

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

**ATOMIC SAFETY AND LICENSING BOARD
Before Administrative Judges:**

**09-892-HLW-CAB04
Thomas S. Moore, Chairman
Paul S. Ryerson
Richard E. Wardwell**

In the Matter of :)	January 6, 2010
)	
U.S. Department of Energy)	
Docket No. 63-001)	
)	Docket No. 63-001-HLW
(High Level Waste Repository Construction)	
Authorization Application))	
)	

**NYE COUNTY, NEVADA REPLY BRIEF
ON PHASE I LEGAL CONTENTIONS**

In accordance with the Construction Authorization Board's (CAB) Order dated October 23, 2009, Nye County, Nevada, ("Nye County" or "County") hereby submits its reply brief on the agreed upon or otherwise authorized legal issues affecting Phase I contentions. See, 09-892-HLW-CAB04, Order (Identifying Phase I Legal Issues for Briefing (October 23, 2009) (unpublished). Nye County, Nevada is the local governmental body in which the proposed Yucca Mountain repository is wholly located, and as such, intervened in this proceeding as a matter of right under 10 C.F.R. §2.309(d)(2)(iii).

From the outset, Nye County has stated that its primary interest in this licensing proceeding is protecting the health and safety of its residents. Provided the concerns raised by Nye County in its own contentions, and legitimate safety concerns raised in other parties' contentions, are addressed and satisfied by Nuclear Regulatory Commission's (NRC) inclusion of appropriate conditions on construction authorization,

Nye County believes that the repository can be constructed and operated in a manner which adequately protects the residents of Nye County and the public from radiological releases and exposures.

With these paramount interests in mind, Nye County has reviewed all of the Phase I legal contentions identified by the parties and scheduled for adjudication by the CABs. NEI-SAFETY- 05 asserts, among other things, that the Department of Energy (DOE) has taken an “overly conservative” approach to post-closure criticality analysis which will have ALARA impacts beyond the Geologic Repository Operations Area (“GROA”). NEI Brief on Phase I legal Issue at 11. Because NEI’s contention addresses impacts outside Nye County and the GROA, we take no position on the overall legal validity of the contention. NEI, as a supporter of the construction of the repository, states that nothing precludes NEI “from demonstrating conservatism or even undue conservatism, in the design. Proving excess conservatism (or licensing margin) will at a minimum support a finding of compliance, advance the licensing case, and reduce uncertainty and delay related to licensing the project.” NEI Brief on Phase I Legal Issue at 15. Nye County concurs in this statement by NEI. It has always been Nye County’s position that the repository safety analyses may be severely over-conservative, causing the radiological consequences to be overestimated.¹ If properly explained by the NRC in its licensing decision document, the use of overly conservative assumptions and worst-case scenarios in the development of the repository design should reassure the public that, overall, the construction and operation of the repository will be adequately protective of public health and safety.

¹ See, e.g., January 9 and 10, 2008 letters and attachments from Nye County Board of County Commissioners Chairman, Gary Hollis to Dr. Jane Summerson of DOE). Letter to Dr. Jane Summerson, OCRWM EIS Manager, RE: Nye County’s Comments on SEIS Drafts (DOE/EIS-0250F-S2D and DOE/EIS-0369D) Nye County RID # 7563, Nye County LSN Assession Number: nye_rid7563_01_00.pdf, and NRC LSN Assession number 000002220; Letter to Dr. Jane Summerson, OCRWM EIS Manager, RE: Nye County, Situs Jurisdiction, Comments on the Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (Draft Repository SEIS), Nye County RID # 7562, Nye County LSN Assession Number: nye_rid7562_01_00.pdf; and NRC LSN Assession number 000002226.

The other legal issues raised have been fully briefed and adequately addressed by DOE and the NRC Staff in their individual December 7, 2009 filings. The County concludes that the remaining issues briefed regarding Phase I legal contentions do not demonstrate legally cognizable safety or health issues that could ultimately result in adverse impacts to Nye County's citizens. A brief summary of Nye County's legal position on each of the remaining individual contentions designated as Phase I legal contentions follows. Generally speaking, Nye County's position is consistent with DOE's position on those issues as briefed by DOE and filed in this proceeding on December 7, 2009.

