

December 7, 2009

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	
U.S. Department of Energy	)	Docket No. 63-001-HLW
(High Level Waste Repository)	)	ASLB No. 09-892-HLW-CAB-04
	)	
	)	

THE NUCLEAR ENERGY INSTITUTE’S BRIEF ON PHASE I LEGAL ISSUE NO. 1

I. INTRODUCTION

By Order dated October 23, 2009,<sup>1</sup> this Atomic Safety and Licensing Board accepted the joint statement of Phase I legal issues for briefing submitted by the Department of Energy (“DOE”), the State of Nevada, and the Nuclear Energy Institute (“NEI”) on October 6, 2009. In accordance with CAB Case Management Order #2, dated September 30, 2009, the Licensing Board established a schedule for briefs on the issues by the affected parties. NEI herein briefs Legal Issue No. 1, pertaining to its contention NEI-SAFETY-005.

II. ISSUE

NEI-SAFETY-005 challenges the postclosure criticality analysis described in Section 2.2.1.4.1.1 of the License Application (“LA”) Safety Analysis Report (“SAR”) because, among other reasons, it is inconsistent with applicable regulations requiring that occupational doses be maintained “as low as reasonably achievable,” or “ALARA.” As summarized in the joint statement of legal issues:

---

<sup>1</sup> “Order (Identifying Phase I Legal Issues for Briefing),” dated October 23, 2009.

NEI alleges that DOE's LA violates 10 C.F.R. §§ 20.1002, 20.1003, 20.1101, 50.40 and 63.111 because the "safety margin" is so substantial and excessively conservative that it will lead to the unnecessary insertion of disposal control rod assemblies into some fuel assemblies at nuclear power plants prior to shipment for disposal. This safety margin is allegedly inconsistent with the principles of ALARA because it will lead to unnecessary occupational radiation exposures, economic costs and environmental costs.

More fully, as articulated in NEI's Petition to Intervene, the contention asserts that DOE's postclosure criticality analysis will effectively require licensees to unnecessarily insert control rods for criticality control into some fuel assemblies prior to transportation to the repository site. This requirement will: (a) increase occupational doses to workers at the reactor sites tasked with inserting the control rods; (b) increase operational complexity and environmental costs associated with the loading and shipping operations; (c) require unnecessary design and operational costs to be paid out of the Nuclear Waste Fund; and (d) potentially cause delays in the licensing of new Transportation, Aging and Disposal ("TAD") canister designs.<sup>2</sup>

The joint statement of the parties specifies that the threshold legal issues for NEI-SAFETY-005 are:

- (1) whether the above regulations [10 C.F.R. §§ 20.1002, 20.1003, 20.1101, 50.40, and 63.111] require ALARA considerations at individual nuclear plant sites remote from the [Geologic Repository Operations Area] to be addressed in DOE's LA; and
- (2) whether DOE must demonstrate that the repository not only meets applicable safety and environmental regulatory standards, but must show that it does so without any alleged unnecessary expenditures of resources.

---

<sup>2</sup> See "The Nuclear Energy Institute's Petition to Intervene," dated December 19, 2008, at 31-33.

### III. ARGUMENT

DOE and the NRC Staff previously opposed admission of NEI-SAFETY-005 on the grounds that the impacts of the facility design as described in the LA SAR that occur outside the Geologic Repository Operations Area (“GROA”) are outside the scope of the hearing. Further, the NRC Staff argued that the contention does not properly allege a violation of NRC requirements because it is a challenge to a postclosure analysis that is beyond the scope of the ALARA requirement. The issues associated with these arguments were fully briefed prior to the Licensing Board decision to admit the contention. Only the NRC Staff appealed the admissibility of the contention, again arguing that the contention does not raise a material issue. The issues raised in support of the Staff’s argument on appeal were therefore briefed again before the Commission.<sup>3</sup> In CLI-09-14, the Commission did not disturb the Licensing Board’s admissibility ruling. CLI-19-14, slip op. at 27 (June 30, 2009). Accordingly, it is not at all clear why the parties have another bite at this apple. The legal arguments that would preclude a full hearing with respect to NEI-SAFETY-005 should be rejected at the threshold, and the contention should be appropriately considered on the merits. Nonetheless, NEI herein addresses the issues — now styled as threshold legal issues rather than contention admissibility issues.

A. NRC Regulations Require that the LA Address Preclosure ALARA Considerations at Nuclear Plant Sites Remote From the Repository

As articulated previously by DOE and the NRC Staff, the arguments that ALARA principles do not apply to the postclosure criticality analysis in the SAR fall into two categories:

- ALARA principles do not apply to the postclosure criticality analysis at issue; and

---

<sup>3</sup> See “The Nuclear Energy Institute’s Brief in Opposition to NRC Staff’s Appeal of LBP-09-06,” dated June 1, 2009, at 6-16, 28-30.

- ALARA principles are limited to activities physically within the GROA, and therefore dose and other impacts at Part 50-licensed reactor sites are outside the scope of the proceeding.

Both of these arguments are invalid. First, the ALARA considerations at issue in this contention relate to the preclosure or operational phase of the repository, and therefore under the regulations must be considered. Second, there is no limit in the geographical reach of the applicable ALARA regulations that would preclude consideration of occupational doses at reactor sites that are linked to disposal at the repository. Each of these arguments is discussed below.

1. *Preclosure ALARA Implications Must Be Addressed*

NEI in this contention challenges an aspect of the LA that would cause, among other things, unnecessary occupational doses. NEI seeks to show that, because there is unnecessary conservatism in DOE's approach to achieving the postclosure performance objective for criticality, it can revise its approach in a way that would meet regulatory requirements for the postclosure safety analysis while, consistent with applicable ALARA principles, reduce radiological doses *during the operational phase* of the Yucca Mountain repository. Indeed, such revisions are compelled by the ALARA requirements.

