it would provide information to the decision maker and the public that NEPA requires, which is a materially different result under NEPA. It might also be of actual assistance to the NRC.

Third, DOE appears to believe that its choice of the Caliente route as the preferred route makes any analysis of the Mina route irrelevant to this proceeding. However, the reason DOE has given for rejecting the Mina route is not grounded in environmental analysis, or in technical reasons; it is solely that the Walker River Paiute Tribe, upon whose lands the Mina route would impinge, refuses consent. DOE Answer at 82. However, the Tribe has wavered in its opposition to the use of its lands before, and may do so again. That the Tribe may withdraw its objections to the Mina route is reasonably foreseeable in light of its past conduct. If it did, the Mina route would again become a viable alternative and, as such, should be fully analyzed and its impacts disclosed. Further, although the NWPA provides that DOE does not need to examine any alternative site for the Repository itself, there is no such limitation on examination of alternatives for transporting the material that will fill the Repository. As to transportation, the normal requirements set out in 40 C.F.R. section 1502.14, adopted by DOE in 10 C.F.R. section 1021.103, that DOE "[r]igorously explore and objectively evaluate all reasonable alternatives" apply. While that same section allows an agency to eliminate alternatives from study if it explains why it has done so, DOE did not eliminate the Mina route from study. Rather, it simply did not choose this route. This section of CEQ's and DOE's regulations does not excuse DOE from studying this alternative "rigorously" before rejecting it, particularly since without the Mina route, DOE will not have examined a range of alternatives required by the statute and the regulations. 42 U.S.C. section 4332(C)(iii), 40 C.F.R. section 1502.14.

DOE argues that its NEPA documents have adequately addressed all differences between the Caliente and Mina routes through the use of modeling of "representative routes." DOE Answer at 81-82. This is clearly incorrect. For example, DOE has not examined or disclosed the specific differences in impacts between the two routes in California that would result from the

widely different topography of the two routes within the state. The Mina route would traverse the Sierra Nevada Mountains over the Donner Summit, a route with snow tunnels, deep valleys from which a dropped cask would be extremely difficult to retrieve, treacherous curves and steep slopes, and frequent impassibility due to snow or storm. The routes differ markedly in the population concentrations, and in their degree of urbanization, with its attendant traffic and train delays; while such delays would not significantly increase local or worker radiation exposure over any one trip, DOE contemplates shipping to continue over perhaps 50 years, making it possible for tiny radiation exposures to add up. The lack of a route-specific comparison makes it impossible to accurately estimate actual exposures, or to make a choice between them that is grounded in environmental or technical considerations.

This is a serious flaw. The purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). DOE's NEPA documents fail to so apprise the NRC, because they omit a major portion of the environmental impacts that may result from the licensing of the Repository. The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982).

This is exactly what DOE has done as to a comparison between the Caliente and Mina routes. DOE has stated, DOE Answer at 142, that the agency has no plans to do a full transportation analysis later. The result of DOE's approach will be that *no* adequate analysis of the differences between these two routes' environmental impacts will ever be done. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and one element of the overall Repository project is transport through California, the time is ripe for an adequate environmental review of all environmental impacts from the project, including all transportation impacts.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion.

f. **Information showing that a genuine dispute exists on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents and their refusal to adequately analyze transportation impacts of the licensing application. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-3)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion above of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot

Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The

courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists, and the presiding officer should interpret the instructions to apply the standards in § 2.326 "to the extent possible" in light of this fact. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that DOE has not adequately analyzed the environmental benefits and dangers of one of the most important environmental choices about this project that will be made as to California: the choice between the Mina and the Caliente routes. The Staff cites to DOE's Record of Decision (ROD) identifying the Caliente route as DOE's preferred route, and uses that ROD to argue that California has not shown how a discussion of the differing environmental effects from the Mina and Caliente routes "would enhance DOE's NEPA analysis." Staff Answer at 1089. California is aware of that ROD. However, DOE states in its NEPA documents that it has chosen the Caliente route not because of

technical or environmental considerations, but because the Mina route would traverse the Walker River Paiute Tribe's land, and the Tribe will not consent to any impingement on its lands by transport of waste to Yucca Mountain. SEIS, at I-5. Should the Tribe change its position in the future, as it has done to some extent in the past, DOE may reconsider the Mina route. It is a reasonably foreseeable event that this may happen, since it has happened once already. However, should the Tribe change its mind again, and the Mina route become feasible, DOE would not have an adequate environmental analysis to use in making a reasoned and environmentally sound choice between the Caliente and Mina routes. In that eventuality, preparation by DOE of an adequate environmental analysis comparing the two routes will produce a materially different outcome in two ways: 1) the procedures NEPA mandates will be carried out, producing the information that NEPA requires an agency to give both itself and the public; and 2) that information could also serve to provide DOE with a rational, environmental basis on which to choose the rail route it will use. In any event, the production of the information and analysis NEPA demands constitutes a materially different result.

Further, while the Staff may not see full environmental analysis of the differences between the Mina and the Caliente routes as "material" to this proceeding, California most certainly does. As set out in the contention, the numbers of rail shipments coming through California differ dramatically, even under DOE's inadequate and superficial analysis, depending on which route is chosen. Not only should DOE and the NRC be aware of the differences, California and her many municipalities need to know what environmental impacts they may face, and where they may occur. As the Supreme Court unanimously explained in *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349, 352-53 (1989), NEPA documents serve a very important "informational role." They "provide[] a springboard for public comment," and

give state and local governments "adequate notice of the expected consequences and the opportunity to plan and implement corrective measures in a timely manner." *Id*., at 350; *see* 40 C.F.R. § 1503.1 (requiring federal agencies to obtain comments from states, local governments, tribes, and affected or interested members of the public); § 1502.9 (requiring federal agencies to federal agencies to address in final EIS opposing views not adequately addressed in draft EIS); 42 U.S.C. § 4331. "Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Robertson*, 490 U.S. at 352. Without such a discussion, DOE's NEPA documents are inadequate and impractical for adoption by the NRC.

Staff's Answer concedes that "California presents evidence that impacts in California would be greater if the Mina corridor were constructed and used to transport waste within Nevada than if the Caliente corridor were constructed and used to transport waste within Nevada." Staff Answer at 1092-1093. Staff then lists several adverse impacts cited by California. Such evidence satisfies the pleading requirements, even as the Staff incorrectly reads those requirements. Should the NRC condition any license for the Repository on DOE's construction and use of the Caliente rail line that its ROD lists as the preferred route, California will withdraw CAL-NEPA-3. In the absence of such a condition, California the contention raises a material issue.

The purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). DOE's NEPA documents fail to so apprise

the NRC, because they omit a major portion of the environmental impacts that may result from the licensing of the Repository. The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982).

This is exactly what DOE has done as to transportation impacts, performing only a conceptual analysis now, but also stating, DOE Answer at 142, that the agency has no plans to do a full analysis later. The result of DOE's approach will be that *no* adequate analysis of the differences between the environmental impacts of these two routes through California will ever be done. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and one element of the overall Repository project is transport through California, the time is ripe for an adequate environmental review of all environmental impacts from the project, including all transportation impacts.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff argues that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. Dr. Dilger has given his expert opinion of the differences between the two routes that may produce different environmental effects, and that is adequate to meet the contention pleading requirements, as discussed above. This contention is admissible.

CAL-NEPA-4

DOE'S NEPA Documents Fail to Adequately Discuss or Analyze Mitigation in California Adequately

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that the *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA as to transportation issues. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to issues involving mitigation of transportation effects, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22,

2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate

affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement.

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed agency action at issue here. The project here is to establish a repository for the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3. The Report does not exclude transportation impacts from its determination.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals, or that such a challenge is time-barred, is also unavailing, see section III F above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. As discussed above, this is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervener to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is

> favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons."

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed and discussed mitigation for the public health and safety and other environmental consequences from the transportation of nuclear waste to Yucca Mountain. Such transportation, and mitigation for its impacts, are an essential and inextricable part of the project, or at least are part of a connected action, and are an indirect effect of the project. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

In this contention, California alleged that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to set out possible mitigation measures for the expected impacts from transportation within and through California of the nuclear waste DOE proposes to ship to Yucca Mountain, even though DOE does discuss and propose mitigation for environmental impacts of the project in Nevada.

In its response, DOE ignores the thrust of the contention, which is that where there are impacts there must be at least a full discussion of mitigation. *Robertson v. Methow Valley Citizens Council*, supra, 490 U.S. 332, 352. Instead, DOE focuses on one example of harm for which mitigation should be discussed, namely larger-than-average radiation exposure due to intermodal transfers, and argues that California's expert has presented only two examples of

specific areas in California where such larger than average incident-free radiation exposures will occur. DOE appears to be arguing because Dr. Dilger has not presented more specific examples of such situations, there is no need for a discussion of California-specific mitigation of any kind. DOE's response to a contention challenging lack of mitigation for larger-than-average radiation doses seems to be that California must first list, and prove, every location where such doses will occur; otherwise, national discussions will suffice to satisfy NEPA as to California-specific impacts.

NRC pleading rules do *not* require that California prove its contention at this stage, only that it allege it clearly and show it to be material. The contention, and Dr. Dilger's affidavit, do so by providing concrete examples of locations where there will be larger-than-average radiation doses due to intermodal transfers, satisfies the pleading requirements. California could not simultaneously comply with the requirement that contentions submitted in this proceeding be brief and succinctly stated, and also provide a comprehensive list of every California-specific impact for which DOE should discuss mitigation. This contention has satisfied the pleading requirements by describing the general deficiency of DOE's NEPA documents -- failure to discuss specific mitigation measures for impacts in California, as it does for Nevada -- and providing specific examples of locations and situations where such California-specific impacts will occur.

Second, DOE's assertion that an estimate of total fatalities from radiation over the course of the project, an estimate based on "representative routes" rather than specific routes with their specific characteristics and problems, satisfies the NEPA duty to discuss mitigation is legally unsupported and flouts NEPA's full disclosure mandate. Impacts require mitigation, they are not

themselves mitigation, and DOE does not satisfy its NEPA duty to present and discuss mitigation by listing impacts.

DOE also argues that the mitigation it has discussed on a nationwide scale is sufficient for California. DOE Answer at 90-91. However, Dr. Dilger's affidavit offers specific examples where mitigation for specific impacts may be required, and DOE's national mitigation does not adequately address them. Dr. Dilger gives his expert opinion that there may be the need for such mitigation as a dedicated spur line and special handling facilities to protect workers and inspectors at specific locations in California, including the Barstow yard or the shipping facilities, as yet unidentified, for shipping spent nuclear fuel from the Diablo Canyon plant. DOE's vague assertions about its generic, national mitigation measures do not demonstrate that they will be sufficient in these particular fact situations of California facilities. This satisfies the pleading requirements. Whether or not DOE's nationwide mitigation measures are legally sufficient to defeat this contention is a factual matter to be resolved at the hearing.

DOE also argues that the full environmental impacts of the project are not yet known, making it infeasible to discuss mitigation measures for them; it argues that a "merely conceptual" mitigation plan is adequate at this stage. DOE Answer at 92. However, transportation to the Repository is just as far off and just as "premature and speculative," DOE Answer at 92, for Nevada as for California, yet it was possible for DOE to present and discuss at some length mitigation measures for impacts in Nevada. DOE has shown that it can devise and discuss mitigation plans that are specific to a particular state; having shown the feasibility of devising and presenting state-specific mitigation, it must devise and present such mitigation for California, as well as for Nevada.

DOE also disputes Dr. Dilger's calculation of the number of rail shipments that will go through the Barstow rail yard, without demonstrating that the lower number DOE calculates obviates the need to adequately discuss mitigation. DOE Answer at 93. This, again, is a factual issue that should be resolved at the hearing.

Finally, DOE argues that it is too soon to know what specific impacts will need to be mitigated. However, DOE states that the agency has no plans to do a full analysis later. DOE Answer at 142. The result of DOE's approach will be that *no* adequate analysis of mitigation will ever be done. DOE makes no commitment that it will supplement the SEIS when such details are known. DOE promises only to "build on and borrow from the experience and successes" of other federal programs; it makes no promises to prepare and present any California-specific mitigation plan. Under applicable law, analysis of the environmental impacts of DOE's transportation decisions, including mitigation should be addressed now, as the NRC considers DOE's licensing application, not at some time in the future. *See Neighbors of Cudahy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect environmental values." *Andrus v. Sierra* Club, 442 U.S. 347 (1979). The purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[] a maximum range of options*." *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated."

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DOE has perform only a conceptual analysis of mitigation for transportation impacts now. However, it also states, DOE Answer at 142, that the agency has no plans to do a full analysis later. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and one element of the overall Repository project is transport through California, the time is ripe for an adequate environmental review of all environmental impacts from the project, including all transportation impacts.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

For the reasons listed above, California has presented adequate supporting facts, expert opinions and references to support this contention.

f. **Information showing that a genuine dispute exists on a material issue of law or fact**

For the reasons stated above, a genuine dispute on several material issues of fact and law exists between DOE and California as to the adequacy of the NEPA documents and their refusal to adequately analyze mitigation of California-specific transportation impacts of the licensing application. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-4)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV

above for a full discussion above of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[21] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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[21] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review

Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that DOE has not adequately analyzed specific mitigation measures for the transportation of the huge volume of radioactive waste through California that it anticipates causing. Although DOE's NEPA documents discuss and provide for mitigation measures for impacts of transportation in Nevada on a state-specific basis, they do not do so for California, nor do they provide any environmentally sound rationale for this failure.

DOE has shown that it can devise and discuss mitigation plans that are specific to a particular state; having shown the feasibility of devising and presenting state-specific mitigation, it must do so for California.

The so-called national mitigation cited by the Staff, Staff Answer at 1096, found at SEIS 9-12 to 9-13, consists of two half-pages of text that, in their essence, merely state that DOE will obey the law as to nuclear waste transport, and will continue transport practices that it has used in the past. This is not the careful identification and description of mitigation for the potential impacts of a federal action that NEPA requires. Where there are impacts, NEPA requires at least a full discussion of mitigation. *Robertson v. Methow Valley Citizens Council*, supra, 490 U.S. 332, 352. Mere compliance with statutory and regulatory requirements does not in itself constitute mitigation. Rather, compliance with such requirements is a required component of any proposed project. It is not mitigation to say that a project that complies with applicable laws and regulations will have fewer impacts than one that violates such mandates; no agency has the authority to propose or carry out a project that does not comply with applicable laws and regulations. A mitigation discussion under NEPA must be more than a recitation of such compliance. It is the purpose of NEPA to impose an additional review, over and above an agency's substantive mandate, to ensure that environmental values are considered, and are not ignored simply because they are not part of an agency's substantive statutes. *Calvert Cliffs' Coord. Com. v. U.S. A. E. Comm.*, 449 F.2d 1109, 1125 (D.C. Dir. 1871). This is as true for mitigation as for NEPA's other procedures.

The Staff argues that California does not show how the lack of information on specific mitigation makes the DOE NEPA documents inadequate and impracticable for adoption by the NRC. However, Dr. Dilger's affidavit provides concrete examples of locations where there will

be larger-than-average radiation doses due to intermodal transfers, which satisfies the materiality requirement and does show a significantly different picture of the environmental landscape. Appendix H in the SEIS identifies and discusses transportation only on a general and national level. It does not identify specific mitigation for specific areas and situations where impacts may occur. Dr. Dilger's affidavit provides specific examples of specific locations in California where disproportionate impacts may occur, such as the rail yard in Barstow. Dr. Dilger describes the number of shipments that will occur, and discusses the need for such mitigation as a dedicated spur line and special handling facilities to protect workers and inspectors at this site. The SEIS does not show that DOE's generic, national mitigation measures will be sufficient in the particular fact situations of California facilities such as the Barstow yard, nor for the shipping facilities, as yet unidentified, for shipping spent nuclear fuel from the Diablo Canyon plant. As *Robertson v. Methow Valley* holds, "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA." 490 U.S. at 352. Omission of such a discussion as to California renders DOE's NEPA documents inadequate, and therefore impracticable for adoption by the NRC.

Site specific mitigation analysis and disclosure, like the rest of the required NEPA process, must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This is exactly what DOE should have done with respect to mitigation measures for impacts in California, which it tacitly admits is feasible through its identification and discussion of such mitigation in Nevada. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts resulting from

its expected transport activities. Using the most probable transportation routes, DOE should have analyzed the route-specific and site-specific problems and impacts of at least 30 years of shipments of nuclear waste through California in heavy-haul trucks over increasingly crowded roadways, or on trains that may also be carrying other material (since DOE is now stating publicly that it is not committing to using only dedicated trains for this material), as well as on air, water, intermodal facilities, and emergency response capacity, and should have fully discussed specific mitigation for impacts in California. Without an examination of such mitigation, the DOE NEPA documents are inadequate and impracticable for adoption by the NRC.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. Dr. Dilger has given his expert opinion as to specific areas where specific mitigation measures, beyond the generic national mitigation, may be required. That is adequate to meet the contention pleading requirements, as discussed above. This contention is admissible.

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

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Then, DOE presents two mutually exclusive arguments: 1) that the DOE NEPA documents propose and analyze only a Repository with a maximum capacity of 70,000 MTHM, purportedly making this contention factually unfounded; and 2) that the DOE NEPA documents propose and discuss a Repository with a capacity of up to 130,000 MTHM, purportedly making this contention factually unfounded in precisely the opposite way. None of these arguments has any merit, and the latter two are mutually contradictory.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial

information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate

affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement.

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE disingenuously argues that this contention is outside the scope of the proceeding because both DOE and NRC are limited under the NWPA to proposing and considering a Repository with a cap of 70,000 MTHM. DOE Answer at 98, 99. However, DOE has made a formal proposal to Congress for legislation that would lift that statutory cap. DOE/RW-0595, LSN CEC000000613. NEPA requires that an environmental impact assessment or statement must be prepared for "*every recommendation* or report on proposals *for legislation* and other major Federal actions significantly affecting the quality of the human environment. . . ." 42 U.S.C. § 4332(2)(C), emphasis added. While most EISs are prepared for federal actions, such as highway construction or dredging permits, a NEPA analysis is also required by the statute itself for legislative proposals that can significantly affect the human environment. *Realty Income Trust v. Eckerd*, 564 F.2d 447, 454 (D.C. Cir. 1977).

DOE has made such a proposal as to Yucca Mountain. In so doing, DOE fundamentally changed the nature of the project it is proposing for the Yucca Mountain site, and therefore fundamentally changed the nature of the NEPA analysis it is required by law to perform. The CEQ regulations provide that agencies shall prepare statements on broad actions or proposals so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision making. 40 C.F.R. §1502.4(b). An agency action will be considered a proposal for NEPA purposes if it meets a test "with two prongs: (1) the agency is actively pursuing a goal, and (2) the effects can be meaningfully evaluated. See 40 C.F.R. § 1508.23." *Northern Alaska Environmental Center v. Norton*, 362 F.Supp.2d 1069, 1081 (D.AL 2005).[22] Here, DOE's formal request to Congress shows that the agency has adopted a goal of expanding

[22] 40 C.F.R. § 1508.23 has been adopted by the NRC at 10 C.F.R. § 51.14(b), and by DOE at 10 C.F.R. § 1021.103.

the Repository to at least 130,000 MTHM, satisfying the first prong of the test. The second prong of the test, that an expanded Repository could be analyzed, is satisfied by the DOE's discussion, an inadequate discussion, of an expanded Repository in its NEPA documents for the smaller Repository.

DOE cannot have it both ways. Its first argument, that it is proposing only the Repository of 70,000 MTHM capacity, is gainsaid by the proposal it has made to Congress for legislation to expand the Repository; DOE cannot now claim that its proposal is solely for the more limited Repository. Therefore, the NEPA documents it has placed before the NRC are inadequate, because they present the project as the limited Repository, not the expanded one DOE is proposing elsewhere. An accurate and stable project description, internally consistent in the NEPA documents, is essential to an accurate analysis of the project's environmental effects. A near-doubling of the capacity of Yucca Mountain will obviously double the amount of waste that needs to be transported to it, doubling the impacts to states like California through which the waste will pass; these environmental effects cannot be adequately or accurate assessed unless the full definition and scope of the proposed action is both complete and consistent. A cursory analysis of half of the project, inconspicuously placed in the cumulative analysis section, as though it were a separate project, is inadequate.

At the very least, the proposed expansion of Yucca Mountain is a connected action to the present, smaller proposed Repository. It is a project intimately connected to the present project, since it is on the same site, using the same facility, with the same goal of storage and disposal of nuclear waste. As discussed above in section III C, the CEQ regulations, as adopted by DOE and the NRC, require that connected actions to the main agency proposals must go through the full NEPA process together with the main proposal. There can hardly be a more obviously or closely

connected action than the doubling of an action already being proposed. NEPA requires DOE to fully analyze and discuss its proposed expansion of the capacity of Yucca Mountain in the current NEPA documents, not give it a quick glance in less than 50 pages. Without a full and adequate discussion of the second half of the project as DOE has proposed it to Congress, the documents are inadequate, and impracticable for adoption by the NRC. This contention is within the scope of the proceeding.

As to the portion of the contention dealing with California's inability to determine from the current documents what the transportation impacts of a nearly doubled Yucca Mountain would be, DOE argues that the NRC has no regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the Repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation.

However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other document, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court or appeals or that such a challenge is time-barred, is also unavailing, see section III F. above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's

conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1) (v) "does not call upon the intervener to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons."

