

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
)	
)	

REPLY OF THE NUCLEAR ENERGY INSTITUTE TO THE DEPARTMENT OF ENERGY
AND NRC STAFF BRIEFS ON PHASE I LEGAL ISSUES

I. INTRODUCTION

In accordance with the schedule established in Construction Authorization Board (“CAB”) Case Management Order #2, dated September 30, 2009 (“CMO #2”), the Nuclear Energy Institute (“NEI”), the Department of Energy (“DOE”), and the Nuclear Regulatory Commission (“NRC”) Staff submitted briefs on Phase I legal issues on December 7, 2009.¹ In accordance with CMO #2, NEI herein replies to the DOE Brief and the NRC Staff Brief, insofar as they pertain to contention NEI-SAFETY-005 (Legal Issue No. 1).

II. ARGUMENT

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

¹ “The Nuclear Energy Institute’s Brief on Phase I Legal Issue No. 1,” dated December 7, 2009 (“NEI Brief”); “U.S. Department of Energy Brief on NEI-SAFETY Contention 05,” dated December 7, 2009 (“DOE Brief”); “NRC Staff Brief on Phase I Legal Issued,” dated December 7, 2009 (“NRC Staff Brief”).

- (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 [License Application]; 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.

A. Reply to DOE Brief

1. *DOE is Not Responsible for Part 50 Licensee's Compliance with ALARA, But Must Comply with ALARA Requirements with Respect to Impacts of its Actions at Nuclear Power Plant Sites Remote From the Repository*

In its initial brief, NEI fully articulated the basis for concluding that ALARA requirements apply to the DOE high level waste repository, and that the requirements include consideration of unnecessary impacts that occur offsite from the Geologic Repository Operations Area ("GROA"). DOE's initial argument is that nuclear power reactor licensees are responsible for compliance with ALARA at their own sites, and that "[h]olding DOE responsible for ALARA compliance at nuclear power plants remote from the GROA would be analogous to holding nuclear power plant licensees responsible for ALARA compliance at uranium mills or fuel fabrication facilities." DOE Brief at 4. This argument is in part a straw man and in other part an inapt analogy.

First, DOE's argument that NEI would hold DOE responsible for ALARA compliance at nuclear power plants is a straw man. NEI does not contend that DOE is responsible for Part 50 licensees' compliance with the requirements that apply at reactor sites. What NEI does argue is that DOE — the applicant in this proceeding — must demonstrate compliance with ALARA requirements with respect to its LA and its proposed approach for the high level waste repository. Individual reactor licensees have no authority over the contents of

the LA. Moreover, the ALARA requirements that apply to Part 50 reactor licensees do not dictate whether the reactor licensees should insert unnecessary criticality control rods into waste packages to be sent to Yucca Mountain. Conversely, DOE has no control over and no obligation with respect to the Part 50 licensees' compliance with ALARA in routine reactor operations. But, DOE does have *exclusive* control over the repository project design and proposed operations. This proceeding encompasses NEI's contention that DOE has not met the NRC's regulatory requirements for ALARA with respect to *repository matters*.

The DOE analogy to holding Part 50 licensees responsible for ALARA requirements at uranium mills or fuel fabrication facilities is also flawed. In the case of the fuel cycle facilities mentioned by DOE, there is no direct linkage between Part 50 sites and occupational exposures at the fuel cycle facilities. Nor is there any power plant directive that prescribes a specific method of operation analogous to the DOE specification requiring that control rods be inserted into waste packages prior to shipment, causing exposures at the offsite facilities. Moreover, fuel cycle facilities, just like Part 50 facilities, are subject to ALARA requirements that may apply to their own activities. The DOE argument fails to rebut NEI's position that DOE's ALARA obligations extend to the relevant offsite activities dictated by DOE for the repository program.

2. *The Language of Section 63.111 Does Not Preclude Consideration of ALARA Beyond the GROA*

DOE next cites, as it did at the contention admissibility stage, the language of 10 C.F.R. § 63.111(a). DOE argues that the language limits the physical scope of the application of ALARA. DOE Brief at 5. However, Section 63.111 addresses only performance objectives for the repository area through permanent closure. It is completely separate from the occupational

exposure requirements in Part 20 cited by NEI as the source of the ALARA requirement — that is, 10 C.F.R. §§ 20.1002 and 20.1101(b). Section 63.111 addresses a different regulatory issue.

