

January 6, 2010

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF REPLY TO INITIAL  
BRIEFS ON PHASE I LEGAL ISSUES

INTRODUCTION

On October 23, 2009, Construction Authorization Board-04 ("the Board") issued an Order directing the parties to brief legal issues associated with Phase I of the proceeding by December 7, 2009 and to file reply briefs by January 6, 2009. Order (Identifying Phase I Legal Issues for Briefing), dated October 23, 2009 ("October 23 Order"), adopting U.S. Department of Energy, State of Nevada and Nuclear Energy Institute Joint Proposal Identifying Phase I Legal Issues for Briefing, dated October 6, 2009 ("Joint Proposal"). On December 7, 2009, the NRC staff ("Staff")<sup>1</sup>, State of Nevada<sup>2</sup>, Department of Energy (DOE)<sup>3</sup>, and the Nuclear Energy

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<sup>1</sup> NRC Staff Brief on Phase I Legal Issues, dated December 7, 2009 ("Staff Brief").

<sup>2</sup> State of Nevada's Opening Brief on Phase I Contention Legal Issues, dated December 7, 2009 ("Nevada Brief").

<sup>3</sup> U.S. Department of Energy Brief on NEI-Safety Contention 05, dated December 7, 2009 ("DOE Issue 1 Brief"); U.S. Department of Energy Brief on Nevada Safety Contentions 009, 010, 011, 012, 013 and 019, dated December 7, 2009 ("DOE Issue 2 Brief"); U.S. Department of Energy Brief on Contention NEV-SAFETY-041, dated December 7, 2009 ("DOE Issue 5 Brief"); U.S. Department of Energy Brief on Consolidated Contentions NEV-SAFETY-146/NEVSAFETY-201, dated December 7, 2009 ("DOE Issue 6 Brief"); U.S. Department of Energy Brief on Nevada-Safety Contention 149, dated December 7, 2009 (continued. . .)

Institute (NEI)<sup>4</sup> filed initial briefs on the eleven legal issues in Phase I of the proceeding. Pursuant to the October 23 Order, the Staff's reply to the initial briefs is below.

DISCUSSION

A. Legal Issue 1 (NEI-SAFETY-005)

The legal issues presented by NEI-SAFETY-005, as admitted by the Board, are:

(1) Whether 10 C.F.R. §§ 20.1002, 20.1003, 20.1101, 50.40 and 63.111 require ALARA considerations at individual nuclear plant sites that are remote from the GROA 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. October 23 Order at 1; Joint Proposal, Attachment 1 at 1.

The Staff responds to several points in NEI's Brief on this issue below.

1. Whether 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 GROA to be addressed in DOE's LA.

NEI argues that DOE's consideration of ALARA issues outside of the GROA must include considering the effects of increased doses to nuclear workers at nuclear power plants not located in the vicinity of the repository. NEI Brief at 11. DOE opposes this view. DOE

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(. . .continued)

("DOE Issue 7 Brief"); U.S. Department of Energy Brief on Contention NEV-SAFETY-161, dated December 7, 2009 ("DOE Issue 8 Brief"); U.S. Department of Energy Brief on Contention NEV-SAFETY-162, dated December 7, 2009 ("DOE Issue 10 Brief"); U.S. Department of Energy Brief on Contention NEV-SAFETY-169, dated December 7, 2009 ("DOE Issue 9 Brief"); U.S. Department of Energy Brief on Contention NEV-SAFETY-171, dated December 7, 2009 ("DOE Issue11 Brief"); and U.S. Department of Energy Brief on Nevada-Safety Contention 202 and Post 10,000 Year Aspects of Nevada-Safety Contentions 011 and 019, dated December 7, 2009 ("DOE Issue 3 and 4 Brief").

<sup>4</sup> The Nuclear Energy Institute's Brief on Phase I Legal Issue No. 1, dated December 7, 2009 ("NEI Brief").

Issue 1 Brief at 2-8. The Staff agrees that DOE must address certain ALARA considerations at locations outside of the GROA for exposure and releases of radioactive materials from the site. See, e.g., 10 C.F.R. § 63.111(a)(2). However, there is nothing in Parts 20 or 63 that requires DOE to address ALARA considerations at nuclear plant sites remote from the GROA.

The scope of Part 63 is limited to disposal of radioactive wastes at a geological repository at Yucca Mountain, Nevada. 10 C.F.R. § 63.1. With respect to individuals outside of the GROA, the ALARA considerations that DOE must address are limited to those that affect members of the general public, including those who reside within the geographic area of Yucca Mountain. See Disposal of High-Level Radioactive Waste in a Proposed Geological Repository at Yucca Mountain, Nevada, 66 Fed. Reg. 55,731, 55,750 (Nov. 2, 2001). Members of the public are individuals other than radiation workers at the GROA. See 10 C.F.R. § 63.201 (“This subpart covers the storage of radioactive material by DOE in the Yucca Mountain repository and on the Yucca Mountain site.”); 10 C.F.R. § 63.202 (A “member of the public” is “anyone who is not a radiation worker for purposes of worker protection”); 10 C.F.R. § 63.111(a)(2) (applies to a “real member of the public”). Similarly, Part 20 defines “member of the public” as “any individual except when that individual is receiving an occupational dose.” 10 C.F.R. § 20.1003.

Because exposures to nuclear power plant workers occur at locations remote from the GROA and do not result from a release of radioactive materials from the GROA, plant workers are neither radiation workers nor members of the public who would receive a dose from the repository. Therefore, DOE is not required to address ALARA considerations for doses to workers at nuclear power plants.

NEI also argues that because 10 C.F.R. § 63.111 “is not phrased as a limit” and because the GROA must meet the requirements of Part 20, 10 C.F.R. §§ 20.1002 and 20.1101(b) require DOE to address ALARA considerations at sites that are remote from Yucca Mountain. NEI Brief at 10.

10 C.F.R. § 20.1002 specifies, in pertinent part, that Part 20 regulations apply to persons licensed to “receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material” under 10 C.F.R. Part 63. Although this language makes Part 20 applicable to the proposed Yucca Mountain repository, 10 C.F.R. § 20.1101(b) requires licensees to “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 references to “occupational doses” in 10 C.F.R. § 20.1101(b) means doses received by workers in the course of their employment in which the assigned duties involve exposure to radiation or radioactive material, whether in the possession of the licensee or other person. 10 C.F.R. § 20.1003. However, 10 C.F.R. § 20.1201 directs licensees to control the occupational dose to individuals, which indicates that Part 20 limits a licensee’s consideration of occupational dose to its own workers because licensees cannot control the individual doses received by workers at facilities owned by other licensees. There is nothing in Parts 20 or 63 directing DOE to account for occupational doses at the facilities of other licensees.