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences from the transportation of nuclear waste to Yucca Mountain that is an essential and inextricable part of the project, or at least is a connected action, and an indirect effect of the project. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

California has raised a material failing of the NEPA documents submitted by DOE that renders those NEPA documents inadequate, namely that DOE failed to adequately assess all public health and safety and other environmental impacts from the proposed project by

presenting an inconsistent and incomplete project description. DOE's NEPA documents describe the proposed project as a repository "for the disposal of up to 70,000 MTHM." SEIS, 2-1. The bulk of the documents deal, albeit inadequately, with an environmental analysis of Yucca Mountain as a repository of that size. However, as DOE's Answer points out, the DOE NEPA documents also contain a section discussing Yucca Mountain as a repository for *all* commercial spent nuclear fuel that could be generated by operation for up to 60 years of all existing commercial nuclear plants in the United States, approximately 130,000 MTHM in total. SEIS 8-4-7, 8-16-35, 8-39-51. DOE has now presented a proposal to Congress to remove the current limit on the capacity of Yucca Mountain, which would allow the Repository to contain at least the 130,000 MTHM discussed by DOE, and perhaps even more. DOE/RW-0595, LSN CEC000000613. Yucca Mountain cannot be at one and the same time a repository of two such starkly differing sizes, yet both are presented in the DOE NEPA documents, and DOE is actively proposing the larger repository to Congress at one and the same time that it is presenting the smaller repository for licensing here. DOE buries a short and cursory discussion of the larger repository in the cumulative analysis section, as though the larger repository were a separate project from the one that is the subject of this proceeding, whereas it is actually vastly more extensive and intensive version of the project at issue here. The incorrect and internally contradictory nature of the project description makes the DOE NEPA documents inadequate – indeed, misleading -- under NEPA, and therefore "impracticable" to adopt under applicable NRC regulations.

DOE argues that the current NEPA documents adequately consider the expanded Repository (that DOE says it is not proposing). However, by DOE's own admission, the proposed expansion of the Repository – including all impacts of nearly doubling the capacity of

Yucca Mountain -- is discussed in the SEIS in a *total* of less than 50 pages. DOE Answer at 99. The contrast between this cursory level of analysis – shorter than many Environmental Assessments – and the range of environmental impacts that may result from a near doubling of Yucca Mountain's capacity is stark. Neither the decision makers nor the public can tell from these documents what the full environmental impacts of the expanded Repository would be, whether on transportation or water quality. The existing documents are the environmental equivalent of saying "ditto" as to the impacts of nearly doubling the currently proposed Repository. DOE is obligated under the statute to do the full analysis and disclosure for the expanded Repository it has proposed, and to do it before a license for the smaller Repository makes the commitment of resources involved irretrievable. *Sierra Club v. Peterson*, 717 F.2d 1409, 1414 (D.C. Cir. 1983) (Park Service required to prepare an environmental impact statement at time it made transfer of land because transfer was "critical agency decision" that resulted in "irreversible and irretrievable commitments of resources" to action affecting the environment.)

Indeed, the purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). DOE's NEPA documents fail to so apprise the NRC, because they omit a major portion of the environmental impacts that may result from the licensing of the Repository. The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated."

Blue Ocean Preservation Society v. Watkins, 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This case presents a classic example of such an irretrievable commitment: authorizing and constructing the 70,000 MTHM Repository will already have committed virtually all of the resources needed for a 130,000 MTHM Repository, but without the environmental analysis NEPA requires. Given that there is a discussion, however inadequate, of an expanded Repository in DOE's NEPA documents, DOE will surely claim later that this was the appropriate, and the only, time that California could raise any challenge to expansion of Yucca Mountain. The result of DOE's approach will be that *no* adequate analysis of the 130,000 MTHM Repository's environmental impacts may ever be done; all that the decision makers and the public may ever have is the superficial and completely inadequate analysis that is in DOE's cumulative analysis. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and one element of the overall Repository project is transport through California, the time is ripe for an adequate environmental review of all environmental impacts from the project, including all transportation impacts.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion.

f. **Information showing that a genuine dispute exists on a material issue of law or fact**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents and their refusal to adequately analyze the impact of the full Repository DOE is now proposing. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-5)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done is a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing"

mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, is a materially different result. (See section IV above for a full discussion above of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[23] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum* vitae, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", American Behavioral Scientist, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff argues that, on its face, CAL-NEPA-5 does not offer evidence to support a claim that the contention raises a health or safety issue, because California merely contends that

DOE has submitted a proposal to Congress to remove the capacity limits from Yucca Mountain, and whether or not Congress will act on that proposal is speculative. Therefore, according to the Staff, California has not demonstrated that this contention raises an issue that is material to findings the NRC must make. Staff Answer at 1102. Either the Staff seriously misunderstands the contention, or it misunderstands NEPA. The statute itself requires that an environmental impact assessment or statement must be prepared for "*every recommendation* or report on proposals *for legislation* and other major Federal actions significantly affecting the quality of the human environment. . . ." 42 U.S.C. § 4332(2)(C), emphasis added. While most EISs are prepared for federal actions, such as highway construction or dredging permits, a NEPA analysis is also required by the statute itself for legislative proposals that can significantly affect the human environment. *Realty Income Trust v. Eckerd*, 564 F.2d 447, 454 (D.C. Cir. 1977). Under NEPA, the analysis must be submitted *along with* the proposal, 40 C.F.R. § 1502.3[24], presumably before Congress acts upon it. Thus, Congress' eventual action is necessarily unknown, but the NEPA document is required anyway. The proposal for removing the capacity cap from the Repository requires an environmental analysis, and CAL-NEPA-5 contends that such analysis must be done in this proceeding. The legal underpinnings of this position are clear: increasing, perhaps doubling or tripling, the size of the project is either a part of the proposal itself or, at the very least, is a connected action to the main proposal, and therefore must be considered along with the main proposal. 40 C.F.R § 1508.8, adopted by the NRC at 10 C.F.R. § 51.14(b), see discussion of connected actions at section III C, above. DOE's NEPA documents fail to do this in any adequate manner, and are therefore impracticable for adoption.

[24] While the NRC may not consider the CEQ regulations to be binding upon it, they have been adopted by and are binding on DOE. 10 C.F.R. § 1021.103.

The Staff further states that the information in a contention must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists, and the presiding officer should interpret the instructions to apply the standards in § 2.326 "to the extent possible" in light of this fact. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time the challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis. It is difficult to imagine a more different picture of the environmental landscape than potentially doubling the capacity of the Repository, which would necessarily double the amount of waste transported to it and therefore double the impacts that such transportation would have. DOE's NEPA documents describe the proposed project as a repository "for the disposal of up to 70,000 MTHM." SEIS, 2-1. The bulk of the documents deal, albeit inadequately, with an environmental analysis of Yucca Mountain as a repository of that size. However, the DOE NEPA documents *also* contain a section discussing Yucca Mountain as a repository for *all* commercial spent nuclear fuel that could be generated by operation for up to 60 years of all existing commercial nuclear plants in the United States, approximately 130,000 MTHM in total. SEIS 8-4-7, 8-16-35, 8-39-51. DOE has now presented a proposal to Congress to remove the current limit on the capacity of Yucca Mountain, which would allow the Repository to contain at least the 130,000 MTHM discussed by DOE, and perhaps even more. DOE/RW-0595, LSN CEC000000613. Yucca Mountain cannot be at one and the same time a repository of two such starkly differing sizes, yet both are presented in the DOE NEPA documents, and DOE is actively proposing the larger repository to Congress at one and the same time that it is presenting the smaller repository for licensing here.

The Staff argues that expansion of the Repository is not reasonably foreseeable, obviating the need for a NEPA analysis of it now. Staff Answer at 1105. To the contrary, such an expansion is within reasonable foreseeability. First, DOE has made a serious, formal proposal to Congress. It is surely a reasonable possibility that Congress will agree; DOE presumably did not

commit an idle act in submitting the proposal. Second, it is plain that DOE itself does consider Repository expansion reasonably foreseeable, since it included a discussion of an expanded Yucca Mountain in the cumulative impacts portion of the SEIS, although it is a short, cursory, and completely inadequate discussion. SEIS 8-4-7, 8-16-35, 8-39-51. Although the discussion, at less than 50 pages and superficial in the extreme, cannot satisfy NEPA's requirements for full environmental disclosure, it does show that the expanded Repository is reasonably foreseeable and can be analyzed. It therefore must be analyzed -- adequately – for DOE's NEPA documents to be practicable for adoption by the NRC.

An adequate analysis and disclosure to the public and the decision makers of the impacts from a Repository that is increased from 70,000 MTHM to up to 130,000 MTHM (as posited in the SEIS cumulative impacts section cited above), would be a materially different result under NEPA. It would carry out NEPA's action-forcing procedural requirements, regardless of whether the overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.")

The environmental consequences of this proposal need to be considered "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. (9th Cir. 1984) ("Reasonable forecasting and speculation is … implicit in NEPA") (internal citations omitted). The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from

their decisions *at a time when they 'retain [ ] a maximum range of options*." *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989) (emphasis in original). That time is now, so that Congress as well as the NRC can have the information NEPA requires before Congress acts on the proposal and the NRC acts on the license application.

The Ninth Circuit has warned that delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated. *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This case presents a classic example of such an irretrievable commitment: authorizing and constructing the 70,000 MTHM Repository will already have committed virtually all of the resources needed for a 130,000 MTHM Repository, but without the environmental analysis NEPA requires. The NRC is on the precipice of issuing a license for the Yucca Mountain Repository. Given that there is a discussion, however inadequate, of an expanded Repository in DOE's NEPA documents, DOE will surely claim later that this was the appropriate, and the only, time that California could raise any challenge to expansion of Yucca Mountain. Without an adequate NEPA examination of the expansion proposal, a connected action to the main Repository proposal, 40 C.F.R. § 1508.25, adopted by the NRC at 10 C.F.R. § 51.14(e), the DOE NEPA documents are inadequate and impracticable for adoption by the NRC.

Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. For the reasons stated above, Dr. Dilger's affidavit met the regulatory requirements and this contention is admissible.

CAL-NEPA-7

DOE'S NEPA Documents Fail to Adequately Describe Transportation Impacts on Emergency Services in San Bernardino County

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that the *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA as to transportation issues. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to transportation impacts on emergency management agencies and services in California's San Bernardino County, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial

information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate

affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement.

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC has no regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed agency action at issue here, since the Repository is useless without transportation to it of the waste DOE proposes to store and dispose of there. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other document, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court or appeals or that such a challenge is time-barred, is also unavailing, see section III F. above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions regarding the material in DOE's NEPA documents. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have

> been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons."

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences from the transportation of nuclear waste to Yucca Mountain that is an essential and inextricable part of the project, or at least is a connected action, and an indirect effect of the project. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

Contention CAL-NEPA-7 raises a material failing of the NEPA documents submitted by DOE relating to the emergency response capabilities of San Bernardino County in California. DOE asserts that it has adequately analyzed the emergency response capabilities of all local areas by analyzing "coordination and assistance of local officials in the event of an emergency," and by committing to provide "technical support and response management in cooperation with federal, state and local officials." DOE Answer at 107. However, the SEIS also emphatically states that "States and tribes along shipping routes have the primary responsibility for the protection of the public and environment in their jurisdictions." SEIS, App. H, at H-16. The essence of Contention 7 is that the SEIS relies upon state, tribal, and local jurisdictions to provide the first responders to any accident or event that occurs during transportation, but fails to examine their capacity to do so, or to set out the environmental impacts that will occur if

localities, including San Bernardino County, are unable to shoulder the responsibility DOE ascribes to them.

San Bernardino County will be heavily impacted by the project. The "representative routes" proposed by DOE would transport up to one-third of the highly radioactive material that will go by truck to Yucca Mountain through this one county in California if the Caliente route is used. The contention refers to the SEIS for this information, and also refers to, and is partially based on, a study by Nevada that shows that up to 80 percent of the rail casks, and 90 percent of the truck casks, may pass through this one California county. LSN NEV000000642. Based on DOE's NEPA documents, about one-third of the rail miles and about one-half of the total truck miles that Yucca shipments will take through California to reach the Caliente route will be within San Bernardino County. Any accidents in transport may expose huge numbers of people to radiation, since 95 percent of the County's 1.7 million residents live within the 50-mile radiological region of influence for transportation accidents and sabotage. Event-free transport also has the potential for exposing large numbers of people to some radiation, since at least 93,000 San Bernardino County residents live within one-half mile of one of DOE's "representative" rail routes for shipments to the Repository, and 46,000 of these residents live within one-half mile of a "representative' truck route. Cal. Pet. at 44.

Together, these facts show a potential for environmental impacts on San Bernardino County that requires a proportionately thorough and specific examination of such impacts in that area. *Lands Council, Idaho Sporting Cong. Inc. v. Vaught*, 198 F.Supp.2d 1211, 1242 (E.D. WA 2002) ("Impacts shall be discussed in proportion to their significance. . . ."); 40 C.F.R. § 1502.1. California alleges that DOE's NEPA documents do not adequately discuss the impact on the various emergency services available in and provided by the County of San Bernardino, in view

of the huge volume of both rail and truck transportation of Yucca-bound radioactive material that DOE's NEPA documents predict will travel through the area.

DOE asserts out that it will carry out its responsibilities under NWPA, § 180(c) to provide funding for the training of local emergency responders. DOE Answer at 109. Taking that response as true, it does not answer the gravamen of the contention: are there adequate emergency personnel, equipment and capacity in San Bernardino County to respond to an accident involving nuclear materials, and what will happen if there are not? Emergency personnel who are too few in number, or who lack crucial equipment, can be trained by the best trainers and still be inadequate to respond to an emergency. The DOE NEPA documents assume without demonstrating that emergency responders at the local level are adequate to the task, and state only that DOE will carry out those limited functions for which it thinks it is responsible. That is an inadequate response. NEPA requires an analysis of all direct and indirect impacts of an agency's action, not merely of those impacts that are within an agency's own statutory duties. 40 C.F.R. § 1508.8. DOE has failed to carry out that analysis here, substituting compliance with its own limited funding responsibilities for an examination of whether, even with such funding, San Bernardino County's emergency response capabilities will be adequate to the potential task.

Finally, DOE cites to the CEQ regulations that agencies should integrate the NEPA process at the earliest possible time. 40 C.F.R. § 1501.2. DOE Answer at 109. Analysis of the environmental impacts of DOE's transportation decisions should be addressed as the NRC considers DOE's licensing application, not at some time in the future. *See Neighbors of Cudahy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect environmental values." *Andrus v. Sierra* Club, 442 U.S. 347

(1979). What DOE gets wrong is its compliance with these principles. Delaying the discussion of impacts of transportation of nuclear waste to the repository to a later planning process, as was done here, violates this basic rule of law.

"The purpose of an EIS is to apprise decision makers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [] a maximum range of options'*." *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989) (emphasis in original). DOE's NEPA documents fail to so apprise the NRC, because they omit a major portion of the environmental impacts that may result from the licensing of the Repository, namely the route-specific and site-specific impacts of transportation of spent nuclear fuel and high-level nuclear waste in the most-impacted locality in California, San Bernardino County. While the timing of an EIS is important, the content is crucial, and DOE's NEPA documents omit required and indispensable content.

The Ninth Circuit has further warned that "delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982).

This is exactly what DOE has done as to the impacts of transportation on San Bernardino County, performing only a conceptual analysis now, but also stating, DOE Answer at 142, that

the agency has no plans to do a full analysis later. The result of DOE's approach will be that *no* adequate analysis of transportation's environmental impacts on emergency responders will ever be done, despite DOE's reliance on these local responders to immediately mitigate any impacts of accidents or releases.

e. **Statement of Supporting facts, expert opinions and references**

California, expert, Dr. Dilger, has set out in his affidavit concrete examples of the kinds of impacts local responders may have to deal with, and ways in which DOE's NEPA documents are deficient and inadequate in their analysis of local responder capabilities, focusing on San Bernardino County. The affidavit provides adequate support for the contention; any factual disputes about the capacities of San Bernardino County responders should be settled at the hearing.

f. **Information showing that a genuine dispute exists on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents and their refusal to adequately analyze transportation impacts of the licensing application on emergency services and first responders in San Bernardino County, California. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-7)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This

contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion above of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain

numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[25] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum* vitae, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006

[25] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to the findings the NRC must make. The Staff further states that the information in a contention must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original

1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis. DOE's NEPA documents clearly and emphatically state that "States and tribes along shipping routes have the primary responsibility for the protection of the public and environment in their jurisdictions." SEIS, App. H, at H-16. The essence of Contention 7 is that the SEIS relies upon state, tribal, and local jurisdictions to provide the first responders to any accident or event that occurs during transportation, but fails to examine their capacity to do so, or to set out the environmental impacts that will occur if localities, including San Bernardino County, are unable to shoulder the responsibility DOE ascribes to them.

DOE's NEPA documents rely exclusively for their assessment of impacts of transportation through California on "representative routes" and vague, nationwide, generic mitigation measures. In CAL-NEPA-7, California presents the specific situation of the locality that will probably be the most heavily impacted locality in California by transportation of nuclear

waste to Yucca Mountain, namely San Bernardino County. The "representative routes" proposed by DOE would transport up to one-third of the highly radioactive material that will go by truck to Yucca Mountain through this one county in California, if the Caliente route is used. The contention refers to the SEIS for this information, and also refers to, and is partially based on, a study by Nevada that shows that up to 80 percent of the rail casks, and 90 percent of the truck casks, may pass through this one California county. LSN NEV000000642. Based on DOE's NEPA documents, about one-third of the rail miles and about one-half of the total truck miles that Yucca shipments will take through California to reach the Caliente route will be within San Bernardino County. Any accidents in transport may expose huge numbers of people to radiation, since 95 percent of the County's 1.7 million residents live within the 50-mile radiological region of influence for transportation accidents and sabotage. Event-free transport also has the potential for exposing large numbers of people to some radiation, since at least 93,000 San Bernardino County residents live within one-half mile of one of DOE's "representative" rail routes for shipments to the Repository, and 46,000 of these residents live within one-half mile of a "representative' truck route. Cal. Pet. at 44.

Together, these facts show a potential for environmental impacts on San Bernardino County that requires a proportionately thorough and specific examination of such impacts in that area. *Lands Council, Idaho Sporting Cong. Inc. v. Vaught*, 198 F.Supp.2d 1211, 1242 (E.D. WA 2002) ("Impacts shall be discussed in proportion to their significance. . . ."); 40 C.F.R. § 1502.1. California alleges that DOE's NEPA documents do not adequately discuss the impact on the various emergency services available in and provided by the County of San Bernardino, in view of the huge volume of both rail and truck transportation of Yucca-bound radioactive material that DOE's NEPA documents predict will travel through the area.

DOE's NEPA documents address the issue of local emergency responders by repeating many times that DOE will carry out its responsibilities under NWPA § 180(c) to provide funding for the training of local emergency responders. E.g., DOE Answer at 108. Taking that assertion as true, it does not answer the gravamen of this contention: are there adequate emergency personnel, equipment and capacity in San Bernardino County to respond to an accident involving nuclear materials, particularly given the high volume of shipments that will go through the County, and what will happen if there are not, given the concentration of population in this area? Simply repeating that DOE will provide money for training of emergency personnel does not answer this question. Emergency personnel who are too few in number, or who lack crucial equipment, can be trained by the best trainers and still be inadequate to respond to an emergency. The DOE NEPA documents assume without demonstrating that emergency responders at the local level are adequate to the task of dealing with the first impacts of a transportation accident, and state only that DOE will carry out those limited functions for which DOE thinks it is responsible. That is an inadequate response. NEPA requires an analysis of all direct and indirect impacts of an agency's action, not merely of those impacts that are within an agency's own statutory duties. 40 C.F.R. § 1508.8, adopted by the NRC at 10 C.F.R. §51.14(e). DOE has not provided an analysis of whether local emergency responders are able to deal with accidents or what will happen if they are not able to, making its NEPA documents inadequate under NEPA, and impracticable for the NRC to adopt. There is a dispute about the factual content of DOE's NEPA documents and of their accuracy, as well as a legal dispute about the documents' compliance with NEPA requirements; each makes this contention material.

The Staff argues that California has failed to show how the inadequacy it alleges in this contention "would result in a significant difference in the NEPA analysis." Staff Answer at

1109-1110. Again, the significant difference is that the environmental information that NEPA demands be given to both the public and the decision maker would be developed and made available; there would actually be an environmental analysis, instead of the evasion of analysis of local emergency response capability that is in DOE's NEPA documents now. DOE's NEPA documents omit route-specific and site-specific information on the potential impact on local emergency services of the transportation over many decades of massive amounts of nuclear waste through the most heavily-impacted locality in California. Merely providing training to its local emergency responders does not demonstrate either that San Bernardino County will be able to cope with the environmental consequences of any accident or event that occurs, or what will happen to natural resources, infrastructure, or public health if an accident or incident does occur. A full analysis and disclosure of these impacts to the public and the decision makers would be a materially different result under NEPA, because it would carry out NEPA's action-forcing procedural requirements, regardless of whether the overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.") It would also fulfill NEPA's function to disseminate information to the public and state and local officials. As the Supreme Court unanimously explained in *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349, 352-53 (1989), NEPA documents serve a very important "informational role." They "provide[] a springboard for public comment," and give state and local governments "adequate notice of the expected consequences and the opportunity to plan and implement

corrective measures in a timely manner." *Id*., at 350; *see* 40 C.F.R. § 1503.1 (requiring federal agencies to obtain comments from states, local governments, tribes, and affected or interested members of the public); § 1502.9 (requiring federal agencies to federal agencies to address in final EIS opposing views not adequately addressed in draft EIS); 42 U.S.C. § 4331. "Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Robertson*, 490 U.S. at 352.