Moreover, as discussed in the NEI Brief (at 10), the regulation in Section 63.111 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 applies to the GROA, but also does not *exclude* other offsite doses from consideration under other regulations. Indeed, reading this regulation as a limit to the scope of the ALARA would be inconsistent with the complete regulatory context, which in full makes clear that the ALARA principle applies and requires DOE to consider offsite doses to workers *and* members of the public.

As discussed more fully in the NEI Brief (at 4), 10 C.F.R. § 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. The regulation does not in any way limit its geographic scope. Moreover, consideration of the ALARA principle generally “*requires* a licensee to carry out its activity in a manner calculated to minimize radiation exposures as much ‘as is practical consistent with the purpose for which the licensed activity is undertaken.’” *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 N.R.C. 235, 251 n. 10 (1996) (*citing* 10 C.F.R. § 20.1003) (emphasis added). DOE in its argument is looking at only one phrase, in one of several regulations, with blinders on.

As also previously discussed, the Commission has explicitly stated:

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).

Final Rule, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, NV 66 Fed. Reg. 55,732, 55,751 (Nov. 2, 2001) (emphasis added). The plain meaning of the Commission’s references to “the general public and workers” and “present-day populations and workers” would include all populations and workers, specifically including radiation workers at reactor sites. Had the Commission wanted to limit the scope of ALARA consideration only to populations near, and workers at, the repository site, it could have done so. At bottom, the design choices DOE is proposing within the GROA will have direct and concrete impacts beyond the GROA boundary, and the ALARA implications of those impacts must be considered.²

3. *Following Guidance is no Substitute for Adhering to Regulations*

DOE next argues that the Yucca Mountain Review Plan (“YMRP”) does not specify that DOE must consider the ALARA principle at nuclear plants outside the GROA, and that this “is significant because compliance with relevant guidance documents [such as the YMRP] constitutes reasonable assurance of compliance with applicable regulatory requirements.” DOE Brief at 8.³ However, NRC Staff guidance is never dispositive on the issue of regulatory compliance. In addition, DOE mischaracterizes the YMRP.

First, it is well established that an NRC Staff guidance document, by its very nature, does not prescribe requirements. The Commission has consistently held that NRC

² As NEI has suggested previously (*i.e.*, NEI Brief at 10), if this were not true DOE could minimize ALARA compliance by shifting as many activities as practical to locations outside the GROA. For example, DOE could move more waste repackaging operations to reactor sites by refusing to conduct any repackaging at the repository and placing that burden completely on Part 50 licensees. Additionally, DOE could move any number of onsite activities offsite by outsourcing those activities to remote contractors.

³ DOE cites *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 468 (2008); *Petition for Emergency Planning & Remedial Action*, CLI-78-6, 7 NRC 400, 407 (1978).

guidance is not binding on applicants, the NRC Staff, or licensing boards. Adjudicatory proceedings are governed by the relevant statutes and regulations.⁴ And, “[c]ompliance (or non-compliance) with regulatory guidance documents does not necessarily enable a conclusion to be drawn as to the regulations themselves: compliance with a Staff guidance document does not, by itself, prove compliance with all regulatory requirements applicable in a licensing proceeding, and failure to comply with a guidance document does not demonstrate failure to comply with the relevant regulations.” *Shaw Areva Mox Services* (Mixed Oxide Fuel Fabrication Facility) 66 NRC 169, 197 (2007).⁵ The “*mere* fact that” an item is “not specifically mentioned in [a NUREG] does not disqualify it from being considered as a means for complying” with NRC regulations. *Carolina Power & Light Co.* at 545 (stating that a NUREG “is simply treated as evidence”)(emphasis in original). Therefore, DOE cannot claim compliance with the regulation based only on minimal compliance with the acceptance criteria in the YMRP.

Even if the Board were to give weight to the NRC Staff guidance document, DOE’s citation of the YMRP is selective and misleading.⁶ After correctly noting that the YMRP lists four broad Acceptance Criteria regarding DOE’s ALARA obligations, the DOE Brief (at 7) quotes in full only the specific elements for one of the four criteria, ignoring the other three. The elements that DOE focuses on, under Acceptance Criterion 3, “*Proposed Operations at the Geologic Repository Operations Area Adequately Incorporate as Low as Is Reasonably*

⁴ See *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), 65 NRC 539, 612 (2007); *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant), ALAB-852, 24 NRC 532, 544-45 (1986).

⁵ See also *Curators of the University of Missouri*, CLI-95-1, 41 NRC 71, 98, 100 (1995); *Carolina Power & Light Co.*; 24 NRC 532, 544-45 (1986).