The NRC's Part 20 regulations by their terms specifically apply to the repository application. Section 20.1002 states expressly — and without limitation — that Part 20 regulations apply to Part 63 licensees. Further, Section 20.1101(b) provides that licensees (including Part 63 licensees) use, to the extent practical, procedures and engineering controls to achieve occupational doses and doses to members of the public that are ALARA. Separately, the NRC's Part 63 regulations applicable to the proposed repository provide that the “geologic repository operations area must meet the requirements of part 20 of this chapter.” 10 C.F.R. § 63.111(a). (The NRC Staff and DOE have read this latter regulation narrowly to argue that it

limits the geographical scope of the application of ALARA. That argument is addressed in Section III.A.2 below.)

The Commission's intent that ALARA principles be applied to the licensing of the Yucca Mountain repository under Part 63 with respect to the operational and decommissioning phases of the repository is addressed in the Final Rule, "Disposal of High Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada," 66 Fed. Reg. 55,732, 55,751 (November 2, 2001). In the Statement of Considerations the Commission clearly stated that:

. . . it is appropriate to explicitly require the application of the ALARA principle to the operational and decommissioning phases of the repository . . . .

The Commission further explained:

The ALARA principle deals with optimizing the reduction of potential doses from radiation to members of the general public and workers. . . . Application of ALARA during operations *compels* the consideration of the benefits of further reduction in potential doses to present-day populations and workers relative to impacts to present-day populations (*e.g.*, increased cost to reduce potential doses further).

*Id.* (emphasis added). Thus, the Commission fully anticipated consideration of dose benefits to "present-day populations" relative to present-day impacts, such as costs.

The NRC Staff has read the Statement of Considerations to somehow prohibit application of ALARA in the manner proposed in NEI-SAFETY-005. Assuredly, the Commission explained that:

. . . the application of ALARA to achievement of the long-term performance objective is not appropriate.

*Id.* In other words:

. . . although the Commission will require ALARA considerations for the operational phase and decommissioning of the surface facilities, NRC will

not explicitly require an ALARA analysis as part of the postclosure performance assessment.

*Id.* The Commission also expanded on its rationale for distinguishing between considering ALARA in the context of the operational phase and in the context of the postclosure phase, as follows:

The application of ALARA to the achievement of the postclosure performance objective would involve considerations far more complicated than those evaluated for operations. The reasonableness of further reduction of potential doses would need to evaluate benefits and impacts that span many generations (*e.g.*, costs incurred today versus a reduction of potential doses thousands of years in the future; repository designs that reduce potential doses in the future but increase doses to present-day workers during fabrication of the design such as installing a special backfill)....

*Id.*

From this discussion the NRC Staff has argued that, if application of ALARA could lead to a change to a design element or design parameter relevant to the postclosure performance objective, then ALARA is beyond the scope of this proceeding. This argument is based on a faulty reading of the Statement of Considerations and an unfounded extrapolation of the Commission's explanation. In fact, as is clear from the Statement of Considerations, the Commission sought only to avoid layering a postclosure ALARA consideration on top of a postclosure performance objective that it found to be already sufficiently conservative.<sup>4</sup> The Commission was concerned that achieving doses that are ALARA in the distant *postclosure* future would require a difficult cross-generation cost-benefit analysis. It does not follow that the

---

<sup>4</sup> Consideration of future, postclosure ALARA benefits was deemed by the Commission to be unnecessary in light of the conservative public dose limits adopted for licensing by the Environmental Protection Agency. The dose limits will "ensure that public health and safety and the environment are protected" in the long term. 66 Fed. Reg. at 55,751. This conclusion was further confirmed by the National Academy of Sciences finding that "deep geologic disposal, by its very nature, was ALARA...." *Id.*

Statement of Considerations can be extended to preclude contentions that address ALARA in the *preclosure* period.

NEI's contention focuses on certain repository design or operational parameters and assumptions which are unnecessary to achieve postclosure objectives. NEI's contention seeks to reduce *preclosure* occupational dose impacts on workers, consistent with ALARA principles and precisely as contemplated by the Commission and the regulations. The contention does not seek to apply ALARA principles to the repository for the postclosure phase. NEI's contention also would not change the nature of the required analysis or the standard for demonstrating adequate postclosure performance. The contention asserts only that the *existing* postclosure performance objectives can be met without the control rods that cause present-day dose impacts.

In the Statement of Considerations the Commission gave two examples of the difficult assessments that it would face if it were to apply ALARA to the postclosure performance objectives: (1) costs incurred today would need to be balanced against a "reduction of potential doses thousands of years in the future" or (2) designs that could "reduce potential doses in the future" would need to be balanced against increased doses to present-day workers during installation. Both examples involve the "need to evaluate benefits and impacts that span many generations." *See* 66 Fed. Reg. at 55,751. However, NEI's contention does not match either example, and in fact presents no issues requiring cross-generational assessment of costs and benefits. Unlike both of the Commission's examples, the contention does not involve future, postclosure dose benefits in any way. The contention deals with *preclosure* dose benefits. The

only question related to postclosure performance is one of compliance with the performance objective — and this is an issue clearly within the scope of the proceeding.<sup>5</sup>

In sum, NRC's regulations require that the repository design address ALARA implications during the preclosure phase of repository operations. Accordingly, NEI-SAFETY-005 raises a legitimate question regarding whether worker doses can reasonably be reduced by eliminating conservative assumptions in the postclosure criticality evaluation.

2. *ALARA Considerations Are Not Limited to the GROA*

Assuming that ALARA principles apply to preclosure activities, DOE and the NRC Staff have previously suggested that, to the extent DOE design assumptions or specifications cause 10 C.F.R. Part 50 *reactor licensees* to undertake activities which would cause unnecessary radiological exposures to Part 50 facility workers, consideration of those consequences is outside the scope of the regulations and therefore outside the scope of this proceeding. This view is unsupported by, and inconsistent with, the regulations. The consequences of proposed repository design elements or operating parameters that directly cause reactor licensees to undertake unnecessary activities resulting in unnecessary operational occupational doses for plant employees or members of the public are within the mandated scope of ALARA as applied to the preclosure phase of repository operations.