NEI argues that, if doses caused by the repository design or operations were excluded from ALARA simply because the doses were remote from the GROA, DOE could avoid consideration of direct impacts from the repository “by shifting any number of operational activities away from the GROA to reactor (or other) locations.” NEI Brief at 10. NEI does not specify what operational activities could be shifted from the GROA to another site. However, there is no regulatory gap because reactor (and other) licensees must also comply with Part 20 and follow the ALARA principle. See 10 C.F.R § 20.1002.

Consequently, the Board should reject NEI’s argument that DOE’s LA must address ALARA considerations at individual nuclear plant sites remote from the GROA.

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.

NEI argues that the allegedly excessive conservatism of DOE's postclosure criticality analysis will lead to unnecessary occupational radiation exposures, economic and environmental costs. See NEI Brief at 1-2, 11-14. NEI argues that "DOE must demonstrate that there are no unnecessary expenditures associated with the proposed design." *Id.* at 12.

NEI cites *Yankee Atomic Energy Co.* (Yankee Nuclear Power Station), CLI-96-01, 43 NRC 1 (1996), for the proposition that "[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." NEI Brief at 13. In *Yankee*, the petitioners sought to require the licensee to choose a higher-cost decommissioning option because "'significant dose savings' could be achieved by 'cost effective measures.'" *Yankee Nuclear Power Station*, 43 NRC at 7.

NEI is correct that ALARA considerations involve, in part, a balancing of the economics of improvements in relation to the "benefits to the public health and safety and other societal and socioeconomic considerations." 10 C.F.R. § 20.1003. However, nothing in *Yankee* indicates that the Commission will direct a license applicant to reduce a safety margin in order to avoid unnecessary expenditure of human, economic or environmental resources.

If an element of DOE's design is needed to provide adequate protection of public health and safety, ALARA considerations would not override that design feature. See 10 C.F.R. § 20.1003 (ALARA "means making every reasonable effort to maintain exposures to radiation *as far below the dose limits* in [Part 20] as is practical"). To the extent that a design feature is needed to satisfy the post-closure dose standard, ALARA would not apply. See 66 Fed. Reg. at 55,751, 55,763. Whether or not the portion of DOE's proposal that NEI challenges is needed

for adequate protection is a matter yet to be determined.

“The ALARA principle deals with optimizing the reduction of potential doses from radiation to members of the general public and workers.” 66 Fed. Reg. at 55,751. ALARA does not require consideration of whether a specific expense is “unnecessary.” Although ALARA considerations involve weighing costs and benefits of achieving further dose reductions from regulatory limits, they should not be used as a vehicle to second guess every aspect of a license applicant’s proposal.

If the Board were to conclude that DOE is required to demonstrate that the proposed repository meets applicable regulatory standards without any unnecessary expenditure of resources, DOE’s application would be subject to challenge by parties claiming that all aspects of proposed activities could be accomplished by less costly means and could run afoul of the Commission’s statement that evaluation of alternative designs is not required. 66 Fed. Reg. at 55,748-49. (“[T]he Commission no longer believes [that information regarding the evaluation of alternative designs] should be submitted with a license application . . .”).

Although ALARA involves weighing public benefits against the costs to achieve those benefits, the Board should find that DOE is not required to demonstrate that the proposed repository meets applicable regulatory standards without any unnecessary expenditure of resources.

B. Legal Issue 2 (NEV-SAFETY-009, -010, -011, -012, -013, -019)

Legal Issue 2, as framed by DOE, Nevada, and NEI, and accepted by the Board, is

Whether 10 C.F.R. § 63.305 requires DOE to project future levels of anthropogenic greenhouse gas emissions such as CO<sub>2</sub> and evaluate the impact of these gases on future climate at Yucca Mountain in the 10,000-year performance assessment, or whether it is sufficient under that regulation for DOE to analyze the effects of anthropogenic greenhouse gas emissions on future climate based upon the historical geologic record.

Joint Proposal, Attachment 1 at 1; October 23 Order at 1.

Nevada argues that the plain language of 10 C.F.R. § 63.305(c) requires DOE to vary factors related to climate based upon cautious, but reasonable assumptions subject only to the requirements of 10 C.F.R. § 63.342, and that the sections in 10 C.F.R. § 63.342 applicable to the 10,000-year total system performance assessment (TSPA), (a) and (b), do not include anything relevant to anthropogenic greenhouse gas emissions. Nevada Brief at 2-3. Nevada asserts that these subsections do not allow DOE “to specify climate change processes based solely upon the historical geologic record.” *Id.* Nevada claims that the interplay of 10 C.F.R. §§ 63.305 and 63.342(c) must be considered, and it would be “bizarre” for the Commission to account for the effects of anthropogenic greenhouse gas emissions on climate in the post 10,000-year TSPA but to forbid any considerations of these processes before then, when the effects are likely to be greater. *Id.* at 4. As explained in the Staff Brief, 10 C.F.R. § 63.305 does not forbid consideration of greenhouse gas emissions, but it does not require DOE to project future greenhouse gas emissions either. See Staff Brief at 11-12 (citing 10 C.F.R. § 63.305; Implementation of a Dose Standard After 10,000 Years, 74 Fed. Reg. 10,811, 10,829 (Mar. 13, 2009) (to be codified at 10 C.F.R. § 63.305(c))). Section 63.305 does not mandate specific climate change factors that must be addressed; rather, it gives DOE the flexibility to directly include factors or to address those factors through performance-based arguments. Staff Brief at 12 (citing Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 66 Fed. Reg. 55,732, 55,736-37 (Nov. 2, 2001)).