⁶ A full version of the YMRP, NUREG-1804, Rev. 2, is available at ADAMS Accession No. ML032030389.

Achievable Principles,” by definition concern only the *operations* at the repository. See DOE Brief at 7 (emphasis in original). Even so, DOE ignores element 3(1) under Criterion 3: that “[o]perational procedures follow the as low as reasonably achievable philosophy.” YMRP at 2.1-80. It is not at all clear that the criticality control measures at issue in NEI-SAFETY-005 are not dictated by *operational* procedures. But more fundamentally, DOE’s reliance on Criterion 3 ignores the fact that NEI’s contention is a *design* issue, addressed by YMRP Acceptance Criterion 2: “As Low as Is Reasonably Achievable Principles Are Adequately Considered in Geologic Repository Operations Area *Design*.” YMRP at 2.1-79 to 80 (emphasis added).⁷ A review of the YMRP elements for Criterion 2 (not quoted by DOE) shows that element 2(1) states “The design of the geologic repository operations area adequately considers the as low as is reasonably achievable philosophy.” The failure of the LA to meet element 2(1) of Criterion 2 is precisely consistent with NEI-SAFETY-005.

DOE also ignores Acceptance Criterion 1, specifying that there be a management commitment to maintain exposures to *Workers and the Public* ALARA. YMRP at 2.1-79. The commitment must ensure “[a]n operations program to control radiation exposure will be implemented. This program will ensure that individual and collective doses are [ALARA].” Whether power plant workers should be construed to be “workers” or, relative to the repository, members of the “public” matters not. Either way, the YMRP does not preclude the ALARA considerations raised in NEI-SAFETY-005.

The YMRP acceptance criteria do not explicitly state that DOE must consider ALARA impacts in connection with specifying the criticality control measures to be inserted at Part 50 licensee facilities — but they certainly do not preclude such consideration as DOE

⁷ The DOE Brief (at 6) quotes this criterion but does not otherwise quote or discuss the specific elements under the criterion.

suggests. By its very nature the YMRP was designed only to provide generalized guideposts to shape the development of the LA and the Staff's review. The most recent revision of the YMRP was issued in July 2003, years in advance of the LA, at a time when the NRC Staff could not have predicted the details of DOE's application. It would have been impossible for the NRC Staff to pinpoint in guidance every issue relevant to the licensing of the repository that could arise, before even seeing DOE's design. The NRC Staff nonetheless did expressly adopt in its guidance the principle that the design and operation of the repository consider the ALARA principle, and did not affirmatively limit the applicability of the ALARA philosophy with respect to offsite workers and members of the public. To comply with the regulations in Part 20, as well as the intent of the YMRP, DOE must be held to consider the full scope of occupational doses and the full scope of the ALARA philosophy.

4. *Unnecessary Conservatism, Occupational Doses, and Expenses Can Be Considered Under ALARA and the Nuclear Waste Policy Act*

As discussed in the NEI Brief (at 12-15), NEI-SAFETY-005 seeks to eliminate unnecessary conservatisms, occupational exposures, and costs, consistent with the application of ALARA principles and the objectives of the Nuclear Waste Policy Act ("NWPA"). DOE argues, however, that there is no authority under the NWPA or the Atomic Energy Act for any consideration by the Licensing Board of any factors (such as conservatism or costs) other than "technical requirements and criteria." DOE Brief at 9. DOE again is looking at the scope of its obligations, and more importantly the scope of this proceeding, too narrowly.

First, as discussed in the NEI Brief (at 12), all of the factors that have been raised in NEI-SAFETY-005 can be specifically considered in applying the ALARA requirement. *See* 10 C.F.R. § 20.1003. DOE concedes that it must meet all applicable technical requirements and criteria. These requirements and criteria include ALARA, for reasons previously discussed.

Moreover, DOE claims the “decision about the repository design and the cost of that design fall within DOE’s scope.” DOE Brief at 9. This, quite simply, is an overstatement. Many issues of design and operations fall within the scope of the NRC’s review — precisely because the design and operations must meet NRC requirements. And, issues of costs and conservatism as they relate to occupational exposures and ALARA also fall within the scope of the NRC’s review of DOE’s compliance with 10 C.F.R. §§ 20.1002, 20.1003, 20.1011, and 63.111.