---

<sup>5</sup> Under the NRC Staff's interpretation, no matter how readily preclosure ALARA considerations could be applied to significantly reduce *operational* radiological exposures and costs, a contention that could have *any* impact on the physical design of the repository would not raise an issue material to this proceeding, irrespective of whether postclosure performance objectives would continue to be met. The Staff's approach would preclude virtually all contentions with preclosure operational ALARA implications.

As discussed above, 10 C.F.R. § 20.1002 states that Part 20 applies to persons holding NRC licenses under 10 C.F.R. Part 50 and 10 C.F.R. Part 63. Further, 10 C.F.R. § 20.1101(b) expressly states that “licensee[s] shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are [ALARA].” Section 10 C.F.R. § 20.1003 defines “ALARA” as “making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed material in the public interest.” These regulations do not limit the geographical reach of their applicability in any way. Instead, they require Part 63 licensees to achieve doses ALARA “to the extent practical” — including “occupational doses” and doses to “members of the public.” “Occupational doses” are at the heart of NEI-SAFETY-005. And, at a minimum, doses to “members of the public” clearly encompass doses experienced offsite from the repository.<sup>6</sup>

DOE and the NRC Staff may attempt to distinguish offsite doses due to activities that occur offsite from those due to operations that occur within the GROA. However, the distinction has no basis in the language of either Section 20.1101(b) or Section 20.1003. There is no mention of the location of the activity causing the worker doses or the doses to the members of the public. The regulations, therefore, are limited only by a tacit causation standard.

---

<sup>6</sup> Part 50 reactor licensees are subject to the same ALARA requirements as DOE in this case. For Part 50 licensees the ALARA requirement extends to doses due to normal operations and expected operational occurrences. *See* 10 CFR § 50.34a(a). These doses subject to the ALARA requirement also occur offsite from the reactor. The NRC has established numerical guidelines in 10 CFR Part 50, Appendix I for meeting the offsite ALARA requirement.

That is, if the doses are caused by the applicant, attendant to the proposed facility, they are subject to the ALARA standard wherever they may occur. If doses caused by the repository design or operations were excluded from the ALARA requirement simply because the doses would be offsite, DOE could avoid consideration of direct impacts from the repository simply by shifting any number of operational activities away from the GROA to reactor (or other) locations.<sup>7</sup>

DOE and the NRC Staff have previously cited the language of 10 C.F.R. § 63.111(a) as limiting the physical scope of the application of ALARA. However, the regulation is not phrased as a limit. Rather, it states that the “geologic repository operations area” must meet the requirements of Part 20. This affirmative requirement does not state that offsite doses are excluded from consideration. Indeed, such a reading would be inconsistent with the regulatory context. The additional affirmative requirements of 10 C.F.R. §§ 20.1002 and 20.1101(b) apply to Part 63 and are not constrained by the borders of the GROA. Moreover, the Commission’s Statement of Considerations in connection with the promulgation of Part 63 discussed above again demonstrates the scope of the ALARA requirement and the scope of the evaluation that the Commission found to be appropriate:

The ALARA principle deals with optimizing the reduction of potential doses from radiation to members of the general public and workers. . . . Application of ALARA during operations *compels* the consideration of the benefits of further reduction in potential doses to present-day populations and workers relative to impacts to present-day populations (e.g., increased cost to reduce potential doses further).

---

<sup>7</sup> In CLI-09-14, slip op. at 20, n. 93, the Commission noted that “in context of NEI’s standing, CAB-03 found unpersuasive DOE’s argument that ‘health and safety impacts felt at distant nuclear plant sites caused by the delay in completion of its proposed repository are outside the scope of the proceeding.’ LBP-09-6, 69 NRC \_\_\_ (slip op. at 79).”

66 Fed. Reg. at 55,751 (emphasis added). The Commission’s references to “the general public and workers” and “present-day populations and workers,” 66 Fed. Reg. 55,751, by their plain meaning, include all populations and workers, including those at Part 50 reactor sites. Had the Commission wanted to limit its consideration only to populations near, and workers at, the repository or within the GROA, it could have and presumably would have so stated.<sup>8</sup>

At bottom, NEI-SAFETY-005 seeks to avoid or significantly reduce the radiological doses that would be incurred to certain “present-day populations and workers” — which is wholly consistent with the Commission’s own description of the scope of ALARA considerations in this proceeding. The Commission will grant the Part 63 construction authorization if it determines that the *proposed design* poses no “unreasonable risk to the health and safety of the public” when considering, among other things, the adequacy of “DOE’s proposed operating procedures to protect health and to minimize danger to life or property.” *See* 10 C.F.R. § 63.31. DOE therefore must consider dose impacts that occur within the GROA and at reactor sites — where those dose impacts could be avoided if DOE were to change certain design elements for criticality control, without compromising acceptability of postclosure performance.

B. DOE Must Demonstrate that the Repository Meets Applicable Safety and Environmental Standards, Without Unnecessary Margin

In NEI-SAFETY-005, NEI asserts that DOE’s overly conservative postclosure criticality analysis will have consequences, including the preclosure ALARA implications already discussed. Given that ALARA applies to the preclosure safety analysis, the contention

---

<sup>8</sup> In this context, the reference to the “geologic repository operations area” can be read as an affirmative indication of the Commission’s intent that all activities at the facility, including the repository, surface facilities, and operations area, are subject to the preclosure ALARA requirement. Activities in those areas must be conducted to maintain doses ALARA — with no limit on the location of the dose impacts.

addresses a material violation and was properly admitted for hearing. As stated in the contention and supporting statements, there are other potential consequences associated with the unnecessary control rods assumed in the LA SAR. These consequences include the unnecessary operational complexity and increased environmental impacts caused by the control rods, increased costs to be paid from the Nuclear Waste Fund, and potential licensing delays with respect to TAD canisters or with respect to this proceeding. The threshold legal issue questions only whether DOE must demonstrate that there are no unnecessary expenditures associated with the proposed design. In the case of the criticality analysis, these expenditures do need to be considered, along with the other practical considerations highlighted by NEI.