Finally, Nevada argues that “[t]he relevant regulatory history does not offer anything that would counter the plain language of the regulation.” Nevada Brief at 4. As discussed in the Staff Brief, the regulatory history demonstrates that DOE may address the effects of anthropogenic greenhouse gas emissions on repository performance by using climate data in the geologic record. See Staff Brief at 11-15; see also, e.g., 66 Fed. Reg. at 55,757; 74 Fed. Reg. at 10,820-23. Therefore, the Board should conclude that 10 C.F.R. § 63.305 does

not require DOE to follow a specific methodology and allows DOE to analyze the effects of anthropogenic greenhouse gas emissions on future climate based upon the historical geologic record.

C. Legal Issue 3 and 4 (NEV-SAFETY-011 and -019)

The Staff interprets Legal Issues 3 and 4 to be as follows:

Does § 63.342(c) require climate-change processes included as FEPs [features, events, and processes] in the TSPA for the first 10,000 years to be carried forward for the post 10,000-year period?

See Joint Proposal, Attachment 1 at 2-3; October 23 Order at 1.

Nevada argues that the plain language of 10 C.F.R. § 63.342(c) requires DOE's performance assessment to project the continued effects of the features, events, and processes included for the 10,000-year performance assessment through the next 990,000 years. Nevada Brief at 6-7. Nevada points to the "and also" in 10 C.F.R. § 63.342(c) as evidence that the rule requires DOE, in the post 10,000-year period, to include FEPs used in the 10,000-year performance assessment as well as assess effects of seismic and igneous scenarios, climate change, and corrosion even if they were not included in the 10,000-year assessment. *Id.* at 7. Nevada argues that its interpretation "is not inconsistent with the specification of climate change FEPs in 10 C.F.R. § 63.342(c)(2)" because subsection (c)(2) provides only that climate change FEPs "may" be limited, not that they "must" be so limited. *Id.* Nevada asserts, without citation, that 10 C.F.R. § 63.342(c)(2) serves the limited purpose of assuring that at least one climate change FEP is included in the post 10,000-year assessment if all others have been excluded from the 10,000-year assessment based on low consequence. *Id.* The Staff Brief addresses the language and context of the rule, including the "and also" language, and concludes that 10 C.F.R. § 63.342(c)(2) is intended to limit the general direction to carry forward FEPs from the initial 10,000-year performance assessment. See Staff Brief at 16-19.

Nevada also argues that the regulatory history of the NRC and Environmental Protection

Agency (EPA) rules supports its interpretation that FEPs included in the initial 10,000-year period performance assessment will also be included in the post 10,000-year performance assessment. Nevada Brief at 7-8 (citations omitted). As explained in the Staff Brief, DOE generally must carry forward included FEPs from the initial performance assessment through the post 10,000-year period performance assessment. See Staff Brief at 17-18. However, 10 C.F.R. § 63.342(c) contains “additional constraints” for the inclusion of climate change in the performance assessment for the post 10,000-year period. *Id.* (citing 74 Fed. Reg. at 10,813). With respect to climate change, DOE may limit its analysis to the effects of increased water flow through the repository. Staff Brief at 18 (citing 10 C.F.R. § 63.342(c)(2); 40 C.F.R. § 197.36(c)(2); 74 Fed. Reg. at 10,813). Therefore, the Board should conclude that 10 C.F.R. § 63.342(c) does not require climate change processes included as FEPs in the TSPA for the first 10,000 years to be carried forward for the post 10,000-year period.

D. Legal Issue 5 (NEV-SAFETY-041)

Admitted contention NEV-SAFETY-041, “Erosion FEP Screening,” raises the legal issue of whether 10 C.F.R. § 63.342(c) requires the post 10,000 year performance assessment to include the continued effects of erosion if there is no showing that erosion causes increases in radiological exposures or releases within the first 10,000-years. October 23 Order at 1; see *also* Joint Proposal, Attachment 1, at 3; see *also* Staff Brief at 19-23. In its brief, Nevada argues that Part 63 prohibits the screening out of a FEP on the basis of low consequence if the FEP will affect an “intermediate performance measure that can be linked to radiological exposure or radionuclide release.” Nevada Brief at 10. Nevada’s argument, however, does not address the assumption in this legal issue that removes the FEP from consideration in the performance assessment pursuant to 10 C.F.R. § 63.342(c) because it will not result in increased releases or exposure during the initial 10,000 year period. Thus, Nevada’s argument does not overcome the exclusion of erosion from the post 10,000 year assessment, and the Board should conclude

that § 63.342(c) does not require the post 10,000 year performance assessment to include the continued effects of erosion.

Nevada cites to 10 C.F.R. § 63.102, “Concepts,” in support of its argument that this FEP should have been included in the assessment for the first 10,000 years, and therefore included in the post 10,000 year assessment. See Nevada Brief at 10. In particular, Nevada relies upon text in § 63.102(j) providing that “[t]hose features, events, and processes expected to materially affect compliance with § 63.113(b) or be potentially adverse to performance are included [in the first 10,000 year assessment] . . . .” *Id.* (citing 10 C.F.R. § 63.102(j)). Nevada argues that because this legal issue assumes that in “the 10,000-year assessment erosion is shown to increase infiltration and seepage rates and thereby be potentially adverse to performance,” this FEP must be included in both the initial 10,000 year assessment and post 10,000 year assessment. Nevada Brief at 11. But this conclusion does not follow from the assumptions in the stated legal issue, and ignores the provisions of § 63.342.

This legal issue contains the assumption that “there is no showing that erosion causes increases in radiological exposures or releases within the first 10,000-years.” October 23 Order at 1; see *also* Joint Proposal, Attachment 1, at 3. Thus there are no actual adverse effects from erosion in the initial 10,000 year period, and the FEP can be screened out (for the purposes of this legal issue, given stated assumptions) pursuant to § 63.342(a), which provides that “DOE’s performance assessments need not evaluate the impacts resulting from any features, events, and processes or sequences of events and processes . . . if the results of the performance assessments would not be changed significantly in the initial 10,000-year period after disposal.”

Nevada’s reliance on § 63.102(j) is misplaced. That section is part of the “functional overview” presented in 10 C.F.R. § 63.102. The controlling and explicit provisions of § 63.342 provide for the exclusion of FEPs that would not change the results of the performance assessment. Because this legal issue contention assumes no showing of increased radiological

release or exposure in the initial 10,000-year period, FEP 1.2.07.01.0A need not be included in the post 10,000-year assessment under 10 C.F.R. § 63.342.