The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989) (emphasis in original). It must be done before there actually is an accident or event. DOE has not committed to performing any further environmental analysis unless the project changes substantially or there are significant new circumstances or information. DOE Answer at 142. And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA even as to localized impacts, DOE Answer at 94, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. If the analysis is not done now, it probably never will be. This makes DOE's NEPA documents inadequate and impracticable for adoption by the NRC.

The Ninth Circuit has further warned that delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated. *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable

commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This is exactly what DOE should have done with respect to emergency services capability in San Bernardino County. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is now for environmental impact review of all impacts resulting from its expected transport activities, including those on San Bernardino County. Impacts on emergency services are either direct or indirect impacts of the licensing of Yucca Mountain, and without an examination of all direct and indirect effects of the project, 40 C.F.R. § 1508.8, the DOE NEPA documents are inadequate and impracticable for adoption by the NRC..

Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. For the reasons stated above, Dr. Dilger's affidavit met the regulatory requirements and this contention is admissible

CAL-NEPA-8

DOE'S NEPA Documents Fails to Describe the Maximum Reasonably Foreseeable Accident

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that the *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA as to transportation issues. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to cleanup costs from the maximum reasonably foreseeable accident, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg.

63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate

affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

DOE slightingly refers to Dr. Dilger as a "non-economist 'expert'." DOE Answer at 119. We note that the affidavit submitted by the Staff regarding Contention CAL-NEPA-8 is executed by a chemical engineer whose affidavit lists no credentials in economics. Dr. Dilger has been trained by DOE in use of the RADTRAN model, as DOE well knows, is a registered user of

RADTRAN, as DOE also well knows, and is certainly equally qualified as Mr. Easton to give an opinion on the capacities of this model.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement.

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC has no regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the Repository is at the heart of the proposed agency action at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. §1508.25(a). "Connected actions are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the Repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada.) See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However the narrow holding of that case does not support DOE's argument. In *Public* Citizen

the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E above.)

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is also unavailing, see section III F above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the

contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the costs of cleanup of the maximum reasonably foreseeable accident during transportation of spent nuclear fuel through California that is part of the proposed project. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

DOE's NEPA documents recognize that an accident during transport of nuclear waste may occur, and while the documents recognize that the maximum reasonably foreseeable accident may have serious public health consequences in rural or urban areas which those documents describe in a general and inadequate fashion, the documents do not contain any estimate of the costs of cleanup and recovery from this maximum reasonably foreseeable accident described and (inadequately) discussed in the documents. Dr. Dilger's affidavit sets out

the fact that the modeling tool used by DOE to predict and estimate the radiological releases that could occur from the maximum reasonably foreseeable accident that appear in DOE's NEPA documents, namely RADTRAN, also has an economic component that will estimate the cleanup costs from this accident. Dr. Dilger states that the RADTRAN model would have produced such an estimate in order to produce the estimates of public health consequences. Cal. Pet. at 48. Yet, DOE omitted this information from the SEIS and its other NEPA documents.

As discussed above, section III D, CEQ regulations adopted by both DOE and the NRC require that an environmental impact statement examine all direct and indirect environmental effects from a proposed agency action. 40 C.F.R. § 1508.8, adopted by DOE at 10 C.F.R. § 1021.103, and by the NRC at adopted by the NRC at 10 C.F.R. § 51.14(b). California believes that these direct and indirect environmental impacts must include the cost of cleaning up and recovering from the maximum reasonably foreseeable accident. NEPA requires that environmental effects be discussed in proportion to their importance, *Lands Council, Idaho Sporting Cong. Inc. v.* Vaught, 198 F.Supp.2d 1211, 1242 (E.D. WA 2002) ("Impacts shall be discussed in proportion to their significance. . . ."); 40 C.F.R. § 1502.1, and the magnitude of the potential costs of cleanup from the maximum reasonably foreseeable accident make these costs significant. Certainly, they are significant enough for project-specific estimates to be included in the NEPA documents. NEPA requires that where information is "essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant," it must be included in the NEPA documents for a project. *Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1165 (N.D. CA 2006), citing 40 C.F.R. § 1502.22(a). The *Bureau of Land Management* case is particularly applicable here, since the court took note that the agency had extensive information relating to the impacts at issue in its data banks, and could

put it into the EIS without undue cost. *Id.*, 422 F.Supp.2d at 1164. DOE could do the same here, and NEPA requires that it provide this information.

DOE argues that it presented a range of cleanup cost estimates based on hypothetical releases and cost estimates, including the National Space and Aeronautics Administration's estimate of the costs of cleaning up a release of radioactive material from a spacecraft. SEIS, App. G, G-55-57. DOE also argues that it was reasonable to use "representative routes" for its analysis at this stage of project development. DOE Answer at 117. However, it is cost estimates specific to this particular project, cost estimates that DOE can produce or may already have produced using its RADTRAN model and RADTRANS' "representative routes," that should be in the NEPA documents on this particular project. While California believes that RADTRAN is not an adequate method for identifying all transportation routes, it is the method DOE has chosen to rely on. DOE cannot cherry-pick the data its own methodology produces. DOE is required to produce data that is important to the decision maker and the public if it can be produced without exorbitant cost. These data can be produced without exorbitant cost, probably with minimal cost, and NEPA requires that they should. The more detailed, relevant, project-specific data should be in the SEIS, instead of the cleanup costs DOE has provided, which are based on hypothetical accidents and their hypothetical cleanups.[26]

DOE asserts that it is entitled to deference in how it went about its analysis, DOE Answer at 118, in using "representative routes" for transport and basing its cleanup cost estimates on these routes. First, while DOE is correct that courts are required to show deference to agency

[26] The Staff's Answer attaches an affidavit regarding Contention 8, where Mr. Earl Easton gives his opinion that it "is not clear" whether the calculations California seeks would be "more reasonable" than what now appears in the SEIS, based on various named factors. California believes that this is a factual dispute as to how calculations are done and what is accounted for in RADTRAN, and as such should be litigated in the hearing. The affidavit also has no bearing on the issue of *whether* project-specific cost estimates should be included in the NEPA documents, only on how they are calculated.

decisions within that agency's area of expertise, the NRC, a sister agency with the same degree of expertise in the handling and management of nuclear materials, is not required to show that deference. Instead, the NRC regulations require that the presiding officer critically review DOE's analysis based on the standards contained in 10 C.F.R. 51.109(c), which requires a consideration of significant and substantial new information and considerations, such as California offers in this contention. Second, nothing in the pages of the SEIS cited by DOE in its answer shows that DOE ever calculated cleanup costs for the maximum reasonably foreseeable accident using RADTRAN for even the "representative routes" through California.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references.**

DOE did not separately address this criterion; see section V above for California's general response on this issue.

f. **Information showing that a genuine dispute exists on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-8)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See Section IV above for a

full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[27] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA §180(c), and shipment of

[27] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to the findings the NRC must make. The Staff further states that the information in a contention must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption

of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. The Staff argues that California has failed to show how the inadequacy it alleges in this contention would be likely to lead to a materially different result with respect to the NEPA analysis. Staff Answer at 1117. Again, the significant difference is that the environmental information that NEPA demands be given to both the public and the decision maker would be developed and made available. Contention Cal-NEPA-8 alleges that, while the DOE NEPA documents recognize that an accident during transport of nuclear waste

may occur, and while the documents recognize that such an accident may have serious public health consequences in rural or urban areas which those documents describe in a general and inadequate fashion, the documents do not contain any adequate estimate of the costs of cleanup and recovery from the maximum reasonably foreseeable accident described and (inadequately) discussed in the documents. Such costs are undoubtedly impacts, and a full analysis and disclosure of these impacts to the public and the decision makers would be a materially different result under NEPA, because it would carry out NEPA's action-forcing procedural requirements, regardless of whether the overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.")

The Staff argues that California does not account for the low probability of the conditions it posits in an estimate of the costs of cleanup for the maximum reasonably foreseeable accident all happening at the same time. The Staff attaches an affidavit from its own expert that offers his opinion that California has not shown that its bounding analysis would produce a more reasonable estimate of these costs than the DOE NEPA documents contain. Staff Answer at 1116-1117, Affidavit of Earl P. Easton. Therefore, according to the Staff, California has not demonstrated that this contention raises an issue that is material to findings the NRC must make.

This response mischaracterizes the actual contention, which alleges that DOE's NEPA document fail to provide cost estimates that are specific to the Yucca Mountain project's waste transportation component. California's expert, Dr. Dilger, discusses with specificity that the

RADTRAN model used by DOE[28] has an economics module that can produce such a cost estimate, but DOE has either failed to have the model do the calculations, or has failed to put the results in the NEPA documents. Dr. Dilger cited to the RADTRAN 5 User Manual as support for this contention. Cal. Pet. at 48. Such costs are a direct or indirect effect of the Yucca Mountain project and, as such, must be analyzed and disclosed in DOE's NEPA documents on the Repository. 40 C.F.R. § 1508.8, adopted by the NRC at 10 C.F.R. §51.14(e), see section III D above for a full discussion of indirect impacts. Their absence makes DOE's NEPA documents inadequate and impracticable for adoption by the NRC, and this contention therefore raises a material issue.

DOE has the requisite software, and as Dr. Dilger explains, that software has been calibrated against historical experience. DOE also has other reports available to it, cited by Dr. Dilger, that relate to radionuclide-scattering events or plutonium contamination. It does not comport with NEPA's rule of reason for DOE to cite hypothetical cost estimates for cleaning up after a downed spacecraft rather than use these actual historical reports, or use the same software that it used to develop its estimates of the public health consequences of the maximum reasonably foreseeable accident, to estimate the cleanup costs of that accident. Without a reasonable analysis of this indirect effects of the project, 40 C.F.R. § 1508.8, the DOE NEPA documents are inadequate and impracticable for adoption by the NRC.

The environmental consequences of an action need to be considered "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. (9th Cir. 1984) ("Reasonable forecasting and speculation is … implicit in NEPA") (internal citations omitted). The purpose of

[28] See RADTRAN 5 User Guide, LSN DN2001393102 – ALD.20050315.7530.

an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain [ ] a maximum range of options*." *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989) (emphasis in original).

The Ninth Circuit has further warned that delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated. *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of an "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This is exactly what DOE should have done with respect to estimating the costs of cleanup of the maximum reasonably foreseeable accident. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts, including cleanup costs, that can result from its expected transport activities.

Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. For the reasons stated above, Dr. Dilger's affidavit met the regulatory requirements and this contention is admissible.

CAL-NEPA-9

DOE Failed to Comply with NEPA's Procedural Requirements for Full Public Review and Opportunity for Comments in California

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA. Finally, DOE asserts that it has adequately characterized and analyzed the Yucca Mountain Repository project, including as to transportation issues, to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109(c).) However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts from the proposed project by failing to describe impacts from transportation of the nuclear waste with which DOE proposes to fill the Repository. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision to the

decision maker and the public of information that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents, or the process by which they were produced, are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered by both the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08-67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vita* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA § 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vita*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048", *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties", presented to Waste Management 207 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC has no regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the Repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen*, the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents the NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other document, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court or appeals or that such a challenge is time-barred, is also unavailing, see section III F. above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervener to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is

> favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) 64 N.R.C. 257, 356

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA process that could require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE did not provide sufficient opportunity for public involvement and comment in California in developing its NEPA documents. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

The CEQ regulations provide that each agency must" [m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures." 40 C.F.R. § 1506.6. Agencies must hold or sponsor public hearings or public meetings "whenever appropriate. . . ." Criteria for determining when public hearings or meetings are "appropriate" include "[s]ubstantial environmental controversy concerning the proposed action. . . ." 40 C.F.R. § 1506.6(c); *Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2002) (CEQ regulations "emphasize the importance involving the public in NEPA evaluations" and "public hearings are encouraged to facilitate input on the evaluation of proposed actions"); *Fund for Animals v. Norton*, 281 F. Supp. 2d 209, 225 (D.D.C. 2003) ("federal agencies . . . shall to the fullest extent possible . . . encourage and facilitate public involvement in decisions which affect the quality of the human environment.")

Here, there is no question that the project is profoundly controversial, or that the purposes of NEPA in fostering public involvement in, and understanding of, federal agency decisions could have been forwarded in California by holding more public hearings on DOE's NEPA documents than the two DOE held on the 2002 EIS, DOE Answer at 125, and the one it held at the remote location of Lone Pine on the SEIS. *Id.* It is noteworthy that California, through the California Energy Commission, specifically asked for a public hearing in Sacramento, the state capital. It is also noteworthy that California will be heavily impacted by the proposed project. Using DOE's "representative routes," SEIS at G-7, G-8, and G-16 to18, about one-third of the total truck shipments to Yucca Mountain would pass through California. The number of shipments could increase significantly if there were to be no second repository, or if DOE rail carriers chose to use cross-country routes through Arizona and California to a greater extent than is reflected in the NEPA documents. A study prepared for the State of Nevada, LSN NEV000000642, estimated that under certain circumstances, almost 80 percent of the rail casks, and more than 90 percent of the truck casks, shipped to Yucca Mountain could travel through California. Under these circumstances, it would have been "appropriate" for DOE to grant California the public hearing on the SEIS in the state capital that California requested, rather than hold the only California public hearing on this vital document in a town of 2,000 people far from the bulk of the population that would and could be exposed to radiation from the transport of nuclear waste through California. Lone Pine is far from the areas of California such as the Central Valley, Southern California and, if the Mina route is used, Sacramento, where the Yucca-bound waste would actually be transported.

DOE points to the two hearings it held in California on the 2002 EIS. However, the SEIS substantially altered the project, particularly as to the waste transportation issues California

raises in its contentions here. Examples include the change from barging spent fuel from the Diablo Canyon plant in the 2002 EIS to using heavy-haul trucks at Diablo Canyon in the SEIS, the use of TAD canisters that will require heavy-haul trucks rather than overweight trucks, and the declaration by DOE that it is not committed to use of dedicated trains for rail shipments. The SEIS was a sufficiently different document from the 2002 EIS that it was "appropriate" for DOE to hold additional public hearings or public meetings in California on the SEIS. The degree to which DOE proposed new features of the project that would impact California made it "appropriate" for DOE to hold additional public hearings or public meetings in California on the SEIS, and to hold them where the affected population actually lives.

DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. DOE Answer at 142. And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA even as to state-specific impacts, DOE Answer at 94, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. It has made no commitment to prepare appropriate site-specific documents in the future. California refers the Staff to DOE's recent National Transportation Plan," DOE/RW-0603. LSN # CEC000000617. In that document, DOE says only that the representative routes in the SEIS "will be considered"; no further NEPA analysis is mentioned or discussed in the list of "Critical Decisions" DOE will make on it transportation plan. See, e.g., *id.* at 2. Therefore, no further occasions, and therefore no further opportunities, for public involvement in the NEPA compliance for Yucca Mountain can be expected.

DOE has ignored one of the central purposes of NEPA: that the public should be able to participate in the making of decisions that may deeply affect their lives. DOE's NEPA process

here was deficient, making the adoption of the documents it produced impracticable for adoption by the NRC.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion.

f. **Information showing that a genuine dispute exists on a material issue of law or fact**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of DOE's NEPA process in developing its NEPA documents and the public involvement it allowed in that process. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-9)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to

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Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008).

Dr. Dilger's affidavit otherwise meets the requirements.[29] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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[29] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 F.R. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public". However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only

if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that DOE has not complied with the procedural requirements of NEPA that allow full public involvement in the NEPA process. DOE has not afforded California, and especially those portions of California that will be most impacted by the transportation of massive quantities of spent nuclear fuel and high-level radioactive waste through the State, the opportunity for public involvement that NEPA requires.

The CEQ regulations provide that each agency must "[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures." 40 C.F.R. § 1506.6. Agencies must hold or sponsor public hearings or public meetings "whenever appropriate. . . ." Criteria for determining when public hearings or meetings are "appropriate" include "[s]ubstantial environmental controversy concerning the proposed action. . . ." 40 C.F.R. § 1506.6(c); *Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2002) (CEQ regulations "emphasize the importance involving the public in NEPA evaluations" and "public hearings are encouraged to facilitate input on the evaluation of proposed actions"); *Fund for Animals v. Norton*, 281 F. Supp. 2d 209, 225 (D.D.C. 2003) ("federal agencies . . . shall to the fullest extent possible . . .

encourage and facilitate public involvement in decisions which affect the quality of the human environment.")

Here, there is no question that the project is profoundly controversial, or that the purposes of NEPA in fostering public involvement in, and understanding of, federal agency decisions could have been forwarded in California by holding more public meetings on the SEIS than the single such meeting DOE held at Lone Pine. It is noteworthy that California, through the California Energy Commission, specifically asked for a public hearing in Sacramento, the state capital. It is also noteworthy that California will be heavily impacted by the proposed project. Using DOE's "representative routes," SEIS at G-7, G-8, and G-16 to18, about one-third of the total truck shipments to Yucca Mountain would pass through California. The number of shipments could increase significantly if there were to be no second repository, or if DOE rail carriers chose to use cross-country routes through Arizona and California to a greater extent than is reflected in the NEPA documents. A study prepared for the State of Nevada, LSN NEV000000642, estimated that under certain circumstances, almost 80 percent of the rail casks, and more than 90 percent of the truck casks, shipped to Yucca Mountain could travel through California. Under these circumstances, it would have been "appropriate" for DOE to grant California the public hearing on the SEIS in the state capital that California requested, rather than hold the only California public hearing on this vital document in a town of 2,000 people far from the bulk of the population that would and could be exposed to radiation from the transport of nuclear waste through California.

The Staff points to the DOE held on the SEIS in California in Lone Pine, a small town on the Eastern Sierra Nevada Mountains. Staff Answer at 1128. However, Lone Pine is far from the areas of California such as the Central Valley, Southern California and, if the Mina route is

used, Sacramento, where the Yucca-bound waste would actually be transported. The SEIS reflected a substantially altered project from the 2002 EIS, particularly as to the waste transportation issues California raises in its contentions here. Examples include the change from barging spent fuel from the Diablo Canyon plant in the 2002 EIS to using heavy-haul trucks at Diablo Canyon in the SEIS, the use of TAD canisters that will require heavy-haul trucks rather than overweight trucks, and the declaration by DOE that it is not committed to use of dedicated trains for rail shipments. The degree to which DOE proposed new features of the project that would impact California made it "appropriate" for DOE to hold additional public hearings or public meetings in California on the SEIS, and to hold them where the affected population actually lives.

DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. DOE Answer at 142. And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA even as to state-specific impacts, DOE Answer at 94, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. It has made no commitment to prepare appropriate site-specific documents in the future. California refers the Staff to DOE's recent National Transportation Plan," DOE/RW-0603. LSN # CEC000000617. In that document, DOE says only that the representative routes in the SEIS "will be considered"; no further NEPA analysis is mentioned or discussed in the list of "Critical Decisions" DOE will make on it transportation plan. See, e.g., *id.* at 2. Therefore, no further occasions, and therefore no further opportunities, for public involvement in the NEPA compliance for Yucca Mountain can be expected.

Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts resulting from its expected transport activities, and for the process by which DOE complied with NEPA, including that process' public involvement component. Without adequate public involvement, including appropriate public hearings or meetings in California, the DOE NEPA documents are inadequate and impracticable for adoption by the NRC.

Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. For the reasons stated above, Dr. Dilger's affidavit met the regulatory requirements and this contention is admissible

CAL-NEPA-10

Failure to Analyze Impacts of Intermodal Transfers

RESPONSE TO DOE

DOE contests this contention in four basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE claims that the *Public Citizen* case allows the NRC to ignore its independent responsibility to comply with NEPA. Finally, DOE asserts that it has analyzed intermodal transfer issues to the extent it needs to do so at this time. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its

"sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger

has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at

issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada). See Section III above for a full discussion of how transportation issues must be considered by the NRC.

The NRC Staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3. See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of

the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. See full discussion of the *Public Citizen* case in section III E. above.

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is also unavailing, see section III F. above for the rebuttal to this assertion.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences from extensive intermodal handling and transfer of high level waste and spent nuclear fuel that are part of the proposed action. Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

The specific material issue raised by California is that the NEPA documents at issue are inadequate in that they have failed to address the impacts of intermodal transfer. California specified two locations within the state where this could be very problematic, San Luis Obispo and Humboldt. In these two examples, there currently are no facilities for the intermodal transfer of nuclear waste, and facilities to support an intermodal transfer of nuclear waste at these locations would need to be in the middle of small cities and may never exist if not provided by DOE. In addition, local roads and bridges, such as the bridge over Avila Creek near the Diablo Canyon facility, may be needed to be improved to allow them to be used for heavy haul trucks. DOE has admitted in its January 2009 National Transportation Plan for the Repository (LSN # CEC000000626 at p. 16) that it does not plan to fund upgrades to transportation infrastructure at shipping sites. What facilities will be needed to make the transfers, and how those infrastructure improvements will be funded, is just the kind of information that should have been provided in the NEPA documents. It is not too early to foresee this is a problem that needs a solution, and it

will require the long term planning that the NEPA documents should have provided. These are only examples, and there may be many more throughout the country, but it demonstrates the failure of the analysis of DOE as to impacts from intermodal handling activities supporting transportation of spent nuclear fuel and other nuclear waste to the repository.

DOE asserts that it is entitled to deference in how it went about its analysis (DOE Answer at p. 132). First, while DOE is correct that courts are required to show deference to agency decisions within that agency's area of expertise, the NRC, a sister agency with the same degree of expertise, is not required to show that deference, but should independently review DOE's analysis based on the standards contained in 10 C.F.R. § 51.109(c), which requires a consideration of significant and substantial new information, as was offered by California in this contention. The NRC must assure, no matter what methodologies DOE used, that the adverse environmental effects of the proposed action are adequately identified and evaluated *Robertson, v. Methow Valley Citizens* Council, 490 U.S. 332, 350 (1989).