First, the unnecessary costs, operational complexity, environmental impacts, and even the lack of need for margin in the postclosure criticality analysis, are all factors that would support a conclusion that the DOE proposal is not maintaining occupational doses as low as *reasonably* achievable. The NRC's regulations, in 10 C.F.R. 20.1003, define ALARA as "making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest." This definition certainly provides sufficient scope for consideration of costs and other implications of the proposed criticality control rods, in the context of the unnecessary occupational doses that the control rods would cause.

In *Public Service Co. of Oklahoma*. (Black Fox Station, Units 1 and 2) 10 NRC 775, 81-82 (1979), the ASLB stated that “by the terms of its definition, the ALARA standard necessarily invokes a cost-benefit balancing process.” Similarly, in *Yankee Atomic Energy Co.* (Yankee Nuclear Power Station), CLI-96-01, 43 NRC 1 (1996), the Commission explained the ALARA analysis as follows: “[A] licensee's actions do not violate the ALARA principle simply because some way can be identified to reduce radiation exposures further. The practicality and the cost of the measures required to achieve these reductions as well as ‘other societal and socioeconomic considerations’ must also be taken into account.” Fully consistent with these explanations of the inquiry required under the ALARA standard, the cost considerations cannot be summarily excluded from the hearing on NEI-SAFETY-005.

Second, the unnecessary margin built into the criticality analysis will result in unnecessary costs to be paid from the Nuclear Waste Fund. This licensing matter is being conducted in accordance with the Nuclear Waste Policy Act of 1982 (“NWPA”), 42 U.S.C. §§ 10101 – 10270. The NWPA establishes a comprehensive statutory program for the development of the high level waste repository. The explicit goal of the NWPA is for DOE to site and the NRC to conduct a licensing review of a high level waste repository. *See, e.g.*, 42 U.S.C. § 10131. The NWPA further establishes the means to fund the repository. *Id.* In this context, the cost implications of the DOE plan for criticality control are a particularly compelling consideration. The NWPA adds a factor to the NRC licensing decision that does not exist in other NRC licensing proceedings based only on the Atomic Energy Act or the National Environmental Policy Act. The design, licensing, funding, construction, and operation of the repository clearly involve issues beyond the simple question presented by DOE (that is, whether the design meets legal requirements). Excess conservatism could clearly threaten the goal of

Congress to assure construction of a repository and to assure sufficient revenue to cover the cost. It is therefore a significant issue that merits consideration in this proceeding. And, even if it were not a consideration directly material to the NRC's decision under the NWPA alone, it certainly is a consideration that needs to be considered in implementing the NRC's ALARA requirement.

Finally, apart from the economic cost perspective, a showing that DOE's LA *exceeds* minimum regulatory compliance remains a material consideration — at least where it has been specifically raised by a party as NEI has done in NEI-SAFETY-005.<sup>9</sup> If NEI can show excess conservatism in the analysis, such a showing should be reflected in the Licensing Board decision, thereby altering the licensing basis for the project. Relief in the form of a change in the licensing basis would increase DOE's flexibility in the future in developing, constructing, and operating the facility. Where the matter has been placed in controversy by an intervenor, a Licensing Board is certainly free to determine how far a design needs to go to establish minimum compliance in order to assure a clearly defined licensing basis that will guide the licensee going forward.<sup>10</sup>

Applicants also routinely demonstrate compliance with licensing requirements in the hearing process by demonstrating margin in the supporting analyses. NEI is a party that, despite some specific disagreements with aspects of DOE's approach, ultimately *supports* the proposed licensing action. To the extent NEI's contention seeks to establish conservatism in an

---

<sup>9</sup> Certainly if the NRC Staff were proposing that DOE must include control rods to meet NRC requirements, DOE would be free to challenge that Staff position in the hearing process. There is no reason that NEI should not be able to pursue the same type of challenge when the relief would benefit its members.

<sup>10</sup> In this regard, the Licensing Boards would not necessarily need to order a change to the design. Ultimately, the final design may be a matter of DOE prerogative, so long as it meets NRC's regulations. However, the licensing basis should nonetheless be clear.

analysis, that conservatism can be considered. As one Licensing Board wrote in an initial decision:

The existence of uncertainty dictates that we cannot find reasonable assurance of safety for operation in the interim based on model calculations alone. We conclude, however, that it is appropriate to also rely on the fact that the analyses were consistently performed in conservative manner and that margins of safety exist. Thus, we conclude that CLASIX-3 computations, while not completely accurate, bound the conditions that would actually prevail during a hydrogen burn event in Perry containment.

*Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 & 2), LBP-85-35, 22 NRC 514, 543-44 (1985). Supportive petitioners have rarely appeared in NRC licensing cases. There is no case law suggesting that a project supporter in general, or NEI in particular, is precluded from demonstrating conservatism, or even undue conservatism, in the design. Proving excess conservatism (or licensing margin) will at a minimum support a finding of compliance, advance the licensing case, and reduce uncertainty and delay related to licensing the project.

In sum, the safety margin inherent in the criticality analysis and criticality control method proposed by DOE, and the cost and other consequences that will result, must be considered by the Licensing Board. At a minimum, these factors must be considered as part of the required assessment of whether occupational and public doses in the preclosure period will be ALARA. More broadly, these factors are inherent in the goals of the NWPA. Addressing the safety margin is also essential to determining whether in fact the proposal will meet NRC minimum requirements and to determining the appropriate licensing basis for the facility going forward.