Nevada's contention raises an issue with respect to infiltration rates due to erosion in the post 10,000 year performance period. See Nevada Brief at 11. But Nevada's position, requesting the use of increased percolation rates in TSPA, ignores the regulation that enables DOE to use a specified deep percolation rate to model climate change for the post 10,000 year performance assessment. See 10 C.F.R. § 63.342(c)(2) ("The constant-in-time deep percolation rates to be used to represent climate change shall be based on a lognormal distribution with an arithmetic mean of 41 mm/year (1.6 in./year) and a standard deviation of 33 mm/year (1.3 in./year). . . .") Thus, even if the Board agrees with Nevada's arguments and requires DOE to evaluate the continued effects of erosion in the post 10,000 year performance assessment, the rule would allow DOE to use the specified deep percolation rate.

Therefore, the Board should find that § 63.342(c) does not require the consideration of erosion in the post 10,000-year performance assessment, and that consideration of FEP 1.2.07.01.0A in the post 10,000 year performance assessment cannot be used to overrule Commission regulations permitting a specified the deep percolation under the circumstances present. See 10 C.F.R. § 2.335.

E. Legal Issue 6 (NEV-SAFETY-146 and -201)

Legal Issue 6 concerns "[w]hether, under 10 C.F.R. Part 63, DOE is required to provide and rely upon final design information in the [License Application]." Joint Proposal, Attachment 1 at 3. The Staff responds to several points in Nevada's brief on Legal Issue 6 below.

In its brief, Nevada argues that both the text and history of the regulations in 10 C.F.R. Part 63 show that an applicant may not include preliminary design information in a license application to be reviewed by the NRC for the purpose of granting a construction authorization for a repository at Yucca Mountain. See Nevada Brief at 12, 20. However, Nevada's

arguments ignore the fact that Part 63 is a risk-informed, performance based regulation that calls for different levels of information for different topics within the license application.

In part, Nevada relies on the fact that Part 63 does not contain a similar provision that would allow the NRC to grant a construction authorization with "non-conformitory" safety issues left unresolved. Nevada Brief at 13 (citing 10 C.F.R. § 50.35). Nevada is correct; an applicant must provide sufficient information for the NRC to make the safety findings required by 10 C.F.R. § 63.31 at the time of issuance of a construction authorization. See 66 Fed. Reg. at 55,738-39. Although the findings required by § 63.31 may not be delayed until the NRC considers whether to issue a license to receive and possess waste, the level of information that is "sufficient" to make these findings will vary based on the risk significance of the individual topics being considered.<sup>5</sup> See Yucca Mountain Review Plan, NUREG-1804, Rev. 2, Final Report, 68 Fed. Reg. 45,086-87 (July 31, 2003). Thus, detailed, finalized design information may not be required for all topics at the construction authorization stage of the proceeding.

Nevada also cites the regulatory history of 10 C.F.R. Part 60, the precursor to Part 63, as support for the assertion that an applicant must submit *only* final design information in support of its license application at the construction authorization stage of the proceeding. Nevada Brief at 17-19. However, the information cited by Nevada actually provides further support for notion that, per the NRC's policy related to risk-informed, performance based regulation, different levels of detail may be required to properly address different topics within the license application. 68 Fed. Reg. at 45,086-87; *see also* 66 Fed. Reg. at 55,743.

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<sup>5</sup> In addition, Nevada does not account for 10 C.F.R. § 63.44, which outlines the process by which DOE, if a construction authorization is granted, may make changes to the information included in the Safety Evaluation Report submitted in support of its license application. This provision would allow DOE to make changes to design information that was considered final at the time the license application was filed.

Nevada notes that during the development of the precursor to the Licensing Support Network, the Licensing Support System (LSS), the Commission summarized the licensing process for the proposed repository and stated that "the information [needed] in order to be able to consider the issuance of a construction authorization is generally the same as will be needed prior to the issuance of a license to receive and possess HLW [high level waste]." Nevada Brief at 19-20 (quoting 53 Fed. Reg. 44,411, 44,414 (Nov. 3, 1988)). However, the Commission's summary of the licensing process also recognized that the approval of a construction authorization and issuance of a license to receive and possess waste are two separate activities subject to separate reviews, with other information being reviewed in "a license application amendment"<sup>6</sup> available at the time of issuing a license to receive and possess. 53 Fed. Reg. at 44,414; *see also* 66 Fed. Reg. at 55,738-39. Further, the discussion of the requirements of Part 60 was included in the overall discussion of the LSS because the Commission believed it would be "useful to summarize the Commission's HLW licensing process," for which the LSS was being developed. *Id.* There is nothing in the statement of consideration (SOC) for the LSS rule indicating that the brief summary of the HLW licensing process was intended to supersede the Commission's statements in promulgating Part 60 or Part 63. *See Disposal of High-Level Radioactive Wastes in Geologic Repositories: Licensing Procedures*, 46 Fed. Reg. 13,971, 13,974 (Feb. 25, 1981); 66 Fed. Reg. at 55,738-39.

During the actual development of Part 60, the NRC recognized that some information would by its nature be preliminary at the construction authorization stage. *See Final Rule – 10 CFR Part 60, "Disposal of High-Level Waste in Geologic Repositories – Licensing*

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<sup>6</sup> The term "license application amendment," does not appear in 10 C.F.R. Part 60. It seems that the Commission was referring to the license application update required by 10 C.F.R. § 60.24.

Procedures," SECY-80-474, dated October 17, 1980, Attachment B at 85-87 (NRC000024671). However, as Nevada notes, Nevada Brief at 17, the Commission stressed that "if the issue [being addressed] is one that is important at the construction authorization stage, the 'reasonably available' standard is intended to require DOE to develop and provide information in detail." SECY-80-474, Attachment B at 86. This statement by the Commission, as well as other regulatory history cited by Nevada, supports the Staff's assertion that, because 10 C.F.R. Part 63 is a risk-informed, performance based regulation, whether a license application must include detailed, final information on a given topic, including design, is dependent on that topic's safety significance.

In closing, Nevada argues that Legal Issue 6 should be resolved in Nevada's favor or all contentions related to the sufficiency of design information in the license application would have to be resolved as a technical dispute. Nevada Brief at 21. Individual technical resolution of contentions related to the sufficiency of design information is precisely the outcome required by the regulations. Because Part 63 is not a prescriptive regulation, the amount of detail required to satisfy the construction authorization requirements of 10 C.F.R. § 63.31 will vary depending on the risk significance of each individual topic. Therefore, technical judgment based on the level of risk is needed to determine the level of detail required to support a particular topic, and any contention concerning whether the license application contains sufficient design information must be resolved as a technical dispute. For the above reasons, the Board should resolve Legal Issue 6 against Nevada.