Second, as also discussed in NEI’s Brief (at 14), even if a proposed design (such as the proposed criticality control measures to be inserted in waste packages at reactor sites) meets all applicable technical requirements and criteria, issues of excess margin are not precluded from the NRC review in this proceeding. The NRC can appropriately consider conservatism as safety margin in the licensing review — which makes conservatism a legitimate area for development in the proceeding. Moreover, where a matter has been placed into controversy by an intervenor (*e.g.*, NEI), the Licensing Board can develop a record and determine whether a proposed approach exceeds the design requirements. The Licensing Board’s decision will clarify the licensing basis of the facility, which could facilitate hardware or procedure modifications in the future, and allow operational flexibility.

At bottom, consistent with the ALARA principles and the goals of the NWPAs, the design, licensing, construction, and operation of the repository clearly invoke issues beyond the simple question presented by DOE, that is, whether the design meets minimum technical requirements and criteria. The Licensing Board can consider whether and to what extent criticality controls are necessary, whether those controls are consistent with ALARA principles and NWPAs goals, and whether they constitute a conservatism in the licensing basis that affords licensing margin now and operational flexibility in the future.

B. Reply to NRC Staff Brief

1. *ALARA Considerations at Nuclear Plants Remote from the GROA Must be Addressed*

The NRC Staff first argues, consistent with DOE, that none of the workers who will experience the occupational doses that are of concern to NEI will be working at the GROA, and that the LA does not need to address the ALARA implications for these individuals. NRC Staff Brief at 4. The NRC Staff first cites 10 C.F.R. § 63.21(c)(9)-(14) for the proposition that DOE’s LA must consider “potential radiation exposure (1) to those workers physically located at the Yucca Mountain site, and (2) *to the general public from radiation that emanates from material physically located at the GROA.*” *Id.* at 5 (emphasis added). Quite simply, however, there is no basis in the text of the regulation cited for the limit the NRC Staff would create. The assertion that radiation must “emanate” from the GROA is pure extrapolation, and is inconsistent with the goals of the ALARA principle — which would protect the general public and offsite workers from radiation exposure *caused by* the high level waste repository design and operations as dictated by DOE.

The regulation cited by the Staff states in full that the LA must contain:

(9) An assessment to determine the degree to which those features, events, and processes of the site that are expected to materially affect compliance with § 63.113 — whether beneficial or potentially adverse to performance of the geologic repository — have been characterized, and the extent to which they affect waste isolation. Investigations must extend from the surface to a depth sufficient to determine principal pathways for radionuclide migration from the underground facility. Specific features, events, and processes of the geologic setting must be investigated outside of the site if they affect performance of the geologic repository;

(10) An assessment of the anticipated response of the geomechanical, hydrogeologic, and geochemical systems to the range of design thermal loadings under consideration, given the pattern of fractures and other discontinuities and the heat transfer properties of the rock mass and water;

(11) An assessment of the ability of the proposed geologic repository to limit radiological exposures to the reasonably maximally exposed

individual for the period after permanent closure, as required by § 63.113(b);

(12) An assessment of the ability of the proposed geologic repository to limit releases of radionuclides into the accessible environment as required by § 63.113(c);

(13) An assessment of the ability of the proposed geologic repository to limit radiological exposures to the reasonably maximally exposed individual for the period after permanent closure in the event of human intrusion into the engineered barrier system as required by § 63.113(d);

(14) An evaluation of the natural features of the geologic setting and design features of the engineered barrier system that are considered barriers important to waste isolation as required by § 63.115.

10 C.F.R. § 63.21(c)(9)-(14). These requirements relate to the content of the LA, and do not define at all the scope of application of the ALARA principle. Moreover, nowhere in the Section 63.21 criteria cited, nor in the remainder of the Commission's regulations, does it state that application of the ALARA principle (or, in other words, consideration of radiation exposures to people engaged in the disposal process) must cease at the boundary of the GROA. Nowhere in the regulations does it state that radiation must "emanate" from the GROA to be relevant to an ALARA evaluation. Indeed, with such a narrow view, as stated previously, DOE could exclude from consideration any actions that it succeeded in pushing outside the GROA. The regulation cited here by the NRC Staff is simply inapposite.

The NRC Staff next claims that the Commission's intent to limit the scope of Part 63 to workers physically located at the repository site is evidenced by the Statement of Considerations for Part 63, discussing methods for determining "total effective dose equivalent" ("TEDE") for assessing actual doses to workers at the repository. NRC Staff Brief at 5. This discussion, however, relates to the methodology for compliance with specific regulations related to occupational doses. Again, nothing in the discussion even suggests that it relates to application of the ALARA principle. Application of ALARA does not depend on the

methodology for determining actual doses. The Commission may specify in this discussion what is expected at the repository with respect to TEDE, but the discussion by no means prohibits the application of ALARA to the offsite population of concern to NEI.

