UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Atomic Safety and Licensing Board

Before Administrative Judges:

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

In the Matter of
U.S. DEPARTMENT OF ENERGY
(High Level Waste Repository)

Docket No. 63-001-HLW
July 9, 2009

REPLY OF THE STATE OF NEVADA TO
DOE'S ANSWER TO NEV-SAFETY 204 AND 205

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I. INTRODUCTION

On June 8, 2009, the State of Nevada (Nevada) timely filed two new contentions designated as NEV-SAFETY-204 and NEV-SAFETY-205. These new contentions focus on the methodology and content of DOE's PVHA-U volcanism expert elicitation adopted in its February 19, 2009 License Application Update.

On July 2, 2009, the Department of Energy ("DOE") filed an Answer objecting to NEV-SAFETY-204 and NEV-SAFETY-205. Neither objection asks that NEV-SAFETY-204 or NEV-SAFETY-205 be deemed inadmissible, instead conceding their admissibility. But DOE asserted that, as to each of those contentions, one particular aspect should be excluded from Board consideration. For the reasons given below, DOE's objections are unfounded. NEV-SAFETY-204 and NEV-SAFETY-205 should be fully admitted.
II. NEVADA'S REPLY TO DOE'S ANSWER REGARDING NEV-SAFETY-204

DOE's Answer recites that it does not object to the admissibility of this contention, which it sums up as challenging the selection and preparation of the expert elicitation panel which participated in the PVHA-U. DOE asserts, however, that it "does object to one aspect of the contention which appears to be an implicit challenge to the site selection process" and goes on to conclude that the Yucca Mountain siting decision is outside the scope of this proceeding; and so, this "argument" is inadmissible (Answer at 3).

Nevada nowhere challenges the siting decision in NEV-SAFETY-204, implicitly or otherwise. However, DOE's hypersensitivity to the statements of its own expert serves only to highlight their real import. Nevada's quotation of DOE's expert, Dr. Conner, are strictly intended to address the issue of volcanism and its probability (i.e., the heart of the PVHA-U). Thus, Nevada cited Dr. Conner's observations that the proposed repository is located "at the edge of an active basaltic volcanic field" (Nevada Motion at 10) and that "there are techniques currently extant in the scientific community . . . these state-of-the-art geophysical surveys have not been done at Yucca Mountain." Id. at 9.

Nevada has not challenged "the siting decision" in NEV-SAFETY-204. Nevada's challenge to DOE's volcanism analysis should therefore not be limited based on any DOE speculation regarding hypothetical arguments of Nevada somehow "implicitly" hiding under cover of its actual contention.
III. NEVADA'S REPLY TO DOE'S ANSWER REGARDING NEV-SAFETY-205

In its contention, addressing DOE's ignoring the work of Nevada volcanism expert Dr. Eugene Smith, Nevada contended that DOE failed to adequately address alternative models in general, and specifically that it failed to sufficiently "integrate a comprehensive, self-consistent geologic model into its probability calculations" (Nevada Motion at 13). Nevada explained "understanding and using a geological and geophysical model is critical for probability studies because it provides information about the source region for magmatism, areas of the lithosphere and asthenosphere where magma may reside, and flow patterns in the mantle." *Id.* Nevada even quoted DOE's own admission "ideally, we would have a complete geophysical model for events. If we knew the distribution of melt in the asthenosphere and lithosphere, and knew the state of the lithosphere through which magma would rise, we could better predict where volcanoes likely will form next. We lack such a geophysical perspective, however." *Id.* at 16.

In its brief Answer, DOE erroneously argues that Nevada acknowledges that the details of Dr. Smith's alternative model were "specifically presented to, and considered by" DOE (Answer at 4). Although Dr. Smith's alternative model was briefly presented to the expert panel by Dr. Coppersmith, no consideration took place, and no such consideration was "acknowledged" by Nevada. The so-called "acknowledgment" referred to by DOE's Answer was nothing more than a Nevada quotation of a DOE *assertion* that it gave adequate consideration to alternative models – an incorrect assertion which Nevada then promptly attacked (Nevada Motion at 16-17). As Nevada points out, the only mention by DOE of alternative models is suggested by its statement that Dr. Coppersmith (an Elicitation Manager, and not a volcanism expert) "briefly summarized the key aspects of the [Dr. Smith's] model," verbally, and not in any written document. *Id.* at 16. No discussion of Dr. Smith's alternative model took place in DOE's
volcanism expert elicitation (PVHA-U), none of the panel members considered it, discussed it, used it, or even weighed its pros and cons. As Nevada explained (id. at 17), "none of the experts considered the consequences of deep melting in probability calculations . . . none of the experts quantitatively considered the effects of a petrologic model in their probability estimates. Nevada considers this omission as a major problem of the PVHA-U report."

Accordingly, DOE's Answer is dead wrong on the facts: Nevada did not acknowledge DOE's consideration of any alternative model (including particularly Dr. Smith's), and in fact, Nevada's primary point was exactly the opposite.

DOE's answer is also wrong on the law. While the case cited by DOE (Duke Energy Corp., CLI-02-17, 56 NRC 1) simply supports the undisputed concept that a contention may be admitted on one basis but not another, the basis on which the contention was admitted in Duke Energy supports, rather than undermines, the admission of NEV-SAFETY-205. The Duke Energy decision is determinative here. In that case, the issue was the admissibility of a contention challenging the adequacy of Duke's SAMA (Severe Accident Mitigation Alternatives) analysis. There, the Commission rejected a secondary basis given by the petitioners for their contention, due to its "unsupported conclusions," "conclusory statements," and "no expert opinion." Duke Energy at 24. However, and precisely on point here, the Commission endorsed the licensing board's admission of the contention on its primary basis. That basis was the petitioners' claim that Duke failed to take into account an alternative analysis found in a report done by Sandia (SNL). The Commission admitted the contention because the petitioners "have done enough to raise a question about the adequacy" of Duke's analyses, "namely, whether they should have incorporated or otherwise acknowledged information from the Sandia study." Id. at 14. The licensing board and the Commission both acknowledged Duke's claim that its own
analysis was superior and the Sandia study incomplete, but concluded nevertheless that "a sufficient question had been raised about the Duke analysis," namely its "failure to address or otherwise acknowledge results from the Sandia study," which issue the Commission found "was a question for the merits." *Id.* at 18.

It must be noted that DOE (Answer at 4) did not generally object to the admissibility of NEV-SAFETY-205, but rather only sought to challenge one of its bases. Because DOE's challenge to that basis was incorrect on the facts and the law, DOE's Answer provides no support for its suggestion that NEV-SAFETY-205 be limited in its presentation in any way.

Respectfully submitted,

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Certificate of Service

I hereby certify that the foregoing State of Nevada Reply to DOE's Answer to NEV-SAFETY 204 AND 205 has been served upon the following persons by the Electronic Information Exchange:

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