F. Legal Issue 7 (NEV-SAFETY-149)

The legal issue for contention NEV-SAFETY-149 is "[w]hether, under 10 C.F.R. § 63.114, DOE may rely upon its quality assurance (QA) program and procedures as a basis for excluding from consideration in the TSPA, potential deviations from repository design or errors in waste emplacement." October 23 Order at 1; see *also* Joint Proposal, Attachment 1

at 4; see *also* Staff Brief at 31-36.

In its brief, Nevada argues that DOE wrongly screened out this FEP as “one of the legal benefits that supposedly flows from having a compliant and properly functioning quality assurance program.” Nevada Brief at 22. Nevada also argues that a QA program cannot be relied upon to support a FEP screening decision, noting that no provision of Part 63 explicitly provides for use of a QA program in support of FEP screening decisions. Nevada Brief at 23-24. However, as discussed below, Nevada’s complaint that DOE’s QA program does not support the claimed low probability used by DOE to screen out FEP 1.1.03.01.0A goes to the merits of DOE’s screening decision, not to whether DOE may rely upon its QA program and procedures in support of that decision. Nevada’s argument that no other grounds than those explicitly referenced in Part 63 are permitted to support FEP screening decisions confuses the reasons for a FEP screening decision, which are explicitly enumerated in Commission regulations, see 10 C.F.R. § 63.342(a), and the technical basis provided in support of that screening decision, see 10 C.F.R. § 63.114(a)(5), which is not so prescribed.

In its brief, Nevada refutes a theory it attributes to DOE, i.e., that this FEP was screened out based upon a legal or regulatory theory. See Nevada Brief at 22. But DOE, in its answer to Nevada’s petition to intervene, clarified the basis for excluding this FEP by citing to a correction report issued prior to submittal of DOE’s License Application.<sup>7</sup> In the cited report, DOE indicated that this FEP was excluded on the basis of “low consequence.” See Scientific Analysis/Calculation Error Resolution Document ANL-WIS-MD-000027 ERD 01, dated May 23, 2008; LSN#DEN001595379. In arguing against DOE’s “legal theory” exclusion, Nevada claims

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<sup>7</sup> See Answer of the US Department of Energy to the State of Nevada’s Petition to Intervene, dated January 16, 2009, at 1381-82; see *also* U.S. Department of Energy Brief on Nevada-Safety Contention 149, dated December 7, 2009, at 3 n. 6.

that the probability of an error in waste emplacement requires inclusion of this FEP, and that it was erroneously screened out. Nevada Brief at 23. But the legal issue for briefing in this contention is whether DOE may rely upon its QA program in support of its decision, not whether that support is adequate. Nevada's argument that the probability of this FEP occurring requires its inclusion goes to the merits of DOE's screening decision, not the method.

While the Staff takes no position as to whether DOE has adequately supported this FEP screening decision, Nevada's argument that DOE's QA program is insufficient support for its FEP screening decision does not support Nevada's conclusion that DOE may not rely upon its QA program and procedures "as a basis," see Joint Proposal, Attachment 1 at 4, for its "low consequence" FEP screening decision.

Nevada next argues that because the Commission paid considerable attention to the FEP exclusion process, it should be assumed that the grounds for FEP exclusion listed in Part 63 is exclusive; that no others are permitted. Because there is no indication in these regulations that human errors are excluded *per se*, or that QA *per se* may be a basis for excluding any event, Nevada concludes that DOE's FEP screening decision was erroneous. Nevada Brief at 23-24. Nevada's conclusion is unsupported. Section 63.114(a), "Requirements for performance assessment," provides in part that the initial 10,000 year performance assessment must "[p]rovide the technical basis for either inclusion or exclusion of specific [FEPs] in the performance assessment." 10 C.F.R. § 63.114(a)(5). Contrary to Nevada's assertion, there is no provision in § 63.114 that restricts the grounds upon which DOE may rely in support of a screening decision, other than requiring a "technical basis" for inclusion or exclusion of the FEP. *Id.*

The reason for a FEP screening decision must be distinguished from the basis of support for that reason. For example, DOE may use only "low probability" or "low consequence" as reasons for screening out a FEP, 10 C.F.R. § 63.342(a), (b), but is not restricted in the type

of information that it may cite as a basis for its “low probability” or “low consequence” FEP screening decision. 10 C.F.R. § 63.114(a)(5). This is consistent with the risk-informed, performance-based regulation scheme implemented in Part 63, based on the likelihood and potential consequences of future events. See “Risk Insights Baseline Report,” April 2004 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML040560162) (Licensing Support Network (LSN) Accession No. NRC000028334), at 6. In other words, DOE may offer any information it chooses in support of a decision excluding or including a FEP, as long as the information provides the Staff with an adequate technical basis to judge the likelihood and potential consequences of FEP occurrence. Here, DOE has excluded FEP 1.1.03.01.0A for low consequence, one of the permitted reasons for exclusion under § 63.342(a). See Answer of the U.S. Department of Energy to the State of Nevada’s Petition to Intervene, dated January 16, 2009, at 1381-82. DOE refers to its QA program and procedures not as the basis for screening out the FEP, but as part of its technical basis in support of the low consequence screening decision. *Id.* at 1382.

In summary, Nevada’s arguments go to the merits of whether DOE’s reliance upon its QA program is adequate, but not to the issue for briefing here, i.e., whether DOE’s QA program can be relied upon in support of its FEP screening decision. Nevada also confuses the reason for a FEP screening decision (e.g., low consequence) and the technical basis supporting that decision (e.g., a QA program or a topical report).

Therefore, because NRC regulations do not prevent use of DOE’s QA program and procedures as a technical basis for TSPA FEP screening decisions, and because Nevada fails to proffer reasons that legally preclude that reliance, the Board should find that DOE may rely upon its QA program and procedures as technical bases in support of FEP screening decisions.