The NRC Staff next argues that 10 C.F.R. § 20.2201 cannot be interpreted to require DOE to address ALARA considerations at individual plant sites, because information related to ALARA at such sites “can only be known by the [site] operator[s].” NRC Staff Brief at 6. This argument overstates the contention and overreaches in its logic. NEI is asserting that DOE must address an issue directly within the scope of DOE’s knowledge and control. DOE has elected to pursue a design specification that would unnecessarily increase radiation exposures at reactor sites. It is precisely DOE’s responsibility to evaluate whether such a design specification is necessary to meet the Commission’s regulatory requirements. Such an evaluation does not require DOE to venture into unknown, site-specific evaluations — it requires only a careful analysis of the implications of its own design. Certainly this assessment does not require, as the NRC Staff asserts, knowledge of Part 50 licensees’ ongoing Part 20 reports or any other operational information that might be generated at power plants in the future. DOE certainly knows that the disposal control rod assemblies cannot be installed without occupational exposures, and can fully evaluate that issue.

Next, the NRC Staff again relies on 10 C.F.R. § 63.111, and language in the Statement of Considerations for that regulation, as limiting consideration of ALARA to the area within the GROA. Specifically, the NRC Staff equates the language in the Statement of Considerations that “10 C.F.R. § 63.111 requires DOE to design the [GROA] to comply [with the regulatory exposure limits],” to a limitation with respect to the geographic scope of the ALARA principle to the GROA. NRC Staff Brief at 7. However, as discussed previously,

Section 63.111 is a performance objective for the repository. NEI does not dispute that DOE is required to design the GROA to comply with all regulatory exposure limits. But affirmative language to that effect from either Section 63.111 or its Statement of Considerations does not speak to DOE's separate obligation under Part 20 to evaluate the ALARA implications that its design decisions may have for populations outside of the GROA.

Furthermore, the NRC Staff suggests that Section 63.111 limits ALARA to consideration of "radiation emanating from Yucca Mountain." NRC Staff Brief at 8. However, this restriction does not appear on the face of the regulation. The NRC Staff clearly recognizes here that the ALARA principle indeed extends to doses incurred offsite (such as to members of the public). But the Staff is attempting to stretch regulatory language to create a limitation based on the point of origin of radiation. The asserted limit on the scope of ALARA simply does not exist in the language of either the regulation or the Statement of Considerations.

Finally, the NRC Staff acknowledges that under 10 C.F.R. § 63.111(a)(2), protection against radiation exposures and releases of radioactive material during normal operations extends to "any real member of the public located beyond the boundary of the site." NRC Staff Brief at 8. The Staff then turns to the definition of "member of the public" in 10 C.F.R. § 63.202, and would limit the term to "anyone who is not a radiation worker for purposes of worker protection." *Id.* Therefore, the Staff argues, "10 C.F.R. § 63.111 does not require DOE to address ALARA considerations at individual nuclear plant sites remote from the GROA in its LA." *Id.* The argument, however, is flawed.⁸

⁸ As a strict legal matter, the definitions in Section 63.202 apply only to Part 63, Subpart K, which relates only to the storage of radioactive material at the Yucca Mountain site. *See* 10 C.F.R. § 63.201. The Staff suggests (NRC Staff Brief at 8, n. 2) that "the definitions section of 10 C.F.R. Part 63, Subpart K, . . . takes precedence in the event of any conflict with 63 [*sic.*] C.F.R. Part 63, Subparts A-J." This is, quite simply, a

As addressed above, the ALARA requirement that applies here does not flow from and is not circumscribed by 10 C.F.R. § 63.111. More specifically, the ALARA requirement is principally derived from: (1) 10 C.F.R. § 20.1002, which states that Part 20 regulations apply to Part 63 licensees; and (2) 10 C.F.R. § 20.1101(b), which provides that licensees “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 as low as is reasonably achievable (ALARA).” The doses caused by the unnecessary criticality control measures are certainly both occupational doses (incurred in the Part 50 licensed context) and doses to the members of the public (relative to the repository).