DOE claims that it has adequately analyzed intermodal transfer. (DOE Answer at p. 132) But the analysis it cites are nothing more than single page references. DOE defends its failure to adequately analyze impacts from intermodal transfers by stating that it is too early to do such analysis, although on the next page of its argument, it claims that California is accusing DOE of performing its analysis too early (See DOE Answer at p. 133) It is not too early, as DOE itself seems to acknowledge with its cite to *Crouse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986):"the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." And DOE correctly cites to the CEQ regulations that agencies should integrate the NEPA process at the earliest possible time. 40 C.F.R. § 1501.2. Analysis of the environmental impacts of those decisions should be addressed

in this FEIS, not at some time in the future. *See Neighbors of Cuddy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect environmental values. *Andrus v. Sierra* Club, 442 U.S. 347 (1979). What DOE gets wrong is its compliance with these principles. Delaying the discussion of impacts of transportation of nuclear waste to the repository to a later planning process, as was done here, violates this basic rule of law.

DOE believes it has done an adequate analysis for "this stage of the process." In *Scientists' Institute For Public Info., Inc. v. Atomic Energy Commission*, the Court decided the question of when an EIS is premature and when it is tardy. "Statements must be written late enough in the development process to contain meaningful information, but they must be written early enough so that whatever information is contained can practically serve as input into the decision making process." *Scientists' Institute For Public Info., Inc. v. Atomic Energy Commission* , 481 F.2d 1079, 1094 (D.C. Cir. 1973). The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). "The Ninth Circuit has further warned that 'delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of a "irreversible and irretrievable

commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982).

This is exactly what DOE should have done with respect to intermodal transfers, which it admits it has anticipated will be a factor in the transportation of nuclear waste to the repository. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts resulting from its expected transport activities. Using the most probable transportation routes, it should have analyzed the real life problems of intermodal transfers of nuclear waste, such as trying to transfer containers in the middle of a city where no transfer facilities exist or are likely to exist in the future. And contrary to DOE's subsequent argument at page 133 of its answer, California is not saying DOE did its analysis too early, California is saying that DOE is waiting too late, if ever, to do the analysis.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see section V above for California's general response on this issue.

f. **Information showing that a genuine dispute exist on a material issue of law or fact**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-10)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See

section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[30] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached

[30] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989),

the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences from extensive intermodal handling and transfer of high level waste and spent nuclear fuel that are part of the proposed action. California specified, by way of example, two locations within the state where intermodal transfer could be very problematic; the routes associated with the Diablo Canyon and Humboldt Bay facilities. In these two examples, there currently are no facilities for the intermodal transfer of nuclear waste.

Facilities to support an intermodal transfer of nuclear waste at these locations would need to be built, and might have to be placed within the small cities of San Luis Obispo and Eureka. In addition, local roads and bridges, such as the bridge over Avila Creek near the Diablo Canyon facility, may need to be improved to allow them to be used for heavy haul trucks connecting the nuclear facilities with a rail line or point of barge debarkation. DOE has admitted in its January 2009 National Transportation Plan for the Repository (LSN # CEC000000626 at p. 16) that it does not plan to fund upgrades to transportation infrastructure at shipping sites. The kinds of facilities that will be needed to make the intermodal transfers, and how those infrastructure improvements will be funded, is just the kind of information that should have been provided in the NEPA documents. It is not too early to foresee that this is a problem that needs a solution, and it will require the long term planning and thorough consideration of potential environmental harm that the NEPA documents should have provided. These are only examples, and there are undoubtedly many more throughout the country, that demonstrate the failure of the analysis of DOE as to impacts from intermodal handling activities supporting transportation of spent nuclear fuel and other nuclear waste to the repository.

The Staff argues that DOE is allowed to tier its approach and that this level of analysis was acceptable for this stage of the proceeding. The Staff's premise that DOE is tiering is, by DOE's express admission, wrong. DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. (Answer, p. 142) And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. As a result, these impacts will almost certainly go without any analysis by DOE.

Contrary to the Staff's assertion that it is too early for this discussion, the environmental consequences of an action need to be considered "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. (9th Cir. 1984)("Reasonable forecasting and speculation is … implicit in NEPA)(internal citations omitted).) The purpose of an EIS is to apprize decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original).

The Ninth Circuit has further warned that delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated. *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). The site specific analysis must be done at the time of a "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). This is exactly what DOE should have done with respect to intermodal transfers, which it admits it has anticipated will be a factor in the transportation of nuclear waste to the repository. Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and the DOE has contemplated transportation of nuclear wastes to Yucca Mountain through California, the time is ripe for environmental impact review of all impacts resulting from its expected transport activities. Using the most probable transportation routes, DOE should have analyzed the real life problems of intermodal transfers of nuclear waste, such as trying to transfer

huge, extremely heavy, containers that emit some amount of radiation in the middle of a city where no transfer facilities exist, none are likely to exist in the future, and DOE has no plans to build any.

Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Concise Statement

The Staff asserts that this criterion has not been met because it is not adequately supported by Dr. Dilger's affidavit. For the reasons stated above, Dr. Dilger's affidavit met the regulatory requirements and this contention is admissible

CAL-NEPA-11

Failure to Evaluate Impacts Within All Radiologic Regions of Influence

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Last, DOE asserts that it has sufficiently analyzed radiologic areas of influence (ROI).

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed

agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take

place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada.

The NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope of the proceeding and would be reviewed by the NRC. NRC Staff Adoption Determination Report at 1.3. See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see full discussion in III C. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the public health and safety and other environmental consequences to radiologic areas of influence outside of Nevada.

Specifically, because DOE used representative routes instead of routes that could actually be used and were recommended by the railroads, it has failed to analyze or even discuss impacts from essential aspects of the action to a large segment of California's population that lives along likely routes, or to describe the risk to vulnerable public facilities such as the 631 schools that are within the ROI for the most likely routes in California. DOE's analysis was not the "hard look" at environmental consequences required by NEPA. *Kleppe v. Sierra Club*, 427 U.S. 390, 410, n.21 (1976). The National Academy of Sciences recommended early designation of the routes that would be used. *Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States*, P. 252 (LSN # NEN000000603) Early identification of routes allows essential coordination with state, tribal and local governments, but also allows for accurate analysis of potential risks from the action. By not analyzing specific routes that are likely to be used, a realistic ROI was not determined.

DOE believes it has done an adequate analysis for this stage of its planning and can supplement its information later. (DOE Answer at p. 142) In *No East-West Highway Committee, Inc. v. Whittaker*, 403 F.Supp. 260, the Court decided the question of when an EIS is premature and when it is tardy: "Statements must be written late enough in the development process to contain meaningful information, but they must be written early enough so that whatever information is contained can practically serve as input into the decision making process."

Scientists' Institute For Public Info., Inc. v. Atomic Energy Commission, 481 F.2d 1079, 1094 (D.C. Cir. 1973). The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). "The Ninth Circuit has further warned that 'delay in preparing an EIS may make all parties less flexible. After major investment of both time and money, it is likely that more environmental harm will be tolerated." *Blue Ocean Preservation Society v. Watkins,* 754 F. Supp. 1450, 1461(1991) (*citing Environmental Defense Fund v. Andrus,* 596 F.2d 848, 853 (9th Cir. 1979). Analysis must be done at the time of a "irreversible and irretrievable commitment of the availability of resources" *State of California v. Block,* 690 F.2d 753, 761 (1982). DOE has applied for a license that will allow it to transport and deposit nuclear waste at Yucca Mountain, a major commitment to a project costing billions of dollars. DOE knows that it must ship the nuclear waste to the repository by rail and truck, but only briefly analyzed transportation issues. It is clear that DOE does not contemplate doing more analysis on transportation, as it states it will do supplemental analysis only if the project changes substantially or there are significant new circumstances or information. (DOE Answer at p. 142) And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. As a result, these impacts will almost certainly go without any analysis by DOE.

Because the NRC is on the precipice of issuing a license for the Yucca Mountain Repository and DOE has contemplated transportation of nuclear wastes to Yucca Mountain

through California, the time is ripe for environmental impact review of all impacts resulting from its expected transport activities. Using the most probable transportation routes, it should have analyzed the ROIs outside of Nevada. And contrary to DOE's subsequent argument at page 142 of its Answer, California is not saying DOE did its analysis too early, California is saying that DOE is waiting too late, if ever, to do the analysis.

Accordingly, this contention is admissible

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, but see Section V above for California's response to this issue.

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-11)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, has not made a concise statement, and did not state a genuine dispute. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore,

DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008).

Dr. Dilger's affidavit otherwise meets the requirements.[31] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and

[31] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only

if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Contrary to the Staff's assertion at p. 1144, California does assert that DOE's use of representative routes to determine the ROIs was inadequate, because it misses impacts in ROIs along the likely routes. The likely routes can be determined now, and therefore the generalizations of Appendix G of the Repository SEIS are not an accurate depiction of the impacts within the ROIs that will be affected by the project. California gave brief examples of the kind of information that is available and should have been considered. Instead, DOE used a generalized model that does not capture the actual environmental risks within the ROIs. A full analysis and disclosure of these actual risks would be a materially different result under NEPA, because it would carry out NEPA's action-forcing procedural requirements, regardless of whether the overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.") Including the data about the likely routes, would have "painted different picture of the environment," and the failure to do so violates NEPA.

Concise Statement of Supporting Facts or Expert Opinion

The Staff asserts that California's presentation of facts cited in its Petition are not sufficient for a contention. P. 1145 of Staff Answer. However, California followed 10 C.F.R. section 2.309(f)(1)(v) by making a concise statement of the inadequacy of the NEPA documents, and backed it up by indicating the types of information about ROIs that are available for likely routes, as opposed to the representational routes used by DOE. The failure to analyze ROIs along likely routes makes the NEPA documents inadequate.

Genuine Dispute Regarding the Application

The Staff is correct at p. 1145 of its Answer, California is alleging that its dispute with DOE regards an omission, an omission from DOE's NEPA documents of necessary information about ROIs along likely routes to the repository. Providing information is the heart of NEPA. NEPA requires that the EIS contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). An EIS is invalid if the information and analysis it contains is "too vague, too general and too conclusory." *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973). Appendix G is deficient because it provide generic, conclusory information rather than provide analysis of the likely routes, and omits information about specific routes that is available at the present, when the decision about the project, is being made. NEPA requires that the impacts be reviewed at the earliest opportunity. The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[ ] a maximum range of options*." *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). Here,

the decisionmakers and the public are denied essential information about impacts at the time the licensing decision is being made. The failure to discuss now the impacts from likely routes on ROI's violates NEPA, and is the source of the dispute with DOE and its NEPA documents.

CAL-NEPA-12

Failure to Discuss and Analyze Collocation Risks

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC pleading requirements. Second, DOE argues that California may only raise transportation issues in a petition for review to the federal court of appeal pursuant to the NWPA. Finally, DOE asserts that it has analyzed the potential risk for accidents sufficiently and its use of representative routes was appropriate. None of these arguments has any merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed

agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed action at issue here. The proposed action here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository

can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

The NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the narrow holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in section III E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is also unavailing, see section III F.above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding.

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings that the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) 64 NRC 257, 356 (internal citations omitted).

California has provided sufficient information to meet this requirement. Specifically, California seeks to prove in this contention that there are unique risks along specific routes that are predictable, but yet were not part of DOE's analysis. For instance, the Cajon Pass in Southern California has had three severe accidents involving rail lines and collocated hazardous material transmission lines, raising the potential for a serious emergency if an accident were to occur in the pass during a shipment of spent nuclear fuel or high level waste. DOE's analysis does not account for this type of risk. The routes that are likely to be used have specific accident histories that may be used to estimate this risk, which DOE ignored.

As with its replies to other contentions, DOE asks for deference in its methods of analysis of accident risk. However, the NRC, a sister agency with the same degree of expertise, is not required to show that deference, but should independently review DOE's analysis based on the standards contained in 10 C.F.R. § 51.109(c), and consider the significant and substantial new information offered by California in this contention. The NRC must assure, no matter what methodologies DOE used, that the adverse environmental effects of the proposed action are adequately identified and evaluated. *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 350. NEPA requires that the EIS contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). An EIS is invalid if the information and analysis it contains is "too vague, too general and too conclusory." *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973). DOE analysis of accident risk is too general and conclusory, it did not include collocation risks. These risks are significant potential environmental impacts that need to be considered.

Accordingly, this contention is admissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see section V above for California's general response.

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-12)**

The Staff asserts that this contention has not met the NRC regulatory pleading requirements, has not provided an adequate affidavit, has not met the materiality requirement and has not made a concise statement of supporting facts.

Admissibility Standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the

public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[32] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

[32] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae", presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, the Staff argues that DOE has taken the requisite "hard look" at environmental impacts and that California's assertion that DOE has not looked at collocation risks is "flyspecking", citing to *Louisiana Energy Services, LP* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 11, 87 (1998) and *Nevada v. U.S. Dep't of Energy*, 457 F.3d 78, 94 (D.C. Cir. 2006), respectively, for authority. The Staff is wrong on both accounts. The two cases the Staff cites address the requirement of the EIS to present to the public and decisonmakers full information about the environmental impacts of a project. Providing information is the heart of NEPA. NEPA requires that the EIS contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). An EIS is invalid if the information and analysis it contains is "too vague, too general and too conclusory." *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973). Here, DOE has not examined the actual routes that can be used and were recommended by the railroad companies that would have to ship the nuclear waste. Because of this omission, DOE has not presented essential information about collocation risks along the likely routes, such as the examples presented by California in its Petition. These are serious potential risks, an accident in one of the locations like the Cajon Pass could damage energy transmission for lengthy periods of time and could damage transportation routes for a long duration. The failure of DOE to examine collocation risks along the likely routes leave the decisionmakers and the public without important information about the risks from the project and is a major breach of its duty under NEPA. A full analysis and disclosure of these impacts from use of likely routes would be a materially different result under NEPA, because it would carry out NEPA's action-forcing procedural requirements, regardless of

whether the overall licensing decision is different. *Sierra Club v. Marsh*, 872 F.2d 497, 497 (1st Cir. 1989) ("[NEPA] seeks to create a particular bureaucratic decisionmaking process, a process whereby administrators make important decisions with an informed awareness of how the decision might significantly affect the environment. . . . . [I]f any such decision is made without the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.") California's assertion about these inadequacies in the NEPA documents is not "flyspecking," rather it is an articulation of serious inadequacies in DOE's analysis. The inclusion of a collocation risk analysis along likely routes would paint a "seriously different picture of the environmental landscape." *Nat'l Comm. For the New River, Inc. v. Fed. Energy Regulatory Comm'n,* 373 F.3d 1323*,* 1330 (D.C. Cir. 2004).

Concise Statement of Supporting Facts or Expert Opinion

Contrary to the Staff's assertion, California has pointed out how examining the likely routes can produce a different risk analysis than using only representative routes. California used the example of the Cajon pass, where gas lines are collocated with the tracks that could be used for train shipments (and possibly truck) shipments of nuclear waste. Yet this kind of discussion of collocation risks is absent from the NEPA documents, and this contention is admissible because it has challenged this substantial and significant omission.

CAL-NEPA-13

Failure to Discuss and Analyze Barge Risks

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with regulatory requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Finally, DOE asserts that it has sufficiently analyzed the risks associated with the use of barges as a mode of transportation of spent nuclear fuel and high level waste for ultimate transport to the repository.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of

the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and

high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the Repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents

NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case above in Section III. E.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see section III. F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) 64 NRC 257, 356 (internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the specific risks that are associated with barge shipments. The NEPA documents treat all barge shipping the same, as though the risks at particular transshipment points and along all routes is the same. There are relatively few sites where barges may be utilized, and an evaluation of the accident histories, handling times, and cask handling equipment available, could have and should have been done. Without this information, the analysis of the actual risks from the proposed action remains deficient and does not constitute the "hard look" required by *Kleppe* court and is not "most thorough analysis possible," as required by *Crounse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir.1986).

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see above regarding Dr. Dilger's affidavit.

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-13)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV

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Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. The Staff asserts that DOE need not address how nuclear waste will be safely shipped to the repository from the Humboldt Bay and Diablo Canyon facilities. Yet the project is disposing of the nuclear waste generated around the country at a repository at Yucca Mountain, this will require transportation between the generator sites and the repository. There are limited options for getting the spent nuclear fuel generated at Humboldt Bay and Diablo Canyon to the repository. Because neither is accessible by rail, either trucking or barging will be required. Although trucking is problematic from these two facilities, as described in another contention, barging from these two sites also presents particular problems

that should have been examined. Contrary to the Staff's assertion, shipping nuclear waste from Humboldt Bay and Diablo Canyon are not "remote and speculative impacts" (see Staff answer at p. 1162) , but are a necessary part of the transportation to the repository and should have been examined in detail. The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[ ] a maximum range of options*." *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). DOE has known it needs to ship from these two remote sites for more than twenty years, it is far past time to do the analysis required to inform the public and decisionmakers of the impacts of transporting from these two sites to the repository. Understanding the risks to the environment and public of barging from these California sites is essential to good decisionmaking. Including a discussion of the particular risks pointed out by California, would paint a "*seriously* different picture of the environmental landscape." *Nat'l Comm. For the New River, Inc. v. Fed. Energy Regulatory Comm'n,* 373 F.3d 1323*,* 1330 (D.C. Cir. 2004) (emphasis in original).

Concise Statement of Supporting Facts or Expert Opinion

California has presented a reasoned basis for its contention. It has pointed out the specific problems with shipment by barge from Diablo Canyon and Humboldt Bay which have not been analyzed and which make the NEPA documents deficient. Because this contention pleads sufficient facts to show a substantial and significant omission in DOE's NEPA analysis, this contention is admissible.

CAL-NEPA-14

Failure to Describe and Analyze Waste Acceptance Criteria

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Finally, DOE asserts that it did not have to analyze waste acceptance criteria because it presumed the maximum permissible regulatory dose in its analysis of impacts.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of

the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

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a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and

high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own

regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in Section III.E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see section III.F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings that the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In the Matter Of: Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356. (2006) (Internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the environmental consequences of failing to have a waste acceptance criteria, the repository EIS is silent as to what the waste acceptance criteria will be. The DOE should define what is acceptable waste and what is not. For instance, DOE should have performed an analysis that examines impacts at the upper and lower bounds of the fuel types being shipped. DOE should have discussed how damaged fuel will be handled. That is, what are the circumstances in which fuel will not be accepted and what will be done with it when it is not. The DOE should have analyzed impacts with damaged waste and performed a bounding analysis with the five year fresh fuel as well as older fuel.

Accordingly, DOE's' response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see discussion of Dr. Dilger's affidavit above for California's general response.

f. **Information showing that a genuine dispute exist on a material issue of law or fact**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-14)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV

above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[34] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached

[34] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989),

the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. The Staff indicates that the waste acceptance criteria will be decided later, and that tiering of the project in this regard is appropriate. However, DOE has not indicated that when they get around to discussing waste acceptance criteria, that this will be subjected to NEPA analysis. In fact, DOE has indicated that unless the there are substantially changes in the proposed action, or there is new and significant information or circumstances. (DOE Answer p. 142). And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. DOE simply does not plan to do route-

specific NEPA analysis, and the route-specific impacts of transporting at least 70,000 MTHM through the nation's most populous state will almost certainly go without any analysis by DOE. The NRC cannot practicably adopt DOE's NEPA documents as first-tier, programmatic EISs, even if they were adequate as first-tier documents, as they are not, on faith that DOE will prepare appropriate site-specific documents in the future.

Further, it is has long been established that NEPA requires early analysis of potential impacts, as DOE itself conceded by citing to *Crouse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986): "the lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." And DOE correctly cites to the CEQ regulations that agencies should integrate the NEPA process at the earliest possible time. 40 C.F.R. § 1501.2. Analysis of the environmental impacts of those decisions should be addressed in this FEIS, not at some time in the future. *See Neighbors of Cuddy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect environmental values. *Andrus v. Sierra* Club, 442 U.S. 347 (1979). What DOE gets wrong is its compliance with these principles. Delaying the discussion of all of the impacts of transportation of nuclear waste to the repository to a later planning process, including the waste acceptance criteria for accepting the waste for transport, violates this basic rule of law.

Concise Statement of Supporting Facts or Expert Opinion

The Staff argues that the waste acceptance criteria does not have to be considered now. As set out in the preceding section, NEPA requires an accurate description of the project and an early analysis of all significant impacts of the proposed action. In the area of waste acceptance criteria, this has not been done. The Staff also attacks this contention as based on Dr. Dilger's

affidavit. Dr. Dilger has given his expert opinion as to the type of criteria DOE should have considered, and that is adequate to meet the contention pleading requirements, as discussed above. This contention is admissible.

CAL-NEPA-15

By Using Representative Routes, DOE Has Failed to Analyze Environmental Impacts of Probable Routes Railroads Would Use

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Finally, DOE asserts that its use of representative routes was sufficient for NEPA purposes.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed

agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered

and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take

place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. (See Section III above for a full discussion of how transportation issues must be considered by the NRC.