G. Legal Issue 8 (NEV-SAFETY-161)

The legal issue presented by this contention, as admitted by the Board is whether, under

NWPA § 121(b)(1)(B), 42 U.S.C. 10141 ("NWPA § 121"), or 10 C.F.R. §§ 63.113 (a) - (d) and 63.115(a) - (c), DOE is required to evaluate the absence or failure of all drip shields. October 23 Order at 1; Joint Proposal, Attachment 1 at 4. It is the Staff's view that these statutory and regulatory provisions do not require DOE to evaluate the absence or failure of all drip shields.

DOE claims that requiring it "to evaluate the failure to install the drip shields (which are an integral part of DOE's design) is effectively the same as requiring DOE to evaluate an alternative design" contrary to the language of Part 63 and the Commission's stated intent. DOE Issue 8 Brief at 4. In the SOC accompanying Part 63, the Commission clarified that evaluation of alternative designs was not required. See 66 Fed. Reg. at 55,748-49 ("[T]he Commission no longer believes [that information regarding the evaluation of alternative designs] should be submitted with a license application . . ."). Thus, except for the required evaluation of complete drip shield failure in the performance assessment, pursuant to 10 C.F.R. § 63.342, the Staff is of the view that DOE is not required to evaluate the absence or failure of all drip shields.

The Commission twice declined the opportunity to require DOE to evaluate the absence or failure of all drip shields in any other circumstances. First, in promulgating Part 63, the Commission adopted a single quantitative performance goal focused on overall system performance and stated that its approach was not a "barrier-by-barrier" performance assessment. See 66 Fed. Reg. at 55,759. Under this approach, overall system performance, treated as an integrated whole, determines compliance or noncompliance with applicable safety standards. See *id.*

The D.C. Circuit considered the Commission's approach<sup>8</sup> and found it legally

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<sup>8</sup> The court evaluated this approach in the context of waste package performance: the waste (continued. . .)

acceptable. See *Nuclear Energy Institute, Inc. v. Environmental Protection Agency*, 373 F.3d 1251 (D.C. Cir. 2004). The court found that although NWPA § 121 required the Commission to adopt technical requirements and criteria providing for a system of multiple barriers, NWPA §121 did not require that each barrier type provide an individually quantified amount of protection or independent protection. *Id.* at 1295.

Second, in the SOC accompanying the 2009 revision to 10 C.F.R. Part 63, the Commission again confirmed that “[t]he emphasis should not be on the isolated performance of individual barriers but rather on ensuring the repository system. . . is not wholly dependent on a single barrier” and that DOE’s proposed barrier system will be evaluated as an integrated whole “without unnecessary constraints imposed by separate, additional subsystem performance requirements.” 74 Fed. Reg. at 10,826.

Consequently, the Board should answer this legal issue in the negative, and conclude on the basis of an analysis of the relevant court precedent and regulatory history, that neither NWPA nor 10 C.F.R. Part 63 require DOE to evaluate the absence or failure of all drip shields.

H. Legal Issue 9 (NEV-SAFETY-169)

The legal issue presented by this contention as admitted by the Board is “[w]hether 10 C.F.R. §§ 63.21(c)(7) and 63.31 allow DOE to submit in the LA a description of its retrieval plans without having a full retrieval plan available for review.” See October 23 Order at 2. Nevada’s brief questions whether DOE has provided the necessary level of detail required in its description of plans for waste retrieval. Nevada Brief at 32-33. Nevada cites the SOC for

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(. . .continued)

package is an engineered barrier designed to provide primary protection from radiation emitted by HLW. 373 F.3d at 1261.

Part 63, 66 Fed. Reg. at 55,743, and argues that the Staff cannot conduct the contemplated “extensive, detailed review” on a description of a retrieval plans and argues that the full plans must be submitted instead. Nevada Brief at 32-33.

Nevada’s argument is incorrect because the plain language of the regulations does not require that DOE submit full retrieval plans in the license application. Section 63.21(c)(7) reads: “The Safety Analysis Report must include . . . (7) A *description of plans* for retrieval and alternate storage of the radioactive wastes, should retrieval be necessary.” 10 C.F.R. § 63.21(c)(7) (emphasis added). Despite the plain language of the regulation, Nevada suggests that the SOC for Part 63, 66 Fed. Reg. at 55,743, creates an apparent ambiguity by arguing that the regulations require DOE to submit detailed retrieval plans rather than a description of the plan. Nevada Brief at 33. However, when “the meaning of the regulation is clear and obvious, the regulatory language is conclusive” and a Board is “not free to go outside the express terms of an unambiguous regulation to extrinsic aids such as regulatory history.” *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), LBP-95-17, 42 NRC 137, 145 (1995). Thus, because the language of § 63.21(c)(7) states that DOE need only provide a description of plans for retrieval, the Board should find that DOE may submit in the LA a description of its retrieval plans without having a full retrieval plan available for review. The Staff notes that the level of detail necessary in a description of retrieval plans may, and probably will, vary depending upon the stage of the Staff’s review. The Commission has articulated an expectation in the regulations and the regulatory history that DOE will update its LA to provide “sufficient information to support [the relevant review] stage.” 66 Fed. Reg. at 55,738-39. *See also*, 10 C.F.R. § 63.24(b)(4) (requiring DOE to update its LA to include relevant information that was not available during the CA review). DOE has also stated its intent to provide sufficiently detailed information to support the requirements of the LA review process. *See, e.g., id.* at 55,738 (“DOE commented that it intends to provide a sufficient level of information to allow the

NRC to make a finding of reasonable assurance at the time of the construction authorization in accordance with § 63.31”). Exactly what information is “sufficient” for the Staff to reach the findings required at each stage of the LA is a question of fact; the Staff takes no position on the sufficiency of DOE’s submitted information until the Commission has received, and the Staff has completed its review of, each stage of DOE’s LA.

I. Legal Issue 10 (NEV-SAFETY-162)

Contention NEV-SAFETY-162, “Drip Shield Installation Schedule,” raises a question of whether the Staff’s construction authorization (CA) review must, under 10 C.F.R. § 63.31(a)(2), consider whether it will be impossible to make the preoperational finding in 10 C.F.R. § 63.41(a) that any underground storage space required for initial operation, are substantially complete. October 23 Order at 2; *see also* State of Nevada’s Legal Issue for NEV-SAFETY-162 (October 6, 2009); Staff Brief at 42-47. Nevada’s arguments in its brief focus on Commission requirements in 10 C.F.R. § 63.41 which concern issuance of a license to receive and possess (LRP) source, special nuclear, or byproduct material. *See* Nevada Brief at 37-38. Nevada asserts that the Commission must decide, during this CA licensing proceeding, whether construction of underground storage space required for initial operation is substantially complete, as required by 10 C.F.R. § 63.41(a)(2), before the installation of the drip shields. *Id.* at 37.