#### IV. CONCLUSIONS

For the foregoing reasons, the Licensing Board should conclude that:

- NRC regulations in Part 20 and Part 63 require that DOE and the NRC consider preclosure ALARA implications at reactor sites in connection with the postclosure criticality analysis for the proposed repository.
- The Licensing Board may properly consider the excessive margin provided in the LA criticality analysis and the related costs in its consideration of ALARA. The Licensing Board can also consider the issue of margin in its decision in order to avoid unnecessary environmental impacts and unnecessary expenditures from the Nuclear Waste Fund, and to avoid unnecessary future operational rigidity and complexity caused by the conservative licensing basis.

Respectfully submitted,

Ellen C. Ginsberg  
General Counsel  
Michael A. Bauser  
Deputy General Counsel  
Nuclear Energy Institute  
1776 I Street, N.W., Suite 400  
Washington, DC 20006  
(202) 739-8140

Jay E. Silberg  
Timothy J. V. Walsh  
Pillsbury Winthrop Shaw Pittman LLP  
2300 N Street, N.W.  
Washington, DC 20037-1122  
(202) 663-8063

/s/ signed electronically by  
David A. Repka  
William A. Horin  
Winston & Strawn LLP  
1700 K Street, N.W.  
Washington, DC 20006  
(202) 282-5726

COUNSEL FOR THE NUCLEAR  
ENERGY INSTITUTE

Dated in Washington, D.C.  
this 7th day of December 2009

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
U.S. DEPARTMENT OF ENERGY ) Docket No. 63-001-HLW  
(High-Level Waste Repository) ) ASLBP No. 09-892-HLW-CAB04

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing “The Nuclear Energy Institute’s Brief on Phase I Legal Issue No. 1” have been served upon the following persons on this 7th day of December, 2009 by Electronic Information Exchange.

U.S. Nuclear Regulatory Commission  
Atomic Safety and Licensing Board (ASLBP)  
Mail Stop T-3F23  
Washington, DC 20555-0001

Construction Authorization Board (CAB) 04

Thomas S. Moore, Chair  
Administrative Judge

[tsm2@nrc.gov](mailto:tsm2@nrc.gov)

Paul S. Ryerson  
Administrative Judge

[psr1@nrc.gov](mailto:psr1@nrc.gov)

Richard E. Wardwell  
Administrative Judge  
[rew@nrc.gov](mailto:rew@nrc.gov)

Anthony C. Eitrem, Esq., Chief Counsel  
[ace1@nrc.gov](mailto:ace1@nrc.gov)

Daniel J. Graser, LSN Administrator  
[djg2@nrc.gov](mailto:djg2@nrc.gov)

Zachary Kahn, Law Clerk  
[zxk1@nrc.gov](mailto:zxk1@nrc.gov)

Erica LaPlante, Law Clerk  
[eal1@nrc.gov](mailto:eal1@nrc.gov)

Matthew Rotman, Law Clerk  
[matthew.rotman@nrc.gov](mailto:matthew.rotman@nrc.gov)

Katherine Tucker, Law Clerk  
[katie.tucker@nrc.gov](mailto:katie.tucker@nrc.gov)

Joseph Deucher  
[jhd@nrc.gov](mailto:jhd@nrc.gov)

Andrew Welkie  
[axw5@nrc.gov](mailto:axw5@nrc.gov)

Jack Whetstine  
[jgw@nrc.gov](mailto:jgw@nrc.gov)

Patricia Harich  
[patricia.harich@nrc.gov](mailto:patricia.harich@nrc.gov)

Sara Culler  
[sara.culler@nrc.gov](mailto:sara.culler@nrc.gov)

U.S. Nuclear Regulatory Commission  
Office of the General Counsel  
Mail Stop O-15D21  
Washington, DC 20555-0001  
Margaret J. Bupp, Esq.

[mjb5@nrc.gov](mailto:mjb5@nrc.gov)

Michael G. Dreher, Esq.  
[michael.dreher@nrc.gov](mailto:michael.dreher@nrc.gov)

Karin Francis, Paralegal  
[kxf4@nrc.gov](mailto:kxf4@nrc.gov)

Adam Gendelman, Esq.  
[adam.gendelman@nrc.gov](mailto:adam.gendelman@nrc.gov)

Joseph S. Gilman, Paralegal  
[jsg1@nrc.gov](mailto:jsg1@nrc.gov)

Daniel W. Lenahan, Esq.  
[daniel.lenahan@nrc.gov](mailto:daniel.lenahan@nrc.gov)

Andrea L. Silvia, Esq.  
[alc1@nrc.gov](mailto:alc1@nrc.gov)

Mitzi A. Young, Esq.  
[may@nrc.gov](mailto:may@nrc.gov)

Marian L. Zabler, Esq.  
[mlz@nrc.gov](mailto:mlz@nrc.gov)

OGC Mail Center  
[OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov)

U.S. Nuclear Regulatory Commission  
Office of Commission Appellate Adjudication  
Mail Stop O-16C1  
Washington, DC 20555-0001  
OCAAMail Center  
[ocaamail@nrc.gov](mailto:ocaamail@nrc.gov)

U.S. Nuclear Regulatory Commission  
Office of the Secretary of the Commission  
Mail Stop O-16C1  
Washington, DC 20555-0001  
Hearing Docket  
[hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov)

U.S. Department of Energy  
Office of General Counsel  
1000 Independence Avenue S.W.  
Washington, DC 20585  
Martha S. Crosland, Esq.  
[martha.crosland@hq.doe.gov](mailto:martha.crosland@hq.doe.gov)  
Nicholas P. DiNunzio, Esq.  
[nick.dinunzio@rw.doe.gov](mailto:nick.dinunzio@rw.doe.gov)  
James Bennett McRae  
[ben.mcrae@hq.doe.gov](mailto:ben.mcrae@hq.doe.gov)  
Cyrus Nezhad, Esq.  
[cyrus.nezhad@hq.doe.gov](mailto:cyrus.nezhad@hq.doe.gov)  
Christina C. Pak, Esq.  
[christina.pak@hq.doe.gov](mailto:christina.pak@hq.doe.gov)