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents

NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in Section III. E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see section III.F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)(internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents, namely, that DOE had not analyzed the environmental consequences because it utilized representative routes to do its analysis of transportation impacts instead of the routes railroad companies recommended. Since the SEIS proposes to let the railroads choose the routes to ship nuclear waste to the repository, it is those routes that should have been analyzed. And DOE misconstrues the import of the Chairman Meserve letter and the NAS recommendation. While not critical DOE's actions taken up to that date, each expected that "more precise estimates of impacts" would be needed (Meserve letter) and urged DOE to "more precisely define the routes used to ship spent nuclear fuel" (NAS study). This information is available and should have been used. Using the actual routes that are likely to be used results in different data, the impacts may actually occur at different points and affect different populations not considered in the TRAGIS computer model. DOE has conceded that it does not intend to perform supplemental NEPA analysis on transportation impacts unless there are substantial changes in the project or there is significant new circumstances or information. (DOE Answer at p. 174) So even though NAS and Chairman Meserve spoke of the need for more precise information about routes than what is available through the use of representative routes, such analysis was not done. Since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. As a result, the

impacts of the actual routes that will be used will almost certainly go without any environmental analysis by DOE.

DOE argues that its analysis is adequate for this stage, but since it has indicated its disinclination to do further NEPA review on transportation absent a change in the project or significant new information, its understanding of its responsibilities under NEPA is incorrect. In *No East-West Highway Committee, Inc. v. Whittaker*, 403 F.Supp. 260, the Court decided the question of when an EIS is premature and when it is tardy. "Statements must be written late enough in the development process to contain meaningful information, but they must be written early enough so that whatever information is contained can practically serve as input into the decision making process." *Scientists' Institute For Public Info., Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1094 (D.C. Cir. 1973) The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). NEPA requires that the EIS contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). Here, DOE is not merely tardy with its analysis, it appears as though it does not intend to analyze the environmental impacts of the actual routes at any future stage at all. This failure to provide the requisite analysis violates NEPA.

Accordingly, DOE's response to this contention does not state grounds for finding that this contention is inadmissible.

e. Statement of Supporting facts, expert opinions and references

DOE did not separately address this criterion, see discussion of Dr. Dilger's affidavit above for California's general response.

f. Information showing that a genuine dispute exist on a material issue of law or fact.

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-15)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public

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Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, the Staff asserts that there is no legal authority that requires it to consider likely railroad routes as opposed to the representational routes they used. On the contrary, NEPA requires more than a generic look at impacts. The NRC must assure, no matter what methodologies DOE used, that the adverse environmental effects of the proposed action are adequately identified and evaluated *Robertson v. Methow Valley Citizens* Council, 490 U.S. 332, 350 (1989). NEPA requires that the EIS contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). An EIS is invalid if the information and analysis it contains is "too vague, too general and too conclusory." *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973). Here, the choice to use representational routes, when the railroad companies had advised as to the routes that would most likely be used, was too general and conclusory and not the reasonably thorough discussion required by NEPA. DOE has conceded that it plans no further analysis unless the project changes substantially or there are significant new circumstances or information. (DOE Answer at p. 142) And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. DOE simply does not plan to do route-specific NEPA analysis, and the route-specific impacts of transporting at least 70,000 MTHM through the nation's most populous state will almost certainly go without any analysis by DOE.

Concise Statement of Supporting Facts or Expert Opinion

California has demonstrated that using more likely routes, such as those proposed by Union Pacific, would have resulted in analyzing different impacts to California than have been

revealed by the generic routing that DOE used. The failure to consider the impacts of the likely routes, which could readily be determined, is a serious omission. This contention is admissible.

CAL-NEPA-16

DOE Has Ignored the NAS Recommendation of Independent Examination of the Security of Shipments

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues Dr. Dilger is not an expert in relation to this contention. Finally, DOE asserts that it is not required to seek an independent analysis of its transportation plans.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A

contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca

Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

DOE also asserts that Dr. Dilger is not qualified to offer an opinion on this contention. In fact, Dr. Dilger is imminently qualified to render an expert opinion on this and the other contentions on which he has testified. Dr. Dilger has studied the matter as the subject of academic and professional interest since 1993 and has participated in DOE stakeholder Transportation External Coordination Working Group since 1993. He has twice received technical training from DOE on its routing and risk assessment software and regularly attends conferences on the subject of waste management. Dr. Dilger has developed an alternative routing model to the DOE routing model. The subject of Dr. Dilger' master's degree at the University of Nevada Las Vegas was the shortcomings of the epistemology of quantitative risk assessment as it applies to High Level Waste Shipments. The subject of his master's thesis at the University of London was the assessment of impacts from these shipments. The subject of Dr.

Dilger's Doctoral Dissertation was an evaluation of alternative mitigation methods for the shipment of these materials. He has briefed the National Academy of Sciences (NAS) on a 325 mile bus tour that described the transportation situation in southern Nevada. He attended every one of the public NAS meetings and spoke with all of the study committee members. Dr. Dilger has written or co-authored 28 peer-reviewed conference papers or journal articles on the subject of spent nuclear fuel transportation. He has also researched past recommendations for the management of the program. Dr. Dilger has authored twelve peer-reviewed conference presentations and four government agency reports on transportation of nuclear waste. There can be no doubt that Dr. Dilger has the training, experience and expertise to offer expert testimony on nuclear waste transportation in this proceeding, and specifically on the NAS recommendation at issue here.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are

closely related so that they should be discussed in the same impact statement. *Id.* DOE's realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. (See Section III above for a full discussion of how transportation issues must be considered by the NRC.)

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete

environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see section --- above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted.

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)(internal citations omitted)

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis. Specifically DOE has not adequately analyzed the environmental consequences from transportation of spent nuclear fuel and high level waste to the repository in that it did not adopt the recommendation of the National Academy of Sciences to seek an independent review that would have revealed options for managing the shipping program that would fulfill stakeholder needs, and still move the waste. An independent review suggest ways to enhance security, control costs and methods to build a program that could safely move the spent nuclear fuel and high level waste to the repository. Without this input, DOE's analysis is incomplete and inadequate.

The Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Facilities was directed by Congress to examine alternatives to Yucca Mountain in a report titled, "Manageing Nuclear Waste – a Better Idea (AM/FM report) (LSN # DN2001943774. This report drew similar conclusions to the findings of NAS in *Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States* The report, published in December of 1984, is consistent with the findings of NAS that the DOE might not be able to effectively implement the program and that a Public/Private entity might be a better alternative (AM/FM report Page VII-10).

Accordingly, this contention is admissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see discussion of Dr. Dilger's affidavit above for California's response.

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-16)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has demonstrated a genuine dispute. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the

environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[36] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the

[36] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting

Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, California asserts that if the recommendation of NAS in *Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Waste in the United States* had been followed, the public and decisionmakers would have been assured that all appropriate security measures had been considered. Instead, the question remains

unanswered as to whether threats of sabotage and terrorism have been properly considered and appropriate mitigation analyzed. Allowing for an independent review would have undoubtedly resulted in painting a "seriously different picture of the environmental landscape" *National Committee of the New River v. Fed. Energy Regulatory Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004).

Genuine Dispute Regarding the Application

California believes that it is critical to follow the NAS recommendation and have an independent review of security measures for transportation of nuclear waste from generator sites to the repository and that the failure to do so is an omission that violates NEPA. DOE asserts that this is not required. Accordingly, California has demonstrated there is a genuine dispute over the application and this contention is admissible.

CAL-NEPA-17

Environmental Impacts from the Use of Heavy Haul Trucks at Local Sites

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with regulatory requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Finally, DOE asserts that it has sufficiently analyzed from heavy haul trucks in local areas.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed

agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take

place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. (See Section III above for a full discussion of how transportation issues must be considered by the NRC.)

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents

NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in Section III.E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see section III.F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted.:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)(internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the environmental consequences from using heavy haul trucks at the generator sites. DOE has not shown that the shipment of waste by heavy haul truck is feasible at the California locations. It has not consulted with the State of California on issues of permitting, shipment separability, and handling. Because DOE has used an assortment of model runs for its analysis, the assessment cited in the FEIS does not permit comparison for each potential heavy-haul route. The numbers are aggregated nationally and DOE argues that barge and heavy haul shipments are similar because the exposed populations are similar. However, barges and heavy haul shipments may have different handling times, lag times during shipment and movement, and different inspection regimes that may increase exposures. These exposures will vary by location. If DOE uses barges from Diablo Canyon, the harm may be concentrated at Port Hueneme, however, if they use heavy haul trucks from Diablo Canyon, the concentration of harm will be in the San Luis Obispo area. DOE treats harm from routine shipments of nuclear waste as fungible, when in fact, the harm has to be analyzed based on the unique characteristics of each reactor site.

DOE states at FEIS J.2.2 (Page J-75), that canisters will either be rolled off a barge using a ramp or hoisted onto a heavy-haul truck, but does not describe how that will be done. The FEIS does not describe whether or not DOE has identified potential transfer sites, and does not indicate that DOE has discussed the potential transfer of spent nuclear fuel with the affected

localities. The roads used for the anticipated heavy haul shipments are local roads, yet DOE has not spoken with the affected localities about the nature of the roads, improvements that might be needed, and how the roads will be maintained during the life of the shipments. These are just some examples of the types of local impacts that have not been considered by DOE but will need to dealt with for the transportation of spent nuclear fuel to the repository.

Accordingly, this contention is admissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see discussion of Dr. Dilger's affidavit above for California's general response.

f. **Information showing that a genuine dispute exist on a material issue of law or fact**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-17)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different

result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008).

Dr. Dilger's affidavit otherwise meets the requirements.[37] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and

[37] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only

if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, the Staff asserts that the impacts of heavy haul trucks carrying spent nuclear fuel from reactors heading towards the repository on minor roads is not a significant impact of the proposed action. (Staff Answer at 1190.) Certainly to the people living near these roads and using them to drive to school, work or to run errands, these impacts are significant. DOE has admitted in its January 2009 National Transportation Plan for the Repository (LSN # CEC000000626 at p. 16) that it does not plan to fund upgrades to transportation infrastructure at shipping sites or to fund the kinds of local infrastructural improvements and road repairs that will be necessary, local government will certainly see these as significant impacts that should be analyzed before the proposed action is approved.

Contrary to the Staff's assertion, DOE has not committed to doing further NEPA analysis on transportation impacts. In fact, it has indicated that it does not foresee further environmental analysis unless the proposed action substantially changes or there is significant new information or circumstances. DOE Answer at p. 142. And, since DOE regards the use of "representative routes" and generic impact analysis as fully satisfying NEPA, it is difficult to imagine any circumstances or information that DOE will regard as significant or new. As a result, these impacts will almost certainly go without any analysis by DOE.

Nor is it too early to analyze these impacts, which are clearly foreseeable. "The lack of final design plans does not excuse an agency from conducting the most thorough analysis possible of a proposed action." *Crouse Corp. v. ICC*, 781 F.2d 1176, 1194 (6th Cir. 1986) The CEQ regulations require agencies to integrate the NEPA process at the earliest possible time. 40 C.F.R. § 1501.2. Analysis of the environmental impacts of those decisions should be addressed in this FEIS, not at some time in the future. *See Neighbors of Cudahy Mountain v. Forest Service*, 137 F.3d at 1380 (where impacts are reasonably foreseeable, it is not appropriate to defer analysis). The analysis must be done "at the earliest possible time to insure that planning and decisions reflect environmental values. *Andrus v. Sierra* Club, 442 U.S. 347 (1979). While the ultimate routes may not have been chosen there are extremely limited options for moving the nuclear waste from the facilities to the nearest rail head or barge site, and those impacts are foreseeable and knowable.

Concise Statement of Supporting Facts or Expert Opinion

Although the routes have not been picked for transport to the repository, there is no doubt that at least as to the Diablo Canyon facility, there are limited options for routes. Certainly the responsibility to discuss the impacts on local roads, and on the local government that is responsible for the improvement of those roads, is something that can be easily anticipated and should be analyzed. DOE's failure to discuss how these local problems will be solved, is a major omission in the NEPA documents and makes them inadequate for NEPA purposes.

CAL-NEPA-18

Failure to Analyze Impacts from the Use of California State Route 299

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Last, DOE asserts that it has taken a "hard look" at heavy haul transportation and was not required to look specifically at California State Route 299.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of

the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the

subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and

high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. (See Section III above for a full discussion of how transportation issues must be considered by the NRC.)

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own

regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in Section III.E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see section III.F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted.:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station),LBP-06-23, 64 NRC 257, 356 (2006)(internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the environmental consequences from the use of California Route 299, a national scenic byway that runs for much of its distance adjacent to the Trinity River, a national scenic river. DOE claims that the general look it took at heavy haul trucking is adequate at this stage of its planning. Yet the environmental impacts from shipping spent nuclear fuel from Humboldt Bay are completely predictable and certain. Because of its isolation, there are limited options in shipping waste from Humboldt Bay. The shortest route to an Interstate is along route 299. Yet, DOE has not analyzed the potential environmental impacts flowing through this little developed corner of California, such as the impacts of heavy trucks on a road that is not appropriate for heavy hauling because of it does not meet national standards for curvilinear widths. The tight curves of this highway would require the trucks to use the shoulder of the highway at some points on the road. None of this is discussed in the NEPA documents. DOE is considering barging from Humboldt Bay instead of shipping along California State Route 299, but the environmental impacts of that form of transportation has also not been analyzed. (see Contention # 13.)

Contrary to DOE's argument, it is not too early to analyze the impacts of using California State Route 299. As DOE concedes in its answer at page 195, the environmental consequences of an action need to be considered "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. (9th Cir. 1984)("Reasonable forecasting and speculation is … implicit in NEPA)(internal citations omitted). It is more than reasonable to forecast that Highway 299 must be used for shipments, and the impacts caused by the use of this route should have been analyzed.

Nor is this the "flyspecking" that DOE accuses California of engaging in, citing to *Nevada v. Dep't of Energy*, 457 F.3d 78, 93 (D.C. Cir. 2006). Transportation to the repository is an essential part of the proposed action. The failure to discuss how to move spent nuclear fuel from Humboldt Bay, either by barge or by use of Highway 299, is a major flaw in the NEPA documents' analysis. Accordingly, DOE'S' response to this contention does not state grounds for finding that this contention is inadmissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see discussion of Dr. Dilger's affidavit above.

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-18)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not made a concise statement. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV

above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

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[38] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989),

the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Contrary to the Staff's assertion, the use of California State Highway 299 is not unforeseeable nor remote and speculative. There are limited possible routes for nuclear waste to leave the Humboldt Bay facility. It is appropriate to discuss the impacts from the use of this highway, as it has been suggested as a possible route. The road is difficult at best for heavy trucks, and has not been approved by the State for this purpose. Any accident along this route will likely endanger the Trinity River and its watershed, depriving California of one of its most pristine natural environments. Because transportation of spent nuclear fuel has

been considered (SEIS Repository Figure G-6), the impacts of its use should have been described and analyzed in the NEPA documents.

Concise Statement of Supporting Facts or Expert Opinion

The use of Highway 299 has been considered for shipments of nuclear waste from the Humboldt facility. (SEIS Repository Figure G-6) This mountainous road with sharp curves and narrow shoulders is entirely inappropriate for this purpose. In addition, the route closely follows the path of the Trinity River, and any accident on the road has potential to damage this national wild and scenic river and its watershed. The failure to analyze the impacts of using this highway is an omission that violates NEPA. Accordingly, this contention is admissible.

CAL-NEPA-19

Failure to Analyze Use of TAD Canisters

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Third, DOE asserts that it has sufficiently analyzed the impacts from repackaging nuclear waste into TADs and is entitled to deference in its assumptions. In addition, DOE also attacks Dr. Dilger's credentials to provide expert opinion on this contention.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its

"sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger

has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

a. **Statement of issue of law or fact to be controverted**

DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

c. **Demonstration that the issue raised is within the scope of this proceeding**

DOE argues that the NRC does not have regulatory authority over any transportation issue relating to the Yucca Mountain repository under the Atomic Energy Act and the Energy Reorganization Act. Transportation to the repository is at the heart of the proposed project at

issue here. The project here is to establish a repository for disposal of the spent nuclear fuel and high level waste generated throughout the United States. No disposal at the repository can take place without transportation from the generator sites. The CEQ regulations define "project" as including "connected actions." 40 C.F.R. § 1508.25(a). "Connected actions" are actions that are closely related so that they should be discussed in the same impact statement. *Id.* DOE realized this, and that is undoubtedly why its FEIS and the repository SEIS each have sections and appendices that address transportation around the country, albeit inadequately, and its Rail Corridor SEIS and Rail Alignment EIS exclusively discuss transportation impacts (but avoid discussing transportation impacts outside of Nevada).

In fact, the NRC staff in its September 8, 2008, Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain made it clear that all parts of the EISs drafted by DOE, including portions of the Rail Alignment EIS incorporated by reference in the other documents, were within the scope and consideration of the NRC for its review. NRC Staff Adoption Determination Report at 1.3 The Report does not exclude transportation impacts from its determination. (See Section III above for a full discussion of how transportation issues must be considered by the NRC.)

Further, the use of TADs, even if not a direct effect of the project, is an indirect effect of opening the repository, as DOE has indicated it intends to use the containers for storage of most of the nuclear waste delivered to the site. Repository SEIS at 2-9. The CEQ regulations (adopted by DOE and NRC) at 40 C.F.R. § 1508.8 include within "effects":

> (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land

> use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. . . .

As DOE has discussed the use of TADs to aid in disposal at the repository, their use is clearly foreseeable. At a minimum, impacts from using TADs is an indirect effect that should have been evaluated

Relying on *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), DOE next argues that the NRC can only rubber stamp DOE's decisions regarding transportation. However, the holding of that case does not support DOE's argument. In *Public Citizen* the licensing agency was excused from complying with NEPA because it had no discretion to prevent or refuse to take the action involved; the Court held that because the agency had limited statutory authority over the relevant action, it could not be considered a legally relevant cause of the effect. In contrast, the NRC has complete discretion over granting the license, and its own regulations require it to carry out its NEPA responsibilities. Nothing in *Public Citizen* prevents NRC from carrying out its statutory and regulatory responsibilities to do a complete environmental analysis of all environmental impacts from the proposed action, including those impacts from transportation. (See full discussion of the *Public Citizen* case in Section III.E. above.)

DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see full discussion of this issue in section III.F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's

conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)(internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the environmental consequences from use of TADS in the proposed action. DOE makes a confusing argument that "reloading of TADs at reactors sites is not part of the transportation activities as proposed by DOE". Answer at p. 201. Yet DOE has stated that its expectation is that "90 percent of commercial spent nuclear fuel would be packaged in TAD canisters by the operators at the generator sites" Repository SEIS, Vol. I at 2-9. DOE defends its analysis by saying it looked at reloading into TADs at the repository and that the impacts would be the same for loading at reactor sites. There is an obvious difference between loading operations at the

repository and at the sites that has not been analyzed and which Dr. Dilger pointed out. For instance, the reactor sites, some of which are closed facilities, and none of which have used TAD canisters to date, do not have the proper equipment to load TADs, or the storage capacity to handle TADS in addition to their other canister storage. Who will fund improvements that will be needed for new loading equipment and new storage areas, as well as the protocols for such loading at reactor sites, has not been evaluated. There will be a myriad of other differences between loading at the DOE-controlled repository, and loading at utility owned nuclear power plants, yet impacts were unexamined.

Accordingly, this contention is admissible.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not specifically address this criterion, but see discussion of Dr. Dilger's affidavit above for California's general response to this issue .

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-19)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and has not demonstrated an genuine dispute. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This

contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain

numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[39] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae,"

[39] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989), the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions

no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, DOE has made it clear that it intends to use TADs for disposal at the repository. DOE hopes that as much as 90 per cent of the spent nuclear fuel at generator sites will be packaged in TAD canisters. Repository SEIS at p. 2-9. Yet DOE has not described or analyzed how the repackaging at generator sites will be carried out, This will be a particular problem at closed sites. The current storage of spent nuclear fuel is not compatible with storage of TAD canisters at the site, and the cost and mechanics of how the TAD storage will be carried out should have been discussed and analyzed. The failure to do so is a major omission that violates NEPA's full information requirements.

Genuine Dispute Regarding the Application

California asserts that the failure to discuss and analyze how the TADs will be integrated into the current storage protocols at the generator sites, as well as how the individual sites are going to handle repackaging, is a significant environmental impact that has not been evaluated. The failure by DOE to do so violates NEPA. Accordingly, there is a genuine dispute between California and DOE and this contention is admissible.

CAL-NEPA-20

Failure to Adequately Analyze Impacts on Local Emergency Management Responsibilities

RESPONSE TO DOE

DOE contests this contention in three basic regards. First, it claims that California has failed to comply with NRC regulatory pleading requirements. Second, DOE argues that California may only raise transportation of high level waste and spent nuclear fuel issues in a petition for review to the federal court of appeal pursuant to the NWPA. Last, DOE asserts that DOE has sufficiently analyzed how it will provide adequate funding and training for local public safety officials.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of

the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Dr. Dilger's Affidavit

DOE next attacks the validity of Dr. Dilger's affidavit. Contrary to the DOE's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements. Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

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DOE did not object to this requirement.

b. **Basis of this contention**

DOE did not object to this requirement

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DOE's argument that any transportation issue involving the repository may only be heard in a federal court of appeals or that such a challenge is time-barred, is unavailing, see Section III.F. above.

d. Demonstration that the issue raised is material to the findings that the NRC must make to support the action involved in this proceeding

Although DOE asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention. A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.

In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)(internal citations omitted).

California has provided sufficient information to meet this requirement. California raised a material failing of the NEPA documents that would require the current NEPA documents to be withdrawn to provide further discussion and analysis, namely, that DOE had not analyzed the environmental consequences of the proposed action to local emergency management. DOE criticizes California's use of examples of incidents where radioactive contamination entered the environment. The examples are applicable, because they are real life episodes, as opposed to modeling, that illustrate the enormous cost and effort required to address releases of radioactive material, such as might occur during a transportation accident.