Nevada’s arguments are not relevant to this proceeding because they prematurely invoke LRP requirements that do not apply to issuance of a CA. Also, Nevada’s characterization of the substantial completeness requirements in 10 C.F.R. § 63.41, *see* Nevada Brief at 39-40, is incorrect. The Staff does not dispute that the Commission must decide, prior to issuing an LRP, whether construction of underground storage space required for initial operation is “substantially complete” in accordance with 10 C.F.R. § 63.41(a)(2). This finding, however, is not required for issuance of a CA. *See* 10 C.F.R. § 63.31. The Board,

therefore, should conclude that the Staff's CA review need not, under 10 C.F.R. § 63.31(a)(2), consider the preoperational LRP finding in 10 C.F.R. § 63.41(a)(2).

Nevada's brief concedes that it would ordinarily "make no sense to be concerned about the status of construction completion at the pre-construction stage, because no construction is to be completed at this point." Nevada Brief at 37. Nevada asserts, however, that "we know now, at the pre-construction stage, that a factual finding related to construction completion and required to be made before operation can commence cannot possibly be made," that its conclusion makes "logical sense," and that any other result is "irrational." *Id.* Nevada, however, does not support its position with references to regulations or regulatory history supporting the claim that the Commission should apply LRP licensing criteria in this CA proceeding. Nevada also does not explain how it "knows now" that emplacement of the drip shields after waste emplacement will prevent the Commission from finding that underground storage is not substantially complete for initial operations. See 10 C.F.R. § 63.41(a)(2).

Contrary to Nevada's assertions, the Staff does not "know now" that DOE can or cannot satisfy the requirements of 10 C.F.R. § 63.41 in an updated license application. The Commission has neither received an updated license application seeking an LRP, nor has the Staff reviewed one. See 10 C.F.R. § 63.24 ("DOE shall update its application . . . before issuance of a [LRP]"). Nevada's reading of Commission regulations would require a regulatory finding pursuant to § 63.41 for an application update that the Commission has not yet received. Such a reading contravenes the licensing scheme set out by Part 63: Section 63.31, "Construction authorization," governs issuance of a construction authorization, and § 63.41, "Standards for issuance of a license," governs issuance of a LRP. Further, even assuming for the sake of argument that Nevada is somehow correct, and that the regulations require the Commission, at the CA stage, to make findings pursuant to § 63.41, a LRP requirement is rendered superfluous for a LRP review. This is because no finding pursuant to § 63.41 would

be required during a LRP proceeding because the Commission would have already made that finding during the CA phase. This reading also contravenes Commission rules of regulatory construction. See Staff Brief at 44 (citing *Hydro Resources, Inc.* (P.O. Box 777 Crownpoint, NM 87313), CLI-04-11, 63 NRC 483, 491 (2006)). The Board should therefore reject Nevada's proposed regulatory construction.

Nevada also (1) likens DOE's proposed installation of drip shields after emplacement of wastes to allowing a reactor to operate at full power, but postponing installation of loss-of-coolant accident equipment, and (2) claims waste emplacement (like reactor decay heat buildup) may be irrevocable due to "prohibitively expensive" economic costs or person-rem costs. See Nevada Brief at 35 n.5. Nevada's analogy is inapposite because Nevada assumes, without support, that drip shields are needed for initial operation, and because Nevada speculates that wastes will not be retrievable, contrary to the requirements of 10 C.F.R. § 63.21(c)(7) and § 122 of the Nuclear Waste Policy Act of 1982, as amended, 42 U.S.C. § 10142 ("any repository . . . shall be designed and constructed to permit the retrieval of any . . . spent nuclear fuel placed in such repository . . . for any reason pertaining to the public health and safety, or the environment"). Nevada also overlooks statutory and regulatory requirements that any CA shall include conditions necessary to protect public health and safety, and that the retrieval period is evaluated as part of the CA licensing process. See 10 C.F.R. § 63.32; NWPA § 122. Thus, Nevada's analogy is not persuasive.

Nevada next argues that there is no regulatory history directly on point "because NRC never imagined that . . . a definitive safety finding would be made[] only after all of the wastes had been disposed." Nevada Brief at 38. But the rulemaking history Nevada cites shows that DOE has "flexibility to plan its repository operations" and that the Commission has formulated a multi-stage licensing process for the express purpose of judging safety issues during the appropriate phase. See 66 Fed. Reg. at 55,739 ("[T]he regulations . . . provide the necessary

flexibility for making licensing decisions consistent with the amount and level of detail of information appropriate to each licensing stage.”). See *also* NRC Staff Brief at 24-28. Thus, Nevada’s position is incorrect because licensing reviews pursuant to §§ 63.31 and 63.41, respectively, are distinct, and a decision as to whether DOE satisfies the requirements of 10 C.F.R. § 63.41 should await an updated license application for the license that § 63.41 governs, the LRP.

Nevada also argues that the requirement that DOE monitor performance of engineered systems and components in the performance confirmation program, 10 C.F.R. § 63.131(a)(2), is evidence of the Commission’s intent that drip shields be installed “well before permanent closure so that useful data about their functioning could be obtained.” Nevada Brief at 37. But § 63.131(a) requires the performance confirmation program to provide data of the function of engineered systems and components “where practicable,” and § 63.131(b) requires that “[the performance confirmation] program must have been started during site characterization, and it will continue until permanent closure.” Section 63.131 does not require DOE to install components in any specific order or on any particular schedule, nor does it define the duration of monitoring for any particular components or systems. Instead, the regulation is drafted in flexible terms: “[t]he program must [be conducted] as may be appropriate to provide the data required by [§ 63.131(a)].” 10 C.F.R. § 63.131(c). Thus, the performance confirmation program was not intended to mandate certain installation schedules, but rather to provide an ongoing source of data to inform the Commission’s stated intent of “evaluat[ing] the adequacy of assumptions, data, and analyses that led to the findings that permitted construction of the repository,” 10 C.F.R. § 63.102(m), through a continuous performance confirmation program.