For U.S. Department of Energy  
Office of Counsel, Naval Sea Systems Command  
Nuclear Propulsion Program  
1333 Isaac Hull Avenue, SE  
Washington Navy Yard, Building 197  
Washington, DC 20376  
Frank A. Putzu, Esq.  
[frank.putzu@navy.mil](mailto:frank.putzu@navy.mil)

For U.S. Department of Energy  
USA-Repository Services  
Yucca Mountain Project Licensing Group  
1160 N. Town Center Drive, Suite 240  
Las Vegas, NV 89144  
Stephen J. Cereghino, Licensing/Nucl Safety  
[stephen\\_cereghino@ymp.gov](mailto:stephen_cereghino@ymp.gov)  
Jeffrey Kriner, Regulatory Programs  
[jeffrey\\_kriner@ymp.gov](mailto:jeffrey_kriner@ymp.gov)

U.S. Department of Energy  
Office of General Counsel  
1551 Hillshire Drive  
Las Vegas, NV 89134-6321  
Jocelyn M. Gutierrez, Esq.  
[jocelyn.gutierrez@ymp.gov](mailto:jocelyn.gutierrez@ymp.gov)  
George W. Hellstrom, Esq.  
[george.hellstrom@ymp.gov](mailto:george.hellstrom@ymp.gov)  
Josephine L. Sommer, Paralegal  
[josephine.sommer@ymp.gov](mailto:josephine.sommer@ymp.gov)

For U.S. Department of Energy  
Talisman International, LLC  
1000 Potomac St., NW, Suite 300  
Washington, DC 20007  
Patricia Larimore, Senior Paralegal  
[plarimore@talisman-intl.com](mailto:plarimore@talisman-intl.com)

For U.S. Department of Energy  
USA-Repository Services  
Yucca Mountain Project Licensing Group  
6000 Executive Boulevard, Suite 608  
North Bethesda, MD 20852  
Edward Borella, Sr. Staff, Licensing/Nuclear Safety  
[edward\\_borella@ymp.gov](mailto:edward_borella@ymp.gov)

Counsel for U.S. Department of Energy  
Morgan, Lewis & Bockius LLP  
1111 Pennsylvania Ave., NW  
Washington, DC 20004  
Clifford W. Cooper, Paralegal  
[ccooper@morganlewis.com](mailto:ccooper@morganlewis.com)  
Lewis M. Csedrik, Associate  
[lcsedrik@morganlewis.com](mailto:lcsedrik@morganlewis.com)  
Jay M. Gutierrez, Esq.  
[jgutierrez@morganlewis.com](mailto:jgutierrez@morganlewis.com)  
Charles B. Moldenhauer, Esq.  
[cmoldenhauer@morganlewis.com](mailto:cmoldenhauer@morganlewis.com)  
Brian P. Oldham, Esq.  
[boldham@morganlewis.com](mailto:boldham@morganlewis.com)  
Thomas D. Poindexter, Esq.  
[tpoindexter@morganlewis.com](mailto:tpoindexter@morganlewis.com)  
Alex S. Polonsky, Esq.  
[apolonsky@morganlewis.com](mailto:apolonsky@morganlewis.com)  
Thomas A. Schmutz, Esq.  
[tschmutz@morganlewis.com](mailto:tschmutz@morganlewis.com)  
Donald J. Silverman, Esq.  
[dsilverman@morganlewis.com](mailto:dsilverman@morganlewis.com)  
Shannon Staton, Legal Secretary  
[sstaton@morganlewis.com](mailto:sstaton@morganlewis.com)  
Annette M. White, Esq.  
[Annette.white@morganlewis.com](mailto:Annette.white@morganlewis.com)  
Paul J. Zaffuts, Esq.  
[pzaffuts@morganlewis.com](mailto:pzaffuts@morganlewis.com)

Counsel for State of Nevada  
Egan, Fitzpatrick & Malsch, PLLC  
1750 K Street, NW, Suite 350  
Washington, DC 20006  
Martin G. Malsch, Esq.  
[mmalsch@nuclearlawyer.com](mailto:mmalsch@nuclearlawyer.com)  
Susan Montesi  
[smontesi@nuclearlawyer.com](mailto:smontesi@nuclearlawyer.com)

Nevada Agency for Nuclear Projects  
Nuclear Waste Project Office  
1761 East College Parkway, Suite 118  
Carson City, NV 89706  
Steve Frishman, Tech. Policy Coordinator  
[steve.frishman@gmail.com](mailto:steve.frishman@gmail.com)  
Susan Lynch, Administrator of Technical Prgms  
[szeeee@nuc.state.nv.us](mailto:szeeee@nuc.state.nv.us)

Counsel for U.S. Department of Energy  
Hunton & Williams LLP  
Riverfront Plaza, East Tower  
951 East Byrd Street  
Richmond, VA 23219  
Kelly L. Faglioni, Esq.  
[kfaglioni@hunton.com](mailto:kfaglioni@hunton.com)  
Donald P. Irwin, Esq.  
[dirwin@hunton.com](mailto:dirwin@hunton.com)  
Stephanie Meharg, Paralegal  
[smeharg@hunton.com](mailto:smeharg@hunton.com)  
Michael R. Shebelskie, Esq.  
[mshebelskie@hunton.com](mailto:mshebelskie@hunton.com)  
Belinda A. Wright, Sr. Professional Assistant  
[bwright@hunton.com](mailto:bwright@hunton.com)

Counsel for State of Nevada  
Egan, Fitzpatrick & Malsch, PLLC  
12500 San Pedro Avenue, Suite 555  
San Antonio, TX 78216  
Laurie Borski, Paralegal  
[lborski@nuclearlawyer.com](mailto:lborski@nuclearlawyer.com)  
Charles J. Fitzpatrick, Esq.  
[cfitzpatrick@nuclearlawyer.com](mailto:cfitzpatrick@nuclearlawyer.com)  
John W. Lawrence, Esq.  
[jlawrence@nuclearlawyer.com](mailto:jlawrence@nuclearlawyer.com)