As to local emergency management services, DOE has not taken the "hard look" required by *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n. 21 (1976). While long term reaction to a transportation accident would be the responsibility of DOE and other federal agencies, DOE has conceded that the first responders would be local emergency response personnel Repository SEIS at H-16. The NEPA documents do not describe how the twenty counties in California, or other local government that may be affected by routes to the repository, will receive appropriate funding and training during the long duration of the proposed action in order to safely respond to a transportation accident of a spent nuclear fuel shipment bound for the repository, as required by Section 180(c) of the NWPA. The safety of the public, as well as the environment, demands that careful planning for the initial response to such incidents be in place. It is not adequate to say that DOE has large staffs of experts in regional offices that may be available for ultimate

assistance, California is concerned with how the first responders will be adequately trained and funded.

Contrary to DOE's insistence, it is not too early for this discussion. As DOE concedes in its answer at p. 212, the environmental consequences of an action need to be considered "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. (9th Cir. 1984) ("Reasonable forecasting and speculation is … implicit in NEPA)(internal citations omitted).) The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions *at a time when they 'retain[ ] a maximum range of options.*" *Conner v. Burford,* 848 F.2d 1441, 1446 (9th Cir. 1988) (*quoting Sierra Club v. Peterson,* 717 F.2d 1409, 1414 (D.C.Cir. 1983) *cert. denied sub nom. Sun Exploration and Production Co. v. Lujan*, 489 U.S. 1012 (1989); (emphasis in original). The need for training of local emergency personnel is not only predictable, it is mandated by the NWPA, and should have been done. And contrary to DOE's assertion, California is not accusing DOE of analyzing this impact too early, but of not doing the required analysis in at adequate manner. NEPA requires that the EIS contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). An EIS is invalid if the information and analysis it contains is "too vague, too general and too conclusory." *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973). Here, DOE in its NEPA documents just makes a general representation that funding will be made available pursuant to Section 180(c) of the NWPA, without providing any detail as to how that will be managed over the long life of the proposed action.

Further, while DOE is correct that proposed mitigation need not be in place before an agency can act (DOE Answer at p. 212), the viability of mitigation measures needs to be discussed now. *See Neighbors of Cuddy Mountain*, 137 F.3d. at 1380. The mitigation measures must be discussed in sufficient detail that environmental consequences have been fairly evaluated. *City of Carmel-by-the-Sea v. U.S. Dep't of Trasnp.*123 F.3d 1142, 1150 (9th Circ. 1997). A mere listing of mitigating measures, without supporting analytical data, also is inadequate. *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998). Here, the NEPA documents only generally discuss how DOE will comply with NWPA section 180(c), and does not provide enough information for decisionmakers to know how the training and funding for local emergency personnel will be maintained during the time period while spent nuclear fuel is being shipped to the repository.

e. **Statement of Supporting facts, expert opinions and references**

DOE did not separately address this criterion, see discussion of Dr. Dilger's affidavit above for California's general response.

f. **Information showing that a genuine dispute exist on a material issue of law or fact.**

For the reasons stated above, a genuine dispute on several material issues of fact and law exist between DOE and California as to the adequacy of the NEPA documents. This contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-20)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, and does not demonstrate materiality. None of these arguments has merit.

Admissibility standards

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV

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Dr Dilger's Affidavit

Contrary to the Staff's assertion, Dr. Dilger's affidavit is appropriate for this proceeding. As the staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits "shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008). Dr. Dilger's affidavit otherwise meets the requirements.[40] Dr. Dilger stated in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with 19 separate affidavits, California produced one that covered all of the statements to which Dr. Dilger was attesting.

As to Dr. Dilger's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Dr. Dilger has authored numerous publications and made peer-reviewed conference presentations on the subject of the transportation of nuclear waste. In particular, Dr. Dilger has studied, considered and written on the topics of managing nuclear waste in transport (including shipments to Yucca Mountain), NWPA section 180(c), and shipment of nuclear materials in urban areas, all directly relevant to this contention. His papers on these topics are found in his *curriculum vitae*, attached

[40] The Staff states that the Federal Rules of Civil Procedure do not apply to the NRC, Staff Answer at 1073, but its Answer still purports to measure the adequacy of Dr. Dilger's affidavit against those Rules. Such a double standard is unfair and unauthorized.

to his affidavit; a sampling includes "The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States 2010-2048," *American Behavioral Scientist*, Winter 2002 (co-author Robert Halstead); "Rocky Road: Yucca Mountain Transportation Uncertainties," presented to Waste Management 2007 conference in Tucson, AZ (with Robert Halstead); "Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?", presented to Waste Management 2006 conference in Tucson, AZ (with Robert Halstead); "Great Expectations: An examination of 180(c) Funding Allocation Formulae," presented to Waste Management 2005 conference in Tucson, AZ (with Robert Halstead), and many others. He is clearly qualified to testify as a witness on the information contained in paragraph 5 of this contention.

Finally, the Staff argues that it is not clear whether Dr. Dilger reviewed the contentions before signing his affidavit. Although the affidavit may be awkwardly worded on this point, Dr. Dilger did in fact review and approve each and every paragraph 5 in each contention in which he rendered an opinion.

Materiality

The Staff claims that California has not demonstrated that California has raised an issue that is material to findings the NRC must make. The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). In so doing, the Staff reflects the order of events that the NRC expected would take place as to DOE's NEPA documents. As the NRC sets out in its adoption of the NEPA Review Procedures for Geologic Repositories for High-Level Waste, 54 Fed.Reg. 27864 (July 3, 1989),

the agency expected that the courts would already have adjudicated the validity of DOE's NEPA compliance before DOE submitted its licensing application. And, "[f]rom that point on, in the absence of substantial new information or other new considerations," the NRC could concentrate on "the health and safety of the public." However, events have not transpired in that order. The courts have not adjudicated the SEIS or the October, 2008 ROD, so that NRC cannot begin its consideration of DOE's NEPA documents "from that point on." The original 1988 justification for directing the presiding officer to consider motion to reopen standards for NEPA contentions no longer exists. However, the NRC's duty under NEPA to adopt DOE's NEPA documents only if they are adequate, and its duty to allow parties to raise environmental considerations, including transportation considerations, *NEI v. EPA*, 373 F.3d 1251, 1314, remain. The Staff's position would be correct if the EISs at issue had already been adjudicated, or if the time to challenge them had run. Neither has occurred as to any but the 2002 EIS, and since the *NEI v. EPA* case makes clear that a legally inadequate EIS would be "impracticable" for the NRC to adopt, a contention that DOE's NEPA compliance is inadequate raises a material issue.

Given the actual, and not the originally expected, state of the case, California has more than met its burden as to materiality. Specifically, DOE has not adequately discussed and analyzed how it intends to meet its responsibilities under section 180(c) of the Nuclear Waste Policy Act. While it mentions that it has this responsibility, it does not have any discussion or analysis of how it will carry this out other than it will meet with affected state and tribal government in the future. Since local government is expected to be the first responders to any incident, an understanding of how emergency response personnel will be funded and trained for this purpose during the life of the proposed action is a major impact that needs to be thoroughly considered. While DOE is not required to have a mitigation program in place, it is required to

fully discuss the kinds of mitigation that will be required and the methods for providing mitigation. *Robertson v. Methow* Valley, 490 U.S. 332, 353-54 (1989). The failure to do so is a major omission of the NEPA documents. This contention is admissible.

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

RESPONSE TO DOE

DOE challenges this contention in two regards. First, it erroneously argues that California has failed to comply with NRC pleading requirements. Second, it mischaracterizes California's showing of materiality, wrongfully arguing that California believes that DOE was required to perform a "worst case" analysis. Neither argument has merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A

contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Jan Stepek's Affidavit

DOE next attacks the validity of Jan Stepek's affidavit. Contrary to the DOE's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that "affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. DOE has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. DOE's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

The affidavit of Jan Stepek sets forth his qualifications. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of

experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

DOE acknowledges that Paragraph 5 of this contention "sets forth a list of alleged omissions in the Repository Supplemental EIS involving impacts to groundwater and the related environment. Petition at 101-103." It is those very omissions that DOE was fully obligated under NEPA to provide, and upon which this contention is based. DOE simply disagrees with the expert opinions offered in support of this contention, but that does not invalidate this contention.

a. **Statement of the issue**

DOE expresses no legal objection based on this requirement.

b. **Brief explanation of the basis**

DOE expresses no legal objection based on this requirement.

c. **Demonstration that the issue is within the scope of the hearing**

DOE expresses no legal objection based on this requirement.

d. **Demonstration that the issue is material to the findings NRC must make to license Yucca Mountain**

DOE asserts that this contention does not raise an issue material to the findings that the NRC must make. In making this assertion, DOE mischaracterizes the nature of California's showing of materiality.

California does not argue that NEPA requires a "worst case" analysis or allows "remote and speculative" possibilities, as claimed by DOE. Rather, California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to adequately and fully assess the environmental impacts of the proposed Yucca Mountain Repository. California is not requesting that DOE perform a worst case analysis; rather, California is simply requesting that DOE provide a complete and adequate discussion of the nature and extent of the repository's cumulative impact on groundwater in the lower carbonate aquifer in a manner that is consistent with NEPA, the CEQ guidelines, and NRC guidance and applicable regulations.

California contends that the NEPA documents materially fail and must be withdrawn to provide further discussion and analysis, namely, that DOE had not adequately analyzed the public health and safety and other environmental consequences from the repository's cumulative impact on groundwater in the lower carbonate aquifer. Accordingly, DOE's response does not state grounds for finding that this contention is inadmissible.

Although DOE asserts that it is challenging the materiality of the issue raised by California, in reality, it simply disagrees with California's conclusions. Indeed, much of DOE's discussion of this factor appears to argue that California must prove its contention at this point in

the proceeding in order for the contention to be admissible. This is not the standard for admissible materiality:

> "[T]he requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions…provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage... The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) 64 N.R.C. 257, 356

Before it may determine that the NEPA documents in their current form for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. (*NEI v EPA*, 373 F.3d at 1314) An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. § 51.109(c), which makes the NEPA documents not practicable for adoption.[41] This contention challenges DOE's failure to comply with NEPA and therefore raises a material issue.

e. **A concise statement of the facts or expert opinions supporting the contention, along with appropriate citations to supporting scientific or factual materials**

In its Answer, DOE merely makes the blanket statement that "(f)or the reasons discussed above with respect to §§ 51.109 and 2.326, and as addressed in section IV.A.3 regarding the legal standards under 10 C.F.R. 10 C.F.R. § 2.309(f)(1)(v), California has failed to provide the requisite supporting facts, expert opinion and references." DOE Answer, p. 218. No further factual or legal argument is offered by DOE on this subject specific to this contention. This statement by DOE simply ignores the supporting facts, expert opinion, and references included in this contention.

[41] Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 October 22, 2008

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed 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 in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations. California's Petition to Intervene, pp. 100 – 103. See section V above for California's general response on this issue.

f. **There must be sufficient information to show that there is a genuine dispute with DOE, along with specific references to the portions of the LA being controverted**

DOE asserts that "[f]or 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," and urges that this contention be rejected.

In attempting to show that there is no material issue of fact or law with respect to this contention, DOE argues that California is wrong on the facts and the law. DOE thereby demonstrates that there are indeed material issues of fact and law that are in dispute. It is clear that neither California nor DOE agree on the material facts supporting this contention, and that DOE disagrees that they have an obligation to provided a complete and adequate discussion of the nature and extent of the repository's cumulative impact on groundwater in the lower carbonate aquifer in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

In sum, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[t]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should reject DOE's opposition to this contention, and find the NEPA documents fail to completely and adequately evaluate the nature and extent of the repository's cumulative impact on groundwater in the lower carbonate aquifer.

For the reasons stated above, this contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-21)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, and does not demonstrate materiality. None of these arguments has merit.

a. **Admissibility standards**

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, a simple review of the substance of this contention demonstrates that California did meet the NRC regulatory pleading requirements.

This contention addresses significant safety and environmental issues and alleges that DOE had failed to fully and adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and

Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Much of the Staff's discussion regarding admissibility appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have

> been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." *In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)* 64 N.R.C. 257, 356

It has also been recognized that "technical perfection is not an essential element of contention pleading." *PFS (Independent Spent Fuel Storage Installation)*, LBP-01-3, 53 NRC 84, 99 (2001)[42] Sounder practice is to decide issues on their merits, not to avoid them on technicalities. *Houston Lighting & Power Co. (South Texas Project, Units 1 and 2)*, ALAB-549, 9 NRC 644, 649 (1979). It is the Staff's conclusory statements regarding the admissibility of this contention that should be rejected, not the contention itself. The Staff cannot demonstrate that this contention should not be admitted, and why it should not be decided on the merits of the allegations therein.

b. **Affidavit**

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed 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 in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

[42] (Citing Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), in which it is stated that "[i]t is neither Congressional nor Commission policy to exclude parties because the niceties of pleading were imperfectly observed")

Contrary to the Staff's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As the Staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. The Staff has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. The Staff's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

As to Jan Stepek's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and*

technical statements contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

c. **Materiality**

The Staff asserts that this contention does not raise an issue material to the findings that the NRC must make. However, California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to assess adequately and fully the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis, namely, that DOE had not adequately analyzed the public health and safety and other environmental consequences from the repository's cumulative impact on groundwater in the lower carbonate aquifer. Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

Staff makes an exceptionally curious argument in support of its Answer. Staff asserts that since the FSEIS "does consider the possibility that groundwater from the proposed repository contaminated with radionuclides could migrate to Death Valley Springs" from sources other than

the lower carbonate aquifer, that an analysis into the lower carbonate aquifer as a potential pathway for such contaminated groundwater is therefore unnecessary. This falls far short of DOE's obligation to provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Although the Staff asserts that it is challenging whether the issue raised by California is material to the findings the NRC must make, in reality, it simply disagrees with California's conclusions. Before it may determine that the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. (*NEI v EPA*, 373 F.3d at 1314) An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. § 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 October 22, 2008. This contention challenges DOE's failure to comply with NEPA and therefore raises a material issue.

In conclusion, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should find the NEPA documents fail to completely and

adequately evaluate the nature and extent of the repository's cumulative impact on groundwater in the lower carbonate aquifer.

For the reasons stated above, this contention is admissible.

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

RESPONSE TO DOE

DOE contests this contention in two regards. First, it argues that California has failed to comply with NRC pleading requirements. Second, DOE argues that if the Board finds that the requirements of 10 C.F.R. §§ 51.109 and 2.326 have been met, consideration of this contention should be deferred until DOE issues its supplement.[43] Neither argument has merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to fully and adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of

[43] DOE therefore concedes that this issue can be raised at such time that the Board finds that the requirements of 10 C.F.R. §§ 51.109 and 2.326 have been met.

the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Jan Stepek's Affidavit

DOE next attacks the validity of Jan Stepek's affidavit. Contrary to the DOE's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that "affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. DOE has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. DOE's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

The affidavit of Jan Stepek sets forth his qualifications. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and

quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

DOE acknowledges that Paragraph 5 of this contention "sets forth a list of alleged omissions in the Repository Supplemental EIS involving impacts to groundwater and the related environment. Petition at 101-103." It is those very omissions that DOE was fully obligated under NEPA to provide, and upon which this contention is based. DOE simply disagrees with the expert opinions offered in support of this contention, but that does not invalidate this contention.

a. **Statement of the issue**

DOE failed to analyze the cumulative environmental impacts on groundwater in the volcanic-alluvial aquifer. DOE notes that this requirement is the subject of a supplement that has

been ordered by the NRC and that DOE claims to be preparing. DOE asserts that consideration of this contention should be deferred until such time that DOE issues such a supplement, and that it believes that California can raise this issue at that time. DOE Answer p. 220. Until such time DOE issues a supplement that provides a complete and adequate discussion of the nature and extent of the repository's cumulative impact on groundwater in the volcanic-alluvial aquifer in a manner that is consistent with NEPA, the CEQ guidelines, NRC guidance, and applicable regulations, this issue of law and fact remains.

DOE otherwise expresses no legal objection based on this requirement.

b. **Brief explanation of the basis**

California has noted that DOE's 2002 FEIS and 2008 FSEIS are inadequate because neither has provided a complete and adequate discussion of the nature and extent of the repository's cumulative impacts on groundwater in the volcanic-alluvial aquifer. The NRC staff has also concluded that the information provided in the EISs is inadequate, and has ordered supplementation by DOE to the 2002 FEIS and the 2008 FSEIS.[44] This deficiency is significant and, if it were to be addressed in a satisfactory manner, the disclosure of overall impacts on groundwater would be materially different.

DOE's response to this requirement is limited to "See section a. above." Until such time that DOE issues a supplement that includes a complete and adequate discussion of the nature and extent of the repository's cumulative impacts on groundwater in the volcanic-alluvial aquifer, the basis for this contention remains valid. DOE otherwise expresses no legal objection based on this requirement, nor does it refute the allegations therein.

[44] U.S. Nuclear Regulatory Commission's Staff's Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain, September 2008, p. 3-10. [NRC Staff Report]

c. **Demonstration that the issue is within the scope of the hearing**

This contention raises an issue whether DOE has complied with NEPA, the CEQ regulations, and the NRC NEPA regulations; pursuant to 10 C.F.R. §§ 51.109(a)(2) and 63.31(c), and section II, paragraph 1 of the Notice of Hearing, this contention is within the scope of the hearing.

DOE's response to this requirement is limited to "See section a. above." Until such time that DOE issues a supplement that includes a complete and adequate discussion of the nature and extent of the repository's cumulative impacts on groundwater in the volcanic-alluvial aquifer, this issue remains within the scope of this hearing. DOE otherwise expresses no legal objection based on this requirement, nor does it refute the allegations therein.

d. **Demonstration that the issue is material to the findings NRC must make to license Yucca Mountain**

This contention challenges compliance with NEPA and therefore raises a material issue.

DOE's response to this requirement is limited to "See section a. above." Irrespective of whether DOE completes and issues a supplement on the subject of the cumulative environmental impacts in the volcanic-alluvial aquifer, this is issue remains material to the findings the NRC must make. DOE otherwise expresses no legal objection based on this requirement, nor does it refute the allegations therein.

e. **A concise statement of the facts or expert opinions supporting the contention, along with appropriate citations to supporting scientific or factual materials**

In its Answer, DOE merely makes the blanket statement that "(f)or the reasons discussed above with respect to the §§ 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." DOE Answer, p. 221. No further factual or legal argument is offered by DOE on this subject specific to this contention. This statement by DOE simply ignores the supporting facts, expert opinion, and references included this contention.

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed 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 in a manner that is consistent with NEPA, the CEQ guidelines, and NRC guidance and applicable regulations. See section V above for California's general response on this issue.

f. **There must be sufficient information to show that there is a genuine dispute with DOE, along with specific references to the portions of the LA being controverted.**

DOE's response to this requirement is limited to "See section a. above." Until such time DOE issues a supplement that provides a complete and adequate discussion of the nature and extent of the repository's cumulative impact on groundwater in the volcanic-alluvial aquifer in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations, a genuine dispute on several material issues of fact and law exists between DOE and California as to the adequacy of the NEPA documents. DOE otherwise expresses no legal objection based on this requirement.

In conclusion, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should find the NEPA documents fail to completely and adequately evaluate the nature and extent of the repository's cumulative impact on groundwater in the volcanic-alluvial aquifer.

For the reasons stated above, this contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-22)**

The Staff notes that this contention raises the same issue raised by the State of Nevada in NEV-NEPA-20, by Inyo County in INY-NEPA-3, and by the Staff itself in the EISADR. Nevertheless, the Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and does not include a concise statement of supporting facts or expert opinions. None of these arguments has merit.

a. **Admissibility standards**

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, a simple review of the substance of this contention demonstrates that California did meet the NRC regulatory pleading requirements.

This contention addresses significant safety and environmental issues and alleges that DOE had failed to adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Much of the Staff's discussion regarding admissibility appears to be in support of its belief that California must conclusively prove its contention within the affidavit in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." *In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)* 64 N.R.C. 257, 356

It has also been recognized that "technical perfection is not an essential element of contention pleading." *PFS (Independent Spent Fuel Storage Installation)*, LBP-01-3, 53 NRC 84, 99 (2001)[45] Sounder practice is to decide issues on their merits, not to avoid them on technicalities. *Houston Lighting & Power Co. (South Texas Project, Units 1 and 2)*, ALAB-549, 9 NRC 644, 649 (1979). It is the Staff's conclusory statements regarding the admissibility of this contention that should be rejected, not the contention itself. The Staff cannot demonstrate that this contention should not be admitted, and why it should not be decided on the merits of the allegations therein.

b. **Affidavit**

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion

[45] (Citing Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), in which it is stated that "[i]t is neither Congressional nor Commission policy to exclude parties because the niceties of pleading were imperfectly observed")

of the nature and extent of the repository's cumulative impacts on groundwater in the volcanic-alluvial aquifer in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Contrary to the Staff's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As the Staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. The Staff has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. The Staff's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

As to Jan Stepek's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain

nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

c. **Materiality**

California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to fully and adequately assess the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Staff appears to assert that it is challenging whether the issue raised by California is material to the findings the NRC must make. This is a strange argument to make, considering both the Staff (as set forth in the EISADR) and California (as set forth by the expert opinions of Jan Stepek in his affidavit) are in agreement that DOE failed to provide a complete analysis of the public health and safety and other environmental consequences from the repository's cumulative impact on groundwater in the volcanic-alluvial aquifer. Before it may determine that

the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. *NEI v EPA*, 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. § 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 October 22, 2008. This contention challenges DOE's failure to comply with NEPA and therefore raises a material issue.