Next, Nevada argues that the Commission’s response to a question in its Statement of Consideration in the Part 63 Final Rule regarding whether DOE may emplace waste in the repository before construction is complete was an opportunity for the Commission to indicate

that all wastes could be emplaced before installation of the drip shields. See Nevada Brief at 39-40 (citing 66 Fed. Reg. at 55,737-38). But the Commission's response addressed findings for issuance of a LRP under 10 C.F.R. § 63.41, not the 10 C.F.R. § 63.31 findings. This supports the Staff's position that LRP licensing criteria should be considered during a LRP licensing proceeding.

Therefore, because § 63.41 is inapplicable to this proceeding, the Board should answer this legal issue in the negative, concluding that the NRC need not consider the requirements of § 63.41 as part of its review of DOE's application for a CA.

J. Legal Issue 11 (NEV-SAFETY-171)

The legal issue presented by NEV-SAFETY-171, as admitted by the Board is whether, under 10 C.F.R. §§ 63.113, 63.114, and Part 63 Subpart G, the Performance Margins Analysis (PMA) can be used to validate or provide confidence in the TSPA, if its data and models are not qualified under DOE's quality assurance (QA) program. October 23 Order at 1; see *also* Joint Proposal, Attachment 1 at 1.

Nevada and the Staff take the position that the PMA cannot be used to validate or provide confidence in the TSPA if its data and models are not subject to a QA program. Nevada Brief at 45. Staff Brief at 47. DOE asserts that the PMA can be used to support the TSPA without being made subject to a QA program. DOE Issue 11 Brief at 2-5.

The pertinent issues are: 1) what is the PMA, and 2) what use is to be made of it? The parties generally agree on what the PMA is. DOE describes it as "a set of calculations, parallel to those in the TSPA," but focused on "the more important conservatisms embedded in TSPA model components and submodels" and that provides information to "analyze postclosure performance over a set of modeling cases" DOE Brief at 2. It is used to "enhance" and provide "additional confidence in the TSPA." Answer of the U.S. Department of Energy to the State of Nevada's Petition to Intervene, dated January 16, 2009 (DOE Answer), at 1587. Nevada

describes it as a performance assessment, generally based on the TSPA, but purged of alleged conservatisms. Nevada Brief, at 41. The Staff does not dispute either of these descriptions.

DOE has said that the PMA is “used to enhance confidence in the TSPA,” and that it “provides additional confidence in the TSPA by examining the effects of conservatisms on the outputs from the TSPA.” DOE Answer at 1587. DOE makes two arguments to support its position that the PMA may be used to support the TSPA without being subject to a QA program. First, DOE argues that 10 C.F.R. §§ 63.113, 63.114, and Part 63 Subpart G do not require the PMA to be subject to QA requirements. DOE Brief at 3-4. DOE further argues that nothing in these sections prohibit using the PMA to “validate or provide confidence in the TSPA” if it has not been qualified under a QA program. DOE Brief at 4-5.

Because 10 C.F.R. Part 63 does not explicitly address a PMA, it neither requires nor precludes inclusion of a PMA or similar analyses or models in the License Application. However, Commission regulations require a QA program “to provide adequate confidence that that the geologic repository and its structures, systems, or components will perform satisfactorily in service.” 10 C.F.R. § 63.141. 10 C.F.R. § 63.142 states that 10 C.F.R. § 63.21(c)(20) requires DOE “to include in its safety analysis report a description of its quality assurance program.” Under 10 C.F.R. § 63.142, the quality assurance program is to be applied to all structures, systems, and components important to waste isolation and related activities. “These activities include: . . . analysis of samples and data . . . [and] . . . scientific studies . . . .” 10 C.F.R. § 63.142. The PMA, a model of repository performance, constitutes an analysis of data.

DOE’s QA requirements document, which was incorporated by reference into the License Application, establishes requirements for data identification, data reduction, and model development and use. See Quality Assurance Requirements and Description, DOE/RW-0333P, Revision 20, Supplement III, dated October 1, 2008 (QARD). QARD Section III.2.6, Model

Development and Use, specifies in criterion A that “[m]odel development and approaches to validation shall be planned, controlled, and documented. Planning for model validation shall identify the validation methods and the validation criteria used.” *Id.* at 130. In this context, “model validation” is defined as “a process used to establish confidence that a mathematical model and its underlying conceptual model adequately represent with sufficient accuracy to phenomenon, process, or system in question.” *Id.* at 153. Under this definition, “to validate” is effectively the same as “to provide confidence in.”

The issue then is the use to be made of the PMA. Analyses that “provide adequate confidence” in performance of the repository are clearly within the domain of the QA program. See 10 C.F.R. § 63.141. “Adequate confidence” in the performance assessment is derived from sufficient analyses, data, and the technical basis offered to support demonstration of compliance with postclosure performance objectives. See 10 C.F.R. § 63.113. If the PMA is needed to establish “adequate confidence” in the TSPA, then it is subject to the quality assurance requirements in 10 C.F.R. § 63.142. Nothing prohibits DOE from offering support and confidence-building information for TSPA in its application, supporting documents, or responses to staff requests for additional information. Not all of this information may have been submitted to provide adequate confidence in the performance assessment; some may have been offered for “additional confidence.”<sup>9</sup> If DOE’s PMA is used to provide adequate confidence in the TSPA, it must be encompassed by the DOE quality assurance program and must be subject to the NRC’s quality assurance requirements.

Consequently, the Board should reject the argument that the PMA may be used to

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<sup>9</sup> Staff takes no position at this time on the adequacy or inadequacy of DOE’s TSPA model and its support. The Staff will provide that assessment in its Safety Evaluation Report.

provide adequate confidence in DOE's performance assessment without being subject to quality assurance requirements.

CONCLUSION

For the foregoing reasons, the Board should adopt the Staff's interpretation of the Phase I Legal Issues.

Respectfully submitted,

**/Signed (electronically) by/**

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Dated at Rockville, Maryland  
this 6<sup>th</sup> day of January, 2010

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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 "NRC STAFF REPLY TO INITIAL BRIEFS ON PHASE I LEGAL ISSUES" in the above-captioned proceeding have been served on the following persons this 6<sup>th</sup> day of January, 2010, by Electronic Information Exchange.

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