# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Gregory B. Jaczko, Chairman Peter B. Lyons Dale E. Klein Kristine L. Svinicki

In the Matter of

U.S. DEPARTMENT OF ENERGY

Docket No. 63-001-HLW

(High Level Waste Repository)

### CLI-09-14

#### MEMORANDUM AND ORDER

Today we respond to appeals of the Construction Authorization Boards' (CABs or

Boards) First Prehearing Conference Order in this proceeding concerning the U.S. Department

of Energy's (DOE) application for authorization to construct a geologic repository at a geologic

repository operations area (GROA) at Yucca Mountain in Nye County, Nevada.<sup>1</sup> The NRC Staff

has appealed LBP-09-6 on the ground that the CABs improperly admitted 40 contentions.<sup>2</sup>

Clark County, Nevada has appealed the decision to reject one of its contentions, designated

CLK-SAFETY-1.<sup>3</sup>

As discussed below, we affirm in part, and reverse in part, the appealed rulings.

<sup>1</sup> LBP-09-6, 69 NRC (May 11, 2009)(slip op).

<sup>&</sup>lt;sup>2</sup> NRC Staff Notice of Appeal of LBP-09-06 and NRC Staff Brief in Support of LBP-09-06 (May 21, 2009)(NRC Staff Appeal).

<sup>&</sup>lt;sup>3</sup> Clark County, Nevada's Notice of Appeal of LBP-09-06, Memorandum and Order of May 11, 2009, and Clark County, Nevada's Brief on Appeal of LBP-09-06, Memorandum and Order of May 11, 2009 (May 21, 2009)(Clark County Appeal).

### I. BACKGROUND

The procedural background of this adjudicatory proceeding is recounted in the Boards' First Prehearing Conference Order.<sup>4</sup>

This proceeding is unusual in its scope and complexity, and is the most extensive

proceeding in the agency's history - among other matters, the Boards considered 317 proposed

contentions, and admitted nearly all of them – 299 contentions total. In so doing, the Boards

"read, analyzed and discussed the more than 12,000 pages of petitions, answers, and replies . .

."<sup>5</sup> The various petitions and contentions were apportioned among the CABs,<sup>6</sup> and each CAB

then analyzed (among other things) the contentions for which it was responsible to determine

whether each contention satisfied the admissibility requirements of 10 C.F.R.

§ 2.309(f)(1), made no improper challenges to Commission rules, and met the standards of

10 C.F.R. §§ 51.109 and 2.326, as applicable.<sup>7</sup> The Boards addressed in some detail a number

of "overarching issues" common to nearly all submitted contentions.<sup>8</sup> In large part, however, the

Boards provided little analysis of individual contentions; rather, they articulated a general

determination:

The contentions proffered by petitioners that have demonstrated standing, and that satisfy the . . . admissibility standards, are set forth in Attachment A, which identifies the rulings made by each of the three CABs. Each contention listed in Attachment A satisfies the six requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi), does not improperly challenge a rule or regulation of the Commission in violation of 10 C.F.R. § 2.335, and otherwise complies with the admissibility standards . . . .<sup>9</sup>

<sup>4</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 3-8). See 10 C.F.R. § 2.1021(d).

<sup>5</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 101).

<sup>6</sup> *Id.*, 69 NRC at \_\_\_ (slip op. at 2).

<sup>7</sup> Id., 69 NRC at \_\_\_ (slip op. at 101); see generally 10 C.F.R. § 2.335.

<sup>8</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 21-62).

<sup>9</sup> *Id.*, 69 NRC at \_\_\_ (slip op. at 102).

Attachment A lists admissible contentions by their alphanumeric designation and title.

Contentions not satisfying the admissibility standards are listed in Attachment B to the decision; each Board identified the "principal deficiencies" of each rejected contention in Sections IX-XI of the decision.<sup>10</sup>

Following issuance of the First Prehearing Conference Order, two parties to this proceeding filed appeals pursuant to 10 C.F.R. § 2.1015(b): on May 21, 2009, Clark County and the Staff filed timely appeals in accordance with the schedule set forth in 10 C.F.R. Part 2, Appendix D of our regulations, as modified by the Notice of Hearing for this proceeding.<sup>11</sup> The States of Nevada and California, the Nuclear Energy Institute (NEI), Nye County, and the Native Community Action Council (NCAC) filed timely briefs in opposition.<sup>12</sup>

# II. <u>DISCUSSION</u>

The vast majority of the rulings made by the Boards in the First Prehearing Conference

Order have not been appealed. We address today only those specific issues raised on appeal,

and express no opinion on the balance of the Boards' rulings. Our silence should be interpreted

as neither approval nor disapproval of any individual unreviewed ruling.<sup>13</sup>

<sup>&</sup>lt;sup>10</sup> *Id.*, 69 NRC at \_\_\_ (slip op. at 102, 127-30 (CAB-01), 130-38 (CAB-02), 139-40 (CAB-03)).

<sup>&</sup>lt;sup>11</sup> Department of Energy; Notice of Hearing and Opportunity to Petition for Leave to Intervene on an Application for Authority to Construct a Geologic Repository at a Geologic Repository Operations Area at Yucca Mountain, 73 Fed. Reg. 63,029 (Oct. 22, 2008); CLI-08-25, 68 NRC 497 (2008)(Notice of Hearing).

<sup>&</sup>lt;sup>12</sup> State of Nevada's Brief in Opposition to NRC Staff