California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis. In its EISADR, the Staff has ordered that DOE provide a supplemental analysis into the repository's cumulative impact on groundwater in the volcanic-alluvial aquifer, which DOE claims to be preparing. Until such time that DOE submits such a supplement that assess the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations, this remains a material issue. Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

In conclusion, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should find the NEPA documents fail to completely and

adequately evaluate the nature and extent of the repository's cumulative impacts on groundwater in the volcanic-alluvial aquifer.

d. **Concise Statement**

The Staff asserts that this criterion has not been met because it is not adequately supported by Mr. Stepek's affidavit. For the reasons stated above, the affidavit meets the regulatory requirements, and this contention is admissible.

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

RESPONSE TO DOE

DOE contests this contention in three regards. First, it argues that California has failed to comply with NRC pleading requirements. Second, DOE argues that if the Board finds that the requirements of 10 C.F.R. §§ 51.109 and 2.326 have been met, consideration of this contention should be deferred until DOE issues its supplement.[46] Third, while acknowledging that discharge points are present in California, DOE argues that it is not obligated to evaluate those discharge points in the supplement that has been ordered by the NRC and that DOE claims to be preparing. None of these arguments has merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately and fully assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development

[46] DOE therefore concedes that this issue can be raised at such time that the Board finds that the requirements of 10 C.F.R. §§ 51.109 and 2.326 have been met.

and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Jan Stepek's Affidavit

DOE next attacks the validity of Jan Stepek's affidavit. Contrary to the DOE's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that "affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. DOE has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. DOE's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

The affidavit of Jan Stepek sets forth his qualifications. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

DOE acknowledges that Paragraph 5 of this contention "sets forth a list of alleged omissions in the Repository Supplemental EIS involving impacts to groundwater and the related environment. Petition at 101-103." It is those very omissions that DOE was fully obligated under NEPA to provide, and upon which this contention is based. DOE simply disagrees with the expert opinions offered in support of this contention, but that does not invalidate this contention.

a. **Statement of the issue**

It is not practicable for the Commission to adopt DOE's 2002 FEIS or the 2008 FSEIS as is required by 10 C.F.R. § 51.109(c), because each is incomplete and inadequate under 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 within California.

DOE notes that this requirement is the subject of a supplement that has been ordered by the NRC and that DOE claims to be preparing. DOE Answer, p. 222. DOE now argues that it is not required to evaluate the discharge points within California until such time that it determines that "one or more of these discharge points are in California." DOE Answer, p. 224. However, DOE's own modeling demonstrates that contaminants from the repository could find their way to the Death Valley springs within California. FSEIS Volume I, Chapter 3, p.3-24. NEPA requires that the discharge points within California must be fully analyzed and evaluated by DOE.

DOE further asserts that consideration of this contention should be deferred until such time that DOE issues such a supplement, and that it believes that California can raise this issue at that time. Until such time that DOE issues a supplement that includes a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California, this issue of law and fact remains.

DOE otherwise expresses no legal objection based on this requirement.

b. **Brief explanation of the basis**

DOE's response to this requirement is limited to "See section a. above." As discussed, DOE asserts that consideration of this contention should be deferred until such time that DOE

issues such a supplement. Until such time that DOE issues a supplement that includes a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California, the basis for this contention remains valid.

DOE otherwise expresses no legal objection based on this requirement.

c. **Demonstration that the issue is within the scope of the hearing**

The Commission's regulations in 10 C.F.R. §§ 51.109(a)(2) and 63.31(c), and section II, paragraph 1 of the notice of hearing, provide that this issue is within the scope of the hearing.

DOE's response to this requirement is limited to "See section a. above." As discussed, this requirement is the subject of a supplement that has been ordered by the NRC and that DOE claims to be preparing. DOE asserts that consideration of this contention should be deferred until such time that DOE issues such a supplement, and that it believes that California can raise this issue at that time. Until such time that DOE issues a supplement that includes a complete and adequate discussion on the subject of the cumulative environmental impacts from the discharge of potentially contaminated groundwater to the surface within California, this issue remains within the scope of this hearing.

DOE otherwise expresses no legal objection based on this requirement.

d. **A demonstration that the contention is material to the findings NRC must make to license Yucca Mountain**

Before it may determine that the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. *NEI v EPA* 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. section 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing

Section IIIB, 73 Fed. Reg. 63031 (October 22, 2008). The NEPA documents are inadequate and not practicable for adoption because they fail to assess fully and adequately the public health and safety and other environmental impacts from the discharge of potentially contaminated groundwater to the surface. In fact, NRC staff have ordered supplementation by DOE to ensure the 2002 FEIS and the FSEIS are adequate. Absent supplementation, the FEIS and FSEIS cannot be adopted by the NRC. This contention challenges compliance with NEPA and therefore raises a material issue.

DOE's response to this requirement is limited to "See section a. above." Until such time that DOE issues a supplement that includes a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California, this issue remains material to the findings the NRC must make.

e. **A concise statement of the facts or expert opinions supporting the contention, along with appropriate citations to supporting scientific or factual materials**

California has identified potential impacts from contaminated groundwater in the Death Valley region on wildlife, habitat, and public parks. Groundwater that flows beneath Yucca Mountain discharges in springs to the south of the proposed repository. The FSEIS focuses much of its analysis on the Alkali Flat-Furnace Creek groundwater basin of Death Valley, which DOE acknowledges is the area that the proposed repository "could affect the most." FSEIS, Volume I, Ch.3, p.3-31. NEPA requires that DOE provide a complete evaluation and disclosure of impacts from the proposed action. The FEIS and FSEIS both fail to assess the public health and safety and other environmental impacts from the discharge of potentially contaminated groundwater to the surface.

In its Answer, DOE merely makes the blanket statement that "[f]or the reasons discussed above with respect to the §§ 51.109 and 2.326, and as addressed in section IV.A.3 regarding the legal standards under 10 C.F.R. 10 C.F.R. § 2.309(f)(1)(v), California has failed to provide the requisite supporting facts, expert opinion and references." DOE Answer p. 225. No further factual or legal argument is offered by DOE on this subject specific to this contention. This statement by DOE simply ignores the supporting facts, expert opinion, and references included in this contention.

Here, California has indeed provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

While the EISs acknowledge the likelihood of future discharges of contaminated groundwater to the surface, DOE has failed to provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface. This opinion mirrors the conclusions reached by the Staff. It is with no small measure of irony that the fact that Mr. Stepek agrees with the Staff is now being held against him. However, it is those very omissions by DOE regarding the impacts to groundwater and the related environment that DOE was fully obligated under NEPA to

provide, that the NRC has required supplementation of, and upon which this contention is based. DOE simply disagrees with the expert opinions offered in support of this contention.

See section V above for California's general response on this issue.

f. **There must be sufficient information to show that there is a genuine dispute with DOE, along with specific references to the portions of the LA being controverted**

DOE's response to this requirement is limited to "See section a. above." In attempting to show that there is no material issue of fact or law with respect to this contention, DOE argues that California is wrong on the facts and the law. DOE thereby demonstrates that there are indeed material issues of fact and law. Until such time DOE issues a supplement that provides a complete and adequate discussion of the nature and extent of the repository's cumulative impact from the surface discharge of groundwater within California in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations, California has a genuine dispute with DOE.

DOE otherwise expresses no legal objection based on this requirement.

In sum, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should find the NEPA documents fail to completely and adequately evaluate the nature and extent of the repository's cumulative impact from the surface discharge of groundwater.

For the reasons stated above, this contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-23)**

The Staff notes that this contention raises the same issue raised by the State of Nevada in NEV-NEPA-21, by Inyo County in INY-NEPA-4, and by the Staff itself in the EISADR. Nevertheless, the Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, and does not demonstrate materiality, and does not include a concise statement of supporting facts or expert opinions. None of these arguments has merit.

a. **Admissibility standards**

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, a simple review of the substance of this contention demonstrates that California did meet the NRC regulatory pleading requirements.

This contention addresses significant safety and environmental issues and alleges that DOE had failed to fully and adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to

environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Much of the Staff's discussion regarding admissibility appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." *In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)* 64 N.R.C. 257, 356

It has also been recognized that "technical perfection is not an essential element of contention pleading." *PFS (Independent Spent Fuel Storage Installation)*, LBP-01-3, 53 NRC

84, 99 (2001)[47] Sounder practice is to decide issues on their merits, not to avoid them on technicalities. *Houston Lighting & Power Co. (South Texas Project, Units 1 and 2)*, ALAB-549, 9 NRC 644, 649 (1979). It is the Staff's conclusory statements regarding the admissibility of this contention that should be rejected, not the contention itself. The Staff cannot demonstrate that this contention should not be admitted, and why it should not be decided on the merits of the allegations therein.

b. **Affidavit**

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Contrary to the Staff's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As the Staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. The Staff has cited no authority that

[47] (Citing Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), in which it is stated that "[i]t is neither Congressional nor Commission policy to exclude parties because the niceties of pleading were imperfectly observed")

would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. The Staff's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

As to Jan Stepek's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate

affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

c. **Materiality**

California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to assess the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Staff appears to argue that it is challenging whether the issue raised by California is material to the findings the NRC must make. This is a strange argument to make, considering both the Staff (as set forth in the EISADR) and California (as set forth by the expert opinions of Jan Stepek in his affidavit) are in agreement that DOE failed to provide a complete analysis of the public health and safety and other environmental consequences from the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California. It is with no small amount of irony that California's agreement with the Staff's conclusions in the EISADR is now being held against California by the Staff, irrespective of the affidavit filed in support of this contention.

The Staff further states that such information must paint a "seriously different picture of the environmental landscape." *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). However, before it may determine that the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. *NEI v EPA*, 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new

information is a new consideration under 10 C.F.R. § 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 October 22, 2008. This contention challenges DOE's failure to comply with NEPA and therefore raises a material issue.

California raised a material failing of the NEPA documents that would require the current NEPA documents be withdrawn to provide further discussion and analysis. In its EISADR, the Staff has ordered that DOE provide a supplemental analysis into the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface, which DOE claims to be preparing. Until such time that DOE submits such a supplement that includes a complete and adequate discussion of the nature and extent of the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations, this remains a material issue. Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

In conclusion, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should find the NEPA documents fail to completely and

adequately evaluate the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California.

d. **Concise Statement**

The Staff asserts that this criterion has not been met because it is not adequately supported by Mr. Stepek's affidavit. For the reasons stated above, the affidavit meets the regulatory requirements, and this contention is admissible.

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

RESPONSE TO DOE

DOE contests this contention in two regards. First, it argues that California has failed to comply with NRC pleading requirements. Second, on the subject of materiality, DOE argues that it has not improperly deferred any mitigation analysis. In support of this latter argument DOE asserts that it has discussed an intent to "implement groundwater quality monitoring," "provided a sufficient 'hard look'" at the potential consequences of flooding," adequately "examined the potential" for impacts from radionuclides travelling through the Amargosa River Drainage into California, and that it is "not required to include an emergency plan," but that even if it were, no part of California would need be included in such a plan. None of these arguments has merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to fully and adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development

and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Jan Stepek's Affidavit

DOE next attacks the validity of Jan Stepek's affidavit. Contrary to the DOE's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that "affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. DOE has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. DOE's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

The affidavit of Jan Stepek sets forth his qualifications. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

DOE acknowledges that Paragraph 5 of this contention "sets forth a list of alleged omissions in the Repository Supplemental EIS involving impacts to groundwater and the related environment. Petition at 101-103." It is those very omissions that DOE was fully obligated under NEPA to provide, and upon which this contention is based. DOE simply disagrees with the expert opinions offered in support of this contention, but that does not invalidate this contention.

a. **Statement of the issue**

DOE expresses no legal objection based on this requirement.

b. **Brief explanation of the basis**

DOE expresses no legal objection based on this requirement.

c. **Demonstration that the issue is within the scope of the hearing**

DOE expresses no legal objection based on this requirement.

d. **Demonstration that the issue is material to the findings NRC must make to license Yucca Mountain**

DOE asserts that this contention does not present a material issue "DOE's has provided a 'reasonably complete' discussion of possible mitigation measures for groundwater impacts in California." DOE Answer p. 233. This assertion actually demonstrates that there is a material issue: whether the documents adequately address mitigation. Moreover, the assertion itself is incorrect.

DOE first argues it has not improperly deferred any mitigation analysis, and that it has "fully evaluated the substantive areas of concern to California." DOE Answer, p.229. Whether DOE has improperly deferred mitigation is indeed an issue that is material to the findings that the NRC must make to issue the License for the project: DOE is correct that NEPA "exists to ensure a process." *The Lands Council v. McNair*, 537 F.3d 981, 1000 (9th Cir. 2008). However, mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated. *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d at 1142, 1150 (9th Cir. 1997). Here, the NEPA documents are inadequate and not practicable for adoption because they fail to analyze the necessary mitigation for environmental impacts from radionuclides surfacing *within California* in a manner that is consistent with NEPA, CEQ guidelines, and NRC guidance and applicable regulations. DOE's failure to discuss mitigation as

it relates to impacts that are specific to California that makes this contention material to the findings that the NRC must make.

The NRC must ensure that DOE has analyzed the environmental impacts of its licensing decision and the required mitigation measures. NEPA requires the analysis of all reasonably foreseeable impacts from the project; NEPA limits the degree to which an environmental impact statement can defer analysis of impacts until a later environmental impact statement. While an environmental impact statement necessarily involves some degree of forecasting, if discussion of environmental consequences can be deferred, based on a promise to perform a comparable analysis in connection with some later site-specific portion of a specific project, no environmental consequences would ever need to be addressed in an environmental impact statement. "NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment. Rather, it is designed to require such analysis 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)). Where impacts are reasonably foreseeable, it is not appropriate to defer analysis to a future date. *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d. 1372, 1380 (9th Cir. 1998.) NEPA requires the EIS to contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). Because DOE's environmental impact statements do not comply with NEPA, NRC may not adopt them, and the license application cannot be approved until an environmental impact statement complying with NEPA has been submitted.

Second, DOE argues that it has taken a "hard look" at the possible impacts of a flood during the construction phase and has adequately discussed related mitigation measures from

surface water impacts. However, DOE believes that it is required to examine mitigation measures only at the Yucca Mountain repository operations area pursuant to 10 C.F.R. § 63.131, which DOE concedes "would not cover impacts in California." DOE Answer, p. 232. This argument ignores potential impacts to California, and is at the heart of this contention. DOE claims to have committed to developing and submitting, at sometime unspecified time in the future, an emergency plan for radiological accidents that may occur only at the Yucca Mountain repository operations area, but not with respect to California.

Next, DOE takes issue with very basis of this contention that DOE "does not adequately address the potential for radionuclides to travel through the Amargosa Drainage" in California. Petition at p. 116.[48] However, DOE does not even acknowledge the potential that California will be impacted, despite information demonstrating the need for mitigation. Surface water is known to flow from the site of the proposed repository to Forty Mile Wash east of the site, and into the Amargosa River Drainage. Draft Comprehensive Impact Statement, *Potential Impacts to Inyo County, California from the proposed high-level nuclear waste repository at Yucca Mountain, Nevada*, p.15, Matt Gaffney, Project Coordinator, November 6, 2007. DOE has also acknowledged that shallower aquifers follow the same flow path into the Amargosa River drainage, and come to the surface of Alkali Flat and Franklin Lake Playa, which are in California. FEIS Chapter3, pages 3-41, 3-45, 3-64 (DOE-EIS-0250) 2002. The flow paths for surface water within the Amargosa River Drainage terminate in Death Valley National Park. In the FEIS, DOE acknowledged that 69,500 people could be exposed to contaminated groundwater at Franklin Lake Playa during the next 10,000 years. FEIS Chapter 5, pages 5-24-25, Environmental Consequences of Long Term Repository Performance (DOE-EIS-0250) 2002. It

[48] It should be noted that on p. 227 of its Answer, DOE did not expresses any legal objection to California's stated basis.

remains DOE's obligation to develop a mitigation and remediation plan for radionuclides transported by groundwater that could surface in California.

Lastly, DOE asserts that it is not required to develop an emergency plan with respect to California. "During the active, preclosure phase of the project, DOE would be required by NRC regulations (10 CFR 63.131) to develop and be prepared to implement an emergency plan to cope with radiological accidents that may occur at the repository operations area." FSEIS Volume III, Comments – Response Document, 1.21.1 (84) Impacts Mitigation, p.CR-527. DOE concedes that such a plan "would not cover impacts in California." DOE Answer, p. 232. For California, deferring such an analysis until the occurrence of a radiological accident would be too little, too late, to protect the public health and safety of its citizens, the environment, and the impacts to its precious water resources.

DOE has suggested that it may defer its analysis of the necessary mitigation and remediation measures that would be required to formulate such an emergency plan until such time that there has been "detection of any unusual conditions in the groundwater." *Ibid*., p. CR-527. Again, for the reasons stated above, deferring such an analysis until the occurrence of a radiological accident would be too little, too late for California.

Before it may determine that the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. *NEI v EPA*, 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. section 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 (October 22, 2008).

DOE asserts that it has provided a "reasonably complete" discussion of possible

mitigation measures regarding groundwater impacts in California to satisfy NEPA, while ignoring information that demonstrates that such measures are needed. Ultimately, whether DOE has failed to submit a mitigation and remediation plan for radionuclides that potentially would surface within California remains an issue that is material to the findings that the NRC must make.

e. **A concise statement of the facts or expert opinions supporting the contention, along with appropriate citations to supporting scientific or factual materials.**

In its Answer, DOE merely makes the blanket statement that "(f)or the reasons discussed above with respect to the §§ 51.109 and 2.326, and as addressed in section IV.A.3 regarding the legal standards under 10 C.F.R. requirements of 10 C.F.R. § 2.309(f)(1)(v), California has failed to provide the requisite supporting facts, expert opinion and references." No further factual or legal argument is offered by DOE on this subject specific to this contention. This statement simply ignores the supporting facts, expert opinion, and references included this contention.

Here, California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Delaying the discussion of impacts to public health and safety, the environment, and groundwater resources in California to a later planning process, as was done here, is simply unacceptable. The discussion in the EISs of mitigation and remediation measures to protect the

public health and safety and other environmental impacts is not consistent with NRC regulations for completeness and adequacy of the discussion of environmental consequences of the proposed action [e.g., 10 CFR Part 51, Appendix A(7)]. DOE simply disagrees with the expert opinions of Mr. Stepek offered in support of this contention.

See section V above for California's general response on this issue.

f. **There must be sufficient information to show that there is a genuine dispute with DOE, along with specific references to the portions of the LA being controverted.**

In its Answer, DOE states that "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 the scope of this proceeding, and because DOE has provided a 'reasonably complete' discussion of possible mitigation measures for groundwater impacts in California." DOE Answer, p.233. DOE is wrong on both counts.

First, DOE is incorrect in asserting that California is challenging DOE's regulations. California is challenging the adequacy of DOE's environmental review as it pertains to California. Second, DOE has not provided a reasonably complete discussion of mitigation and remediation measures to protect public health and in the EISs. Instead, DOE believes that it is not required to address impacts in California, and it impermissibly deferred the analysis of mitigation measures necessary to protect the health and safety of the public. It is those omissions that DOE is obligated under NEPA to analyze, and upon which this contention is based. DOE may disagree with the expert opinion offered in support of this contention, but that conflict itself manifests a genuine dispute that must be decided by the NRC, not by DOE.

In sum, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). Until DOE has submitted a mitigation and remediation plan concerning impacts to California, the analysis in the NEPA documents with respect to public health and safety and other environmental impacts remains insufficient.

For the reasons stated above, this contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-24)**

The Staff notes that this contention raises the same issue raised by Inyo County in INY-NEPA-5. The Staff asserts that California does not argue that the issue of DOE's lack of an adequate discussion of mitigation and remediation measures is significant. The Staff further asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, does not include a concise statement of supporting facts or expert opinions, and that there is no genuine dispute regarding the application. None of these arguments has merit.

a. **Significance of the Issue**.

Staff asserts that California does not make any argument that the issue raised is a significant one, or that consideration of the mitigation and remediation measures would materially alter the result of the EISs or the Staff's adoption decision. Staff Answer, p.1242. This assertion simply ignores the pleadings in this matter, including California's Petition to Intervene.

As pointed out by California, DOE has suggested that it may defer its analysis of the

necessary mitigation and remediation measures that would be required to formulate such an emergency plan until such time that there has been "detection of any unusual conditions in the groundwater."[49] For California, deferring such an analysis until the occurrence of a radiological accident would be too little, too late, to protect the public health and safety of its citizens, the environment, and the impacts to its precious water resources.

Whether DOE has improperly deferred mitigation is indeed an issue that is material to the findings that the NRC must make to issue the License for the project. NEPA "exists to ensure a process." *The Lands Council v. McNair*, 537 F.3d 981, 1000 (9th Cir. 2008). Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated. *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d at 1142, 1150 (9thCir. 1997).

The issue raised by California is therefore a significant one. NEPA requires the EIS to contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997). Because DOE's environmental impact statements do not comply with NEPA, NRC may not adopt them, and the license application cannot be approved until an environmental impact statement complying with NEPA has been submitted.

b. **Admissibility standards**

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, a simple review of the substance of this contention demonstrates that California did meet the NRC regulatory pleading requirements.