Bureau of Government Affairs  
Nevada Attorney General  
100 N. Carson Street  
Carson City, NV 89701  
Marta Adams, Chief Deputy Attorney General  
[madams@ag.nv.gov](mailto:madams@ag.nv.gov)

Counsel for Lincoln County, Nevada  
1100 S. Tenth Street  
Las Vegas, NV 89017  
Annie Bailey, Legal Assistant  
[baileys@lcturbonet.com](mailto:baileys@lcturbonet.com)  
Eric Hinckley, Law Clerk  
[erichinckley@yahoo.com](mailto:erichinckley@yahoo.com)  
Bret Whipple, Esq.  
[bretwhipple@nomademail.com](mailto:bretwhipple@nomademail.com)

Lincoln County District Attorney  
P. O. Box 60  
Pioche, NV 89403  
Gregory Barlow, Esq.  
[lca@lcturbonet.com](mailto:lca@lcturbonet.com)

Lincoln County Nuclear Oversight Program  
P.O. Box 1068  
Caliente, NV 89008  
Connie Simkins, Coordinator  
[jcciac@co.lincoln.nv.us](mailto:jcciac@co.lincoln.nv.us)

For Lincoln County, Nevada  
Intertech Services Corporation  
PO Box 2008  
Carson City, NV 89702  
Mike Baughman, Consultant  
[bigboff@aol.com](mailto:bigboff@aol.com)

Counsel for Nye County, Nevada  
Ackerman Senterfitt  
801 Pennsylvania Avenue, NW, #600  
Washington, DC 20004  
Robert Andersen, Esq.  
[robert.andersen@akerman.com](mailto:robert.andersen@akerman.com)

Counsel for Nye County, Nevada  
530 Farrington Court  
Las Vegas, NV 89123  
Jeffrey VanNiel, Esq.  
[nbrjdn@gmail.com](mailto:nbrjdn@gmail.com)

Nye County Regulatory/Licensing Advisor  
18160 Cottonwood Rd. #265  
Sunriver, OR 97707  
Malachy Murphy, Esq.  
[mrmurphy@chamberscable.com](mailto:mrmurphy@chamberscable.com)

Nye County Nuclear Waste Repository Project  
Office (NWRPO)  
1210 E. Basin Road, #6  
Pahrump, NV 89060  
Zoie Choate, Secretary  
[zchoate@co.nye.nv.us](mailto:zchoate@co.nye.nv.us)  
Sherry Dudley, Admin. Technical Coordinator  
[sdudley@co.nye.nv.us](mailto:sdudley@co.nye.nv.us)

Clark County, Nevada  
500 S. Grand Central Parkway  
Las Vegas, NV 98155  
Phil Klevorick, Sr. Mgmt Analyst  
[klevorick@co.clark.nv.us](mailto:klevorick@co.clark.nv.us)  
Elizabeth A. Vibert, Deputy District Attorney  
[Elizabeth.Vibert@ccdavn.com](mailto:Elizabeth.Vibert@ccdavn.com)

Counsel for Clark County, Nevada  
Jennings, Strauss & Salmon  
8330 W. Sahara Avenue, #290  
Las Vegas, NV 89117  
Bryce Loveland, Esq.  
[bloveland@jsslw.com](mailto:bloveland@jsslw.com)

Counsel for Clark County, Nevada  
Jennings, Strouss & Salmon  
1700 Pennsylvania Avenue, NW, Suite 500  
Washington, DC 20006-4725  
Elene Belte, Legal Secretary  
[ebelete@jsslaw.com](mailto:ebelete@jsslaw.com)  
Alan I. Robbins, Esq.  
[arobbins@jsslaw.com](mailto:arobbins@jsslaw.com)  
Debra D. Roby, Esq.  
[droby@jsslaw.com](mailto:droby@jsslaw.com)

Counsel for Eureka County, Nevada  
Harmon, Curran, Speilberg & Eisenberg, LLP  
1726 M. Street N.W., Suite 600  
Washington, DC 20036  
Diane Curran, Esq.  
[dcurran@harmoncurran.com](mailto:dcurran@harmoncurran.com)  
Matthew Fraser, Law Clerk  
[mfraser@harmoncurran.com](mailto:mfraser@harmoncurran.com)

Nuclear Waste Advisory for Eureka  
County, Nevada  
1983 Maison Way  
Carson City, NV 89703  
Abigail Johnson, Consultant  
[eurekanrc@gmail.com](mailto:eurekanrc@gmail.com)

Counsel for Churchill, Esmeralda, Lander,  
and Mineral Counties, Nevada  
Armstrong Teasdale, LLP  
1975 Village Center Circle, Suite 140  
Las Vegas, NV 89134-6237  
Jennifer A. Gores, Esq.  
[jgores@armstrongteasdale.com](mailto:jgores@armstrongteasdale.com)  
Robert F. List, Esq.  
[rlist@armstrongteasdale.com](mailto:rlist@armstrongteasdale.com)

Mineral County Nuclear Projects Office  
P.O. Box 1600  
Hawthorne, NV 89415  
Linda Mathias, Director  
[yuccainfo@mineralcountynv.org](mailto:yuccainfo@mineralcountynv.org)

Eureka County, Nevada  
Office of the District Attorney  
701 S. Main Street, Box 190  
Eureka, NV 89316-0190  
Theodore Beutel, District Attorney  
[tbeutel.ecda@eurekanv.org](mailto:tbeutel.ecda@eurekanv.org)

Eureka County Public Works  
PO Box 714  
Eureka, NV 89316  
Ronald Damele, Director  
[rdamele@eurekanv.org](mailto:rdamele@eurekanv.org)

For Eureka County, Nevada  
NWOP Consulting, Inc.  
1705 Wildcat Lane  
Ogden, UT 84403  
Loreen Pitchford, Consultant  
[lpitchford@comcast.net](mailto:lpitchford@comcast.net)

Esmeralda County Repository Oversight Program-  
Yucca Mountain Project  
PO Box 490  
Goldfield, NV 89013  
Edwin Mueller, Director  
[muellered@msn.com](mailto:muellered@msn.com)

For City of Caliente, Lincoln County, and  
White Pine County, Nevada  
P.O. Box 126  
Caliente, NV 89008  
Jason Pitts, LSN Administrator  
[jayson@idtservices.com](mailto:jayson@idtservices.com)

White Pine County, Nevada  
Office of the District Attorney  
801 Clark Street, #3  
Ely, NV 89301  
Richard Sears, District Attorney  
[rwsears@wpcda.org](mailto:rwsears@wpcda.org)

White Pine County Nuclear Waste Project Office  
959 Campton Street  
Ely, NV 89301  
Mike Simon, Director  
[wpnucwst1@mwpower.net](mailto:wpnucwst1@mwpower.net)

For White Pine County, Nevada  
Intertech Services Corporation  
PO Box 2008  
Carson City, NV 89702  
Mike Baughman, Consultant  
[bigboff@aol.com](mailto:bigboff@aol.com)

Counsel for Caliente Hot Springs Resort LLC  
John H. Huston, Attorney at Law  
6772 Running Colors Avenue  
Las Vegas, NV 89131  
John H. Huston, Esq.  
[johnhhuston@gmail.com](mailto:johnhhuston@gmail.com)

Counsel for Inyo County, California  
Law Office of Michael Berger  
479 El Sueno Road  
Santa Barbara, CA 93110  
Michael Berger, Esq.  
[michael@lawofficeofmichaelberger.com](mailto:michael@lawofficeofmichaelberger.com)  
Robert Hanna, Esq.  
[robert@lawofficeofmichaelberger.com](mailto:robert@lawofficeofmichaelberger.com)

Counsel for Inyo County, California  
Greg James, Attorney at Law  
710 Autumn Leaves Circle  
Bishop, CA 93514  
E-Mail: [gljames@earthlink.net](mailto:gljames@earthlink.net)

Inyo County Yucca Mountain Repository  
Assessment Office  
P. O. Box 367  
Independence, CA 93526-0367  
Alisa M. Lembke, Project Analyst  
[alembke@inyocounty.us](mailto:alembke@inyocounty.us)

California Department of Justice  
Office of the Attorney General  
1300 I Street, P.O. Box 944255  
Sacramento, CA 94244-2550  
Susan Durbin, Deputy Attorney General  
[susan.durbin@doj.ca.gov](mailto:susan.durbin@doj.ca.gov)  
Michele Mercado, Analyst  
[michele.Mercado@doj.ca.gov](mailto:michele.Mercado@doj.ca.gov)

California Department of Justice  
Office of the Attorney General  
1515 Clay Street, 20<sup>th</sup> Floor, P.O. Box 70550  
Oakland, CA 94612-0550  
Timothy E. Sullivan, Deputy Attorney General  
[timothy.Sullivan@doj.ca.gov](mailto:timothy.Sullivan@doj.ca.gov)

California Department of Justice  
300 S. Spring Street, Suite 1702  
Los Angeles, CA 90013  
Brian Hembacher, Deputy Attorney General  
[brian.hembacher@doj.ca.gov](mailto:brian.hembacher@doj.ca.gov)

California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814  
Kevin, W. Bell, Senior Staff Counsel  
[kwbell@energy.state.ca.us](mailto:kwbell@energy.state.ca.us)

Native Community Action Council  
P.O. Box 140  
Baker, NV 89311  
Ian Zabarte, Member of Board of Directors  
[mrizabarte@gmail.com](mailto:mrizabarte@gmail.com)

For Joint Timbisha Shoshone Tribal Group  
3560 Savoy Boulevard  
Pahrump, NV 89601  
Joe Kennedy, Executive Director  
[joekennedy08@live.com](mailto:joekennedy08@live.com)  
Tameka Vazquez, Bookkeeper  
[purpose\\_driven12@yahoo.com](mailto:purpose_driven12@yahoo.com)

Counsel for Native Community Action Council  
Alexander, Berkey, Williams & Weathers LLP  
2030 Addison Street, Suite 410  
Berkeley, CA 94704  
Curtis G. Berkey, Esq.  
[cberkey@abwwlaw.com](mailto:cberkey@abwwlaw.com)  
Rovianne A. Leigh, Esq.  
[rleigh@abwwlaw.com](mailto:rleigh@abwwlaw.com)  
Scott W. Williams, Esq.  
[swilliams@abwwlaw.com](mailto:swilliams@abwwlaw.com)

Counsel for Joint Timbisha Shoshone Tribal Group  
Fredericks, Peebles, & Morgan LLP  
1001 Second Street  
Sacramento, CA 95814  
Felicia M. Brooks, Data Administrator  
[tbrooks@ndnlaw.com](mailto:tbrooks@ndnlaw.com)  
Ross D. Colburn, Law Clerk  
[rcolburn@ndnlaw.com](mailto:rcolburn@ndnlaw.com)  
Sally Eredia, Legal Secretary  
[seredia@ndnlaw.com](mailto:seredia@ndnlaw.com)  
Darcie L. Houck, Esq.  
[dhouck@ndnlaw.com](mailto:dhouck@ndnlaw.com)  
Brian Niegemann, Office Manager  
[bniegemann@ndnlaw.com](mailto:bniegemann@ndnlaw.com)  
John M. Peebles, Esq.  
[jpeebles@ndnlaw.com](mailto:jpeebles@ndnlaw.com)  
Robert Rhoan, Esq.  
[rrhoan@ndnlaw.com](mailto:rrhoan@ndnlaw.com)