I. CONTENTIONS RELATED TO DOE'S CLIMATE CHANGE ANALYSIS

A. NEV-Safety- 011 and O19

These contentions maintain, in essence, that climate change processes included as features, events, and processes (FEPs) in the TSPA for the first 10,000 years must be carried forward for the balance of the 1,000,000 year period following disposal. There is no question, and DOE does not dispute, that the NRC regulations require that DOE analyze the effects of climate change in the post-10,000 year period. However, the regulations do not require that DOE do so by extrapolating its analyses of the first 10,000 year period. To the contrary, the NRC regulations directed the use of the analytical method set forth in 10 CFR § 63.341(c)(2), which NRC found to adequately bound potential effects of climate change and to provide the DOE with reasonable assurance that its performance assessment would meet the requirements of the NRC and EPA regulations. 10 CFR § 63.341(c)(2) states that the analysis commencing at 10,000 years was to be based upon "the constant-in-time values used to represent climate change" which the rule further required be calculated as certain "deep percolation rates." DOE used the specified deep percolation rate to model climate change in the period between 10,000 years and one million years. SAR section 2.3.1.1 at 2.3.1-4. This is all that is legally required by the NRC regulations. Therefore, these contentions should be dismissed.

B. NEVADA SAFETY CONTENTIONS 009, 010, 011, 012, 013 AND 019

These six closely-related legal contentions raise a common issue regarding DOE's climate change assessment: whether 10 C.F.R. § 63.305 requires DOE to project future levels of greenhouse gas emissions and evaluate the impact of such gases on future climate change at Yucca Mountain in the 10,000-year performance assessment, or whether DOE may analyze the effects of greenhouse gas emissions on future climate based upon the historical geological record. 10 C.F.R. § 63.305(c) states that "DOE must vary factors related to ...climate based upon cautious, but reasonable assumptions of the changes ... that could affect the Yucca Mountain disposal system during the period of geological stability, consistent with the requirements for performance assessments specified at § 63.342."² 10 C.F.R. §§ 63.305(c) 63.342 (2009). Nothing in these two sections states that DOE must project future levels of greenhouse gas emissions and evaluate the impact of such gases on future climate change; nor do the provisions preclude DOE from using the robust geologic record to vary climate assumptions in the performance assessment for the first 10,000 year period following disposal. In fact, using the geological record as the basis for varying climate assumptions is exactly the action anticipated by the National Academy of Sciences and EPA's regulations.³ Therefore, the Board should conclude that it is sufficient to satisfy the requirements of § 63.305 for DOE to rely upon the use of the robust geologic record to vary climate in the performance assessment.

II. LEGAL CONTENTIONS RELATED TO THE DRIP SHIELDS

A. NEV-SAFETY-161

The issue raised by this contention is whether, under the Nuclear Waste Policy Act § 121(b)(1)(B) or 10 C.F.R. §§ 63.113(a) through (d), and 63.115(a) through (c), DOE is required to evaluate the absence or failure of all drip shields. DOE has committed to design and install such shields and nothing in the cited sections deals with

² Section 63.342 specifies how climate change should be assessed during the period 10,000 years to 1,000,000 years after disposal. 10 C.F.R. § 63.342 (2009). That section was analyzed in I. A. , *supra*, and includes no separate requirement to assess anthropogenic greenhouse gas emissions.

³ See DOE brief on NEVADA SAFETY CONTENTIONS 009, 010, 011, 012, 013 AND 019 at pp. 3-5 (Dec. 7, 2009).

the absence of drip shields. DOE was required to and, has in fact, considered the "failure" of all the drip shields in certain circumstances, as appropriate under the regulations. See e.g. SAR §§ 2.2.1.4.1.3.2.2 and 2.2.1.4.1.3.2.4. Accordingly, NEV-SAFETY-161 should be dismissed

B. NEV-SAFETY-162

Because the parties could not agree on the formulation of the legal contention to be briefed in this instance, CAB 04 directed the parties to brief the issue in the form stated by Nevada: Whether, in making the pre-construction authorization finding required by 10 C.F.R. § 63.31(a)(2), it must be considered whether, given DOE's plan to install drip shields only after all of the wastes have been emplaced, it will be impossible to make the preoperational finding in 10 C.F.R. § 63.41(a) that construction of the underground facility has been substantially completed in accordance with the license application, as amended, the Atomic Energy Act, and applicable regulations. Section 63.31(a)(2) deals with the instant DOE license application for construction authorization; Section 63.41(a) deals with a future application to "receive and accept" nuclear materials.