[49] *Ibid*., p. CR-527

This contention addresses significant safety and environmental issues and alleges that DOE had failed to fully and adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Much of the Staff's discussion regarding admissibility appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." *In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)* 64 N.R.C. 257, 356

It has also been recognized that "technical perfection is not an essential element of contention pleading." *PFS (Independent Spent Fuel Storage Installation)*, LBP-01-3, 53 NRC 84, 99 (2001)[50] Sounder practice is to decide issues on their merits, not to avoid them on technicalities. *Houston Lighting & Power Co. (South Texas Project, Units 1 and 2)*, ALAB-549, 9 NRC 644, 649 (1979). It is the Staff's conclusory statements regarding the admissibility of this contention that should be rejected, not the contention itself. The Staff cannot demonstrate that this contention should not be admitted, and why it should not be decided on the merits of the allegations therein.

c. **Affidavit**

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion

[50] (Citing Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), in which it is stated that "[i]t is neither Congressional nor Commission policy to exclude parties because the niceties of pleading were imperfectly observed")

of the necessary mitigation and remediation measures regarding groundwater impacts in California in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Contrary to the Staff's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As the Staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. The Staff has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. The Staff's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

As to Jan Stepek's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain

nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

d. **Materiality**

California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to fully and adequately assess the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

The Staff states that "[A]ny new information must paint a 'seriously different picture of the environmental landscape' to warrant a supplemental EIS." The Staff's Answer, p. 1241 *Private Fuel Storage,* LLC (Independent Spent Fuel Storage Installation) CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Nat'l Comm. For the New River, Inc. v. Fed. Energy Reg. Comm'n*, 373 F.3d 1323, 1330 (D.C. Cir. 2004). However, before it can be determined that the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all

requirements of NEPA have been satisfied. *NEI v EPA*, 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. § 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 October 22, 2008. This contention challenges DOE's failure to comply with NEPA and therefore raises a material issue.

e. **Concise Statement**

The Staff asserts that this criterion has not been met because it is not adequately supported by Mr. Stepek's affidavit. For the reasons stated above, the affidavit meets the regulatory requirements.

f. **Genuine Dispute Regarding the Application**

In its Answer, the Staff asserts that California has not demonstrated that an analysis into mitigation measures related to radionuclides surfacing in California is legally required or that it would "alter the environmental landscape. Additionally, the Staff argues that California's contention represents an impermissible challenging to [the] regulations in the guise of a NEPA contention." Staff Answer, p. 1245. These assertions have no merit.

The NEPA documents fail to completely and adequately evaluate the nature and extent of the repository's cumulative impacts from the discharge of potentially contaminated groundwater to the surface within California. Absent such analysis, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable

expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2).

The NRC must ensure that DOE has analyzed the environmental impacts that will be the direct result of its licensing decision, including an analysis into the impacts from this project and the required mitigation measures. NEPA requires the analysis of all reasonably foreseeable impacts from the project; NEPA limits the degree to which an environmental impact statement can defer analysis of impacts until a later environmental impact statement. While an environmental impact statement necessarily involves some degree of forecasting, if discussion of environmental consequences can be deferred, based on a promise to perform a comparable analysis in connection with some later site-specific portion of a specific project, no environmental consequences would ever need to be addressed in an environmental impact statement. "NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment. Rather, it is designed to require such analysis 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)). Where impacts are reasonably foreseeable, it is not appropriate to defer analysis to a future date. *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d. 1372, 1380 (9th Cir. 1998.)

DOE maintains that it is not required to develop an emergency plan with respect to California. "During the active, preclosure phase of the project, DOE would be required by NRC regulations (10 CFR 63.131) to develop and be prepared to implement an emergency plan to cope with radiological accidents that may occur at the repository operations area." FSEIS Volume III, Comments – Response Document, 1.21.1 (84) Impacts Mitigation, p.CR-527. DOE has conceded that such a plan "would not cover impacts in California." DOE Answer, p. 232

DOE has suggested that it may defer its analysis of the necessary mitigation and remediation measures that would be required to formulate such an emergency plan until such time that there has been "detection of any unusual conditions in the groundwater."[51] For California, deferring such an analysis until the occurrence of a radiological accident would be too little, too late, to protect the public health and safety of its citizens, the environment, and the impacts to its precious water resources.

Additionally, California is not challenging any regulations as asserted by the Staff. California is challenging the adequacy of DOE's environmental review as it pertains specifically to California. DOE has not provided a reasonably complete discussion in the EISs of mitigation and remediation measures to protect the public health and safety and other environmental impacts. Instead, DOE has made it very clear that they do not believe that they are required to address impacts within California.

DOE has impermissibly deferred their analysis into the mitigation measures necessary to protect the health and safety of the public. It is that very omission that DOE was fully obligated under NEPA to include in their analysis, and upon which this contention is based. DOE and the Staff may both disagree with the expert opinions offered in support of this contention by California, but that conflict in evidence demonstrates that this a genuine dispute, a conflict that will ultimately be decided in a hearing on this matter.

For the reasons stated above, this contention is admissible.

[51] *Ibid*., p. CR-527

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

RESPONSE TO DOE

DOE challenges this contention in two regards. First, it erroneously argues that California has failed to comply with NRC pleading requirements. Second, it mischaracterizes California's showing of materiality, wrongfully arguing that California believes that DOE was required to perform a "worst case" analysis. Neither argument has merit.

Pleading Requirements

DOE suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, California did meet the NRC pleading requirements. This contention addresses significant safety and environmental issues and alleges that DOE failed to adequately and fully assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A

contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Jan Stepek's Affidavit

DOE next attacks the validity of Jan Stepek's affidavit. Contrary to the DOE's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As DOE concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that "affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. DOE has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. DOE's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

The affidavit of Jan Stepek sets forth his qualifications. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of

experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

DOE acknowledges that Paragraph 5 of this contention "sets forth a list of alleged omissions in the Repository Supplemental EIS involving impacts to groundwater and the related environment. Petition at 101-103." It is those very omissions that DOE was fully obligated under NEPA to provide, and upon which this contention is based. DOE simply disagrees with the expert opinions offered in support of this contention, but that does not invalidate this contention.

a. **Statement of the Issue.**

DOE expresses no legal objection based on this requirement.

b. **Brief explanation of the basis**

DOE expresses no legal objection based on this requirement.

c. **Demonstration that the issue is within the scope of the hearing**

DOE expresses no legal objection based on this requirement.

d. **Demonstration that the issue is material to the findings NRC must make to license Yucca Mountain**

DOE asserts that this contention does not raise an issue material to the findings that the NRC must make. In making this assertion, DOE mischaracterizes the nature of California's showing of materiality.

California has not argued that NEPA requires a "worst case" analysis or allows "remote and speculative" possibilities as claimed by DOE. Rather, California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to assess adequately and fully the environmental impacts of the proposed Yucca Mountain Repository. California is not requesting that DOE perform a worst case analysis, rather, California is simply requesting that DOE provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from groundwater pumping in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Before it may determine that the NEPA documents for the Yucca Mountain Repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. *NEI v EPA*, 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. section 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 (October 22, 2008). This contention challenges compliance with NEPA and therefore raises a material issue.

DOE asserts that in its NEPA documents DOE analyzed potential environmental impacts

with respect to the lower carbonate aquifer. On page 236 of their Answer, DOE acknowledges:

> "On the basis of studies performed by DOE and Inyo County, California,…DOE determined that 'Inyo County and DOE agree that the pathway simulated in the simple flow model is not a viable pathway for contaminants originated 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." [Emphasis added]

The applicant acknowledges the upward gradient, and observes that *under current conditions*, contamination from the Yucca Mountain repository is not likely to mix with carbonate aquifer waters and discharge to the surface at Ash Meadows or Devil's Hole. FSEIS, p. 5-23. The FSEIS further states that because there would be no contamination of the carbonate aquifer *under current conditions*, it is concluded that no human health impacts are expected. FSEIS, page 5-23. It may be DOE's hope that the upward gradient will remain a constant and serve as at least a partial barrier to contaminants entering the lower carbonate aquifer, but absent the analysis into the foreseeable effect of groundwater pumping, DOE cannot reasonably predict the likelihood of contaminants reaching California.

Although DOE assumes that under current conditions and during future wetter climates the upper gradient will persist, the NEPA documents fail to assess the possibility that local and regional groundwater pumping that is *reasonably foreseeable* in the future could reduce or eliminate the upper gradient. In the event that future groundwater pumping eliminates the upward gradient, contaminates from the repository could potentially enter the lower carbonate aquifer and migrate to the accessible environment at Devil's Hole, Ash Meadows, Death Valley and Amargosa Valley. Moreover, as noted by Jan Stepek, the FSEIS acknowledges in 3.1.4.2.1 pages 3-29 to 3-38 that recent scientific work done by Inyo County has led to the conclusion that the lower carbonate aquifer appears to be a significant contributor to the springs in the Furnace Creek area of Death Valley and that the aquifer represents a potential rapid pathway for

contaminants to reach the biosphere.

DOE is obligated under NEPA to provide a complete evaluation and disclosure of the impacts from the proposed repository. 10 CFR § 51.109(c)(2) provides that it is not practicable to adopt any environmental impact statement prepared by the Secretary of Energy in connection with a geologic repository proposed to be constructed if there is "[s]ignificant and substantial new information or new considerations [that would] render such environmental impact statement inadequate." The failure of the NEPA documents to completely and adequately characterize the repository's cumulative environmental impacts from groundwater pumping is a significant new consideration that renders the NEPA documents inadequate. Such impacts from groundwater pumping are neither remote nor speculative, and the failure of DOE to provide a complete evaluation of those impacts renders the FEIS and FSEIS inadequate, therefore raising a material issue.

e. **A concise statement of the facts or expert opinions supporting the contention, along with appropriate citations to supporting scientific or factual materials**

In its Answer, DOE merely makes the blanket statement that "(f)or the reasons discussed above with respect to the §§ 51.109 and 2.326, and as addressed in section IV.A.3 regarding the legal standards under 10 C.F.R. requirements of 10 C.F.R. § 2.309(f)(1)(v), California has failed to provide the requisite supporting facts, expert opinion and references." DOE Answer, p. 218. No further factual or legal argument is offered by DOE on this subject specific to this contention. This statement simply ignores the supporting facts, expert opinion, and references included this contention.

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible.

Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion of the nature and extent of the repository's cumulative impacts from groundwater pumping in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

DOE has not provided a complete analysis into the effects of groundwater pumping on the lower carbonate aquifer, nor does DOE claim to have done so. Instead, DOE has made it very clear that they consider such an analysis to be a "worst case" analysis, rather than one that the evidence suggests is reasonably foreseeable. It is that very omission that DOE is obligated under NEPA to provide, and upon which this contention is based. DOE may disagree with the expert opinions offered in support of this contention, but that conflict in evidence is a matter to be decided by the NRC, not by DOE.

See section V above for California's general response on this issue.

f. **There must be sufficient information to show that there is a genuine dispute with DOE, along with specific references to the portions of the LA being controverted**

DOE asserts that "[f]or 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," and urges that this contention be rejected.

In attempting to show that there is no material issue of fact or law with respect to this contention, DOE argues that California is wrong on the facts and the law. DOE thereby demonstrates that there are indeed material issues of fact and law that are in dispute. It is clear that neither California nor DOE agree on the material facts supporting this contention, and that DOE disagrees that they have an obligation to provided a complete and adequate discussion of

the nature and extent of the repository's cumulative impact from groundwater pumping on the lower carbonate aquifer in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

In sum, based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). For those reasons, this Commission should find the NEPA documents fail to completely and adequately evaluate the nature and extent of the repository's cumulative impact from groundwater pumping in the lower carbonate aquifer.

For the reasons stated above, this contention is admissible.

RESPONSE TO THE STAFF **(CAL-NEPA-25)**

The Staff asserts that this contention does not meet the heightened admissibility standards of this proceeding, does not include the appropriate affidavit, does not demonstrate materiality, and does not include a concise statement of supporting facts or expert opinions. None of these arguments has merit.

a. **Admissibility standards**

The Staff suggests that California is not in compliance with 10 C.F.R. § 2.326 and 10 C.F.R. § 51.109. However, a simple review of the substance of this contention demonstrates that California did meet the NRC regulatory pleading requirements.

This contention addresses significant safety and environmental issues and alleges that DOE had failed to fully and adequately assess all public health and safety and other environmental impacts. Therefore, DOE's NEPA documents are impracticable for the NRC to adopt, which is a materially different result, given that the NRC's Notice of Hearing and Opportunity to Petition for Leave to Intervene states that "[u]nder 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable 'new consideration' an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate." 73 Fed. Reg. 63,029, 63,031 (Oct. 22, 2008). It is crucial to remember that, under NEPA, the development and provision of information to the decision maker and the public that would not otherwise have been done *is* a materially different result. NEPA is a procedural statute that carries out its "sweeping commitment" to environmental protection through the "action-forcing" mechanism of the thorough analysis and full public disclosure of the environmental consequences of proposed agency action. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). A contention that DOE's NEPA documents are inadequate is a demand that adequate NEPA documents be produced, circulated, and considered both by the decision maker and the public. That, again, *is* a materially different result. (See section IV above for a full discussion of California's compliance with NRC regulatory pleading requirements.) In this contention, California sufficiently pled all six criteria of 10 C.F.R. § 2.309(f)(1) and attached an appropriate affidavit in support.

Much of the Staff's discussion regarding admissibility appears to be in support of its belief that California must prove its contention at this point in the proceeding in order for the contention to be admissible. This is not the standard for materiality in judging if a contention is entitled to be admitted:

> "The Commission has also, however, explained that the requirement of Section 2.309(f)(1)(v) "does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention." A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner - so long as the admissibility requirements are found to have been met. The requirement "generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons." *In The Matter Of: Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)* 64 N.R.C. 257, 356

It has also been recognized that "technical perfection is not an essential element of contention pleading." *PFS (Independent Spent Fuel Storage Installation)*, LBP-01-3, 53 NRC 84, 99 (2001)[52] Sounder practice is to decide issues on their merits, not to avoid them on technicalities. *Houston Lighting & Power Co. (South Texas Project, Units 1 and 2)*, ALAB-549, 9 NRC 644, 649 (1979). It is the Staff's conclusory statements regarding the admissibility of this contention that should be rejected, not the contention itself. The Staff cannot demonstrate that this contention should not be admitted, and why it should not be decided on the merits of the allegations therein.

b. **Affidavit**

California has provided a concise statement of facts and expert opinion supporting this contention. California has identified the specific portions of the documents upon which it relies, and has ensured that the documentary references are as specific as reasonably possible. Additionally, California has explained the significance of the factual information upon which it relies, facts that demonstrate that DOE has failed to provide a complete and adequate discussion

[52] (Citing Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), in which it is stated that "[i]t is neither Congressional nor Commission policy to exclude parties because the niceties of pleading were imperfectly observed")

of the nature and extent of the repository's cumulative impacts from groundwater pumping in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Contrary to the Staff's assertion, Jan Stepek's affidavit is appropriate for this proceeding. As the Staff concedes, the regulations do not specify what should be contained in an affidavit, and the APAPO Board merely stated that affidavits shall be individually paginated and contain numbered paragraphs that can be cited with specificity." *U.S. Dep't of Energy* (High-Level Waste Repository: Pre-Application Matters, APAPO Board), LBP-08, 67 NRC 450, 455 (2008) Mr. Stepek's affidavit otherwise meets the requirements. The Staff has cited no authority that would disallow an expert to adopt as his own opinion the factual and technical statements that he has reviewed and helped prepare. Neither § 2.326 nor 51.109(a)(2) specifies what must be contained in an affidavit. However, Mr. Stepek has provided his opinion and explained the basis for that opinion. The Staff's response ignores the very information that Mr. Stepek has adopted and upon which his opinions rely.

As to Jan Stepek's qualifications to render his expert opinions, his lengthy *curriculum vitae* clearly establishes he has sufficient knowledge to render each of his opinions. Mr. Stepek possesses a Masters Degree in Geology and Mining Engineering, and has thirty years of experience in hydrogeology and geological engineering that includes groundwater resources evaluation (qualitative and quantitative), well design, well construction and aquifer testing, investigation of groundwater contamination, monitoring and remedial action design. Mr. Stepek also has several years of experience in evaluation of mining impacts on groundwater quality. As set forth in the affidavit, Mr. Stepek also worked for 15 months at the proposed Yucca Mountain

nuclear waste repository site investigating transmissive properties of the unsaturated zone as a consultant to the Lawrence Berkeley National Laboratory.

In his affidavit, Mr. Stepek attests that "within the Petition are numerous Contentions, each comprised of several paragraphs. *I hereby adopt as my own opinions the factual and technical statements* contained within Paragraph 5 of those specific contentions identified as CAL-NEPA-21, CAL-NEPA-22, CAL-NEPA-23, CAL-NEPA-24, and CAL-NEPA-25." [Emphasis added] Mr. Stepek stated clearly in his affidavit that he was adopting paragraph 5 of each contention as his expert opinion, which is perfectly acceptable and does not violate any of the rules of this proceeding. Rather than burden the Administrative Judges with five separate affidavits, California produced one that covered all of the statements to which Mr. Stepek was attesting.

c. **Materiality**

California has demonstrated that as a threshold matter, the NEPA documents upon which DOE purports to rely are inadequate and not practicable for adoption because they fail to assess the environmental impacts of the proposed Yucca Mountain Repository in a manner that is consistent with NEPA, the CEQ guidelines and NRC guidance and applicable regulations.

Before it may determine that the NEPA documents for the Yucca Mountain repository are practicable for adoption, the NRC must find that all requirements of NEPA have been satisfied. *NEI v EPA*, 373 F.3d at 1314. An attack on DOE's NEPA documents based on substantial and significant new information is a new consideration under 10 C.F.R. § 51.109(c), which makes the NEPA documents not practicable for adoption. Notice of Hearing Section IIIB, 73 Fed. Reg. 63031 October 22, 2008. This contention challenges DOE's failure to comply with NEPA and therefore raises a material issue.

DOE has asserts that in its NEPA documents DOE analyzed potential environmental impacts with respect to the lower carbonate aquifer. On page 236 of their Answer, DOE acknowledges:

> "On the basis of studies performed by DOE and Inyo County, California,…DOE determined that 'Inyo County and DOE agree that the pathway simulated in the simple flow model is not a viable pathway for contaminants originated 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." [Emphasis added]

The applicant acknowledges the upward gradient, and observes that *under current conditions*, contamination from the Yucca Mountain repository is not likely to mix with carbonate aquifer waters and discharge to the surface at Ash Meadows or Devil's Hole. FSEIS, p. 5-23; DOE Answer, p. 236. The FSEIS further states that because there would be no contamination of the carbonate aquifer *under current conditions*, it is concluded that no human health impacts are expected. FSEIS, page 5-23. It may be the applicant's hope that the upward gradient will remain a constant and serve as at least a partial barrier to contaminants entering the Lower Carbonate Aquifer, but absent the analysis into the foreseeable effect of groundwater pumping, the applicant cannot reasonably predict the likelihood of contaminants reaching California.

Although the applicant assumes that under current conditions and during future wetter climates the upper gradient will persist, the NEPA documents fail to assess the possibility that local and regional groundwater pumping that is *reasonably foreseeable* in the future could reduce or eliminate the upper gradient. In the event that future groundwater pumping eliminates the upward gradient, contaminates from the repository could potentially enter the lower carbonate aquifer and migrate to the accessible environment at Devil's Hole, Ash Meadows, Death Valley and Amargosa Valley. Moreover, as noted by Jan Stepek, the FSEIS acknowledges

in 3.1.4.2.1 pages 3-29 to 3-38 that recent scientific work done by Inyo County has led to the conclusion that the lower carbonate aquifer appears to be a significant contributor to the springs in the Furnace Creek area of Death Valley and that the aquifer represents a potential rapid pathway for contaminants to reach the biosphere.

DOE is fully obligated under NEPA to provide a complete evaluation and disclosure of the impacts from the proposed repository. 10 CFR § 51.109(c)(2) provides that it is not practicable to adopt any environmental impact statement prepared by the Secretary of Energy in connection with a geologic repository proposed to be constructed if there is "[s]ignificant and substantial new information or new considerations [that would] render such environmental impact statement inadequate." The failure of the NEPA documents to completely and adequately characterize the repository's cumulative environmental impacts from groundwater pumping is a significant new consideration that renders the NEPA documents inadequate. Such impacts from groundwater pumping are neither remote nor speculative, and the failure of DOE to provide a complete evaluation of those impacts renders the FEIS and FSEIS inadequate, therefore raising a material issue.

Based on the threshold information contained in this contention, the Nuclear Regulatory Commission cannot determine "[T]hat there is reasonable assurance that the types and amounts of radioactive material 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" as required by 10 CFR § 31(a)(1), nor can it determine "[T]hat there is a reasonable expectation that the materials can be disposed of without unreasonable risk to the health and safety of the public" as required by 10 CFR § 31(a)(2). Accordingly, the Staff's response to this contention does not state grounds for finding that this contention is inadmissible.

d. **Concise Statement**

The Staff asserts that this criterion has not been met because it is not adequately supported by Mr. Stepek's affidavit. For the reasons stated above, the affidavit meets the regulatory requirements, and this contention is admissible.

Dated: February 23, 2009

Respectfully submitted,

[Signed electronically]
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In re:	**Docket No. 63-001**
U.S. DEPARTMENT OF ENERGY	**ASLBP Nos. 09-876-HLW-CAB01** **09-877-HLW-CAB02**
(High-Level Waste Repository)	**09-878-HLW-CAB03**

CERTIFICATE OF SERVICE

I hereby certify that the foregoing "State of California's Reply to Answer of the U.S. Department of Energy and NRC Staff Answer," dated February 23, 2009, has been served via the Nuclear Regulatory Commission's Electronic Information Exchange ("EIE") upon those on the Service List maintained by the EIE for the above-captioned proceeding, as listed below:

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Dated: February 23, 2009

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