The NRC Staff might suggest that Part 20 defines a “member of the public” as “any individual except when that individual is receiving an occupational dose.” 10 C.F.R. § 20.1003. However, Part 20 defines “occupational dose” as the “dose received by an individual in the course of employment in which the individual’s assigned duties involve exposure to radiation . . . except . . . as a member of the public.” *Id.* The Part 50 workers at issue in NEI-SAFETY-005 therefore are either receiving occupational doses or receiving doses as members of the public. Relative to the high level waste repository, offsite workers at Part 50 facilities could be considered “members of the public” because they are offsite and are not receiving doses within the GROA. Or, they could be considered to be receiving “occupational doses” in the course of their employment in furtherance of DOE’s specific repository design objectives. Either

misreading of 10 C.F.R. § 63.201. The statement regarding precedence of the Subpart K regulations is explicitly limited by the regulation to the purpose of “demonstrating compliance with this subpart [K].” 10 C.F.R. § 63.201. The definition has no applicability to Section 63.111. More to the point here, the definition has no applicability to the occupational exposure requirements (including the ALARA requirement) in 10 C.F.R. Part 20.

reading brings those individuals within the scope of the ALARA principle under Part 20. The regulations do not contemplate a third unprotected category. The doses that these individuals would incur because of the unnecessary criticality controls are directly linked to DOE's design decisions, are within DOE's ability to mitigate, and are within the scope of the ALARA requirement.

In addition, as discussed in Section II.A.2 above, the plain meaning of the Commission's references, in promulgating Part 63, to "the general public and workers" and "present-day populations and workers" includes all *populations* and *workers*, including those at reactor sites. 66 Fed. Reg. 55,751. Had the Commission intended to limit its consideration only to populations near, and workers at, the repository, it could have done so in the regulation. Whether Part 50 workers are part of the "general public," "workers," or a "present-day population," they should certainly be protected by the NRC's regulations and licensing process.

2. *Excess Conservatism, Unnecessary Occupational Exposures, and Unwarranted Costs Can be Considered in this Proceeding*

The NRC Staff, like DOE, argues that DOE needs to show only that it meets regulatory requirements, and not that it does so without unnecessary expenditures of resources. NRC Staff Brief at 9. The Staff focuses on the phrasing of NEI's contention, which asserts that the overly conservative postclosure criticality analysis will increase economic and environmental costs. *Id.* The Staff then addresses why economic costs are not within the scope of this proceeding. *Id.* at 9-10. The Staff's argument revisits standing issues and misses the point.

First, the NRC Staff's argument does nothing to rebut NEI's contention that conservatism and cost (*e.g.*, economic cost, environmental cost, occupational doses) can be considered inherently, in applying ALARA principles. Also, the NRC Staff's argument does nothing to rebut NEI's contention that conservatism is germane to the licensing basis of the

repository and to the question of compliance with NRC regulations. The NRC Staff, in effect, would like to reduce NEI-SAFETY-005 to a cost argument. However, while costs are a consequence of the problems with the LA that NEI asserts, the contention involves far more than simply the cost consequences of the DOE approach to meeting the criticality control requirements. For example, most fundamentally the contention involves what is necessary for compliance with the criticality control requirements.

The NRC Staff next asserts that NEI “does not allege a violation of the NWPA” and therefore the NWPA “cannot be invoked.” *Id.* at 10. At least one Licensing Board member has previously pointed out that this very proceeding derives from the NWPA. Tr. At 105, lines 13-14 (March 31, 2009). Therefore, it is incongruous for the NRC Staff to now conclude that the goals and objectives of the NWPA cannot be considered (or “invoked”) in this proceeding. Moreover, the NRC Staff concludes that “there is no legal requirement for DOE to avoid an unnecessary expenditure of resources in meeting applicable safety and environmental regulatory standards.” NRC Staff Brief at 10. However, even if this were true, this would not vitiate NEI’s contention. As discussed previously, the considerations cited by NEI must be considered under the ALARA principle — which is an applicable standard. NEI’s concerns can also be considered by the Licensing Board in its decision, in order to define the licensing basis for criticality control, even if no specific relief is compelled with respect to the LA approach.⁹

⁹ See NEI Brief at 14, n. 10.

CONCLUSION

For the foregoing reasons, the arguments of DOE and the NRC Staff should be rejected.

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Dated in Washington, D.C.
this 6th day of January 2010

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
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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 "Reply of the Nuclear Energy Institute to the Department of Energy and NRC Staff Briefs on Phase I Legal Issues" have been served upon the following persons on this 6th day of January 2010 by Electronic Information Exchange.

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