Section 63.31(a)(2) requires that the NRC make a determination that there is "a reasonable expectation" that disposal will create no "unreasonable risk" to public health and safety. 10 C.F.R. § 63.31(a)(2) (2009). In making this finding, which is necessary for issuing the Construction Authorization, the NRC is not required to consider whether it will be possible later on to make the "pre-operational" findings set forth in 10 C.F.R. § 63.41(a) for issuance of a license to receive and possess nuclear materials at the repository. 10 C.F.R. § 63.31(a)(2) (2009). Therefore, the legal contention should be dismissed. To the extent that the contention raises factual, as opposed to legal issues, those issues may be adjudicated along with other factual contentions pertaining to the drip shields filed by Nevada and admitted by the Board.

III. OTHER LEGAL CONTENTIONS RELATED TO SAFETY

A. NEV-SAFETY-041

This legal contention asserts that 10 C.F.R § 63.342(c) requires the post-10,000 year performance assessment to include the continued effects of erosion if it is assumed,

for purposes of legal argument, that in the first 10,000 year period assessment, erosion is shown to increase infiltration and seepage rates, and it is further assumed that erosion does not cause an increase in radiological exposures or releases from the repository within the first 10,000 years. Generally, if a FEP is included for the first 10,000 year period, then DOE must project the continued effects of that FEP beyond 10,000 years. 10 C.F.R § 63.342(c) (2009). DOE excluded land surface erosion from the list of FEPs pursuant to 10 C.F.R § 63.342(a) because DOE determined that the results of the performance assessment "would not be changed significantly" in the first 10,000 years. Increasing filtration and seepage rates without a concomitant increase in radiological exposures or releases from the repository within the first 10,000 years was properly deemed "not significant". Because erosion was properly excluded from the first 10,000 year period FEPs, consideration of erosion does not need to be carried forward in the post-10,000 year performance assessment. Therefore, 10 C.F.R § 63.342(c) does not require DOE to include the effects of erosion in the post-10,000 year performance assessment under the circumstances set forth in the agreed-upon legal issue.

B. NEV-SAFETY-169

This contention asserts, in essence, that 10 C.F.R. §§ 63.21(c)(7) and (12), coupled with 10 C.F.R. § 63.31, preclude DOE from submitting a description of its waste retrieval plans without having a full retrieval plan available for review. On its face, 10 C.F.R. §§ 63.21(c)(7) requires the LA to include a "description" of DOE's plan for retrieval and alternate storage of radioactive wastes. Furthermore, section 63.31 simply requires that DOE's LA provide enough information so that NRC Staff can make a construction authorization decision. Read together, these regulatory provisions do not require that the retrieval plans be completed and available for review at this stage of the licensing proceedings. Therefore, NEV-SAFETY-169 should be dismissed

C. NEV-SAFETY-171

This contention asserts, in essence, that the Performance Margin Analysis (PMA) can not be used, in whole or in part, to validate or provide confidence in the TSP if the PMA's data and models are not qualified under DOE's quality assurance program.

However, no provision of 10 C.F.R. §§ 63.113, 63.114, or Part 63, Subpart G requires that the PMA data or models be qualified under DOE's QA program. Thus, there is no need to adjudicate whether the quality controls applied by DOE to development of the PMA were consistent with Subpart G of 10 C.F.R. Part 63. Accordingly, Nevada Safety Contention 171 should be dismissed as a matter of law.

D. NEV-SAFETY-149

This contention raises the question of whether or not, under 10 C.F.R. § 63.114, DOE may rely upon its quality assurance program and procedures as a basis for excluding potential deviations from repository design or errors in waste emplacement from consideration in the TSPA. 10 C.F.R. § 63.114 (2009). DOE is required by § 63.113(b) to conduct a performance assessment that meets the requirements of §§ 63.114, 63.303, 63.305, 63.312 and 63.342. 10 C.F.R. § 63.113(b) (2009). The NRC and EPA rules require that only those FEPs found to have sufficient consequence and probability of occurrence be included in the performance assessment. There is nothing in § 63.114 or any other NRC regulation that directs DOE to ignore the effects and results of the QA program and procedures in determining which FEPs must be included, and which can be excluded. DOE may rely on the expected effectiveness of the QA program and procedures to exclude from consideration in the TSPA potential deviations from repository design or in waste emplacement consistent with the regulatory requirements of 10 C.F.R. § 63.114 and other applicable provisions of the NRC regulations.

CONCLUSION

For the foregoing reasons, Nye County, Nevada respectfully requests that the foregoing Phase I legal contentions addressed in Sections I. through III. be dismissed as a matter of law

Respectfully Submitted,

Signed electronically

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January 6, 2009

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC AND SAFETY LICENSING BOARD

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the Nye County Reply Brief to Phase I Legal Contentions , dated January 6, 2009, in the above-captioned proceeding have been served on the following persons by Electronic Information Exchange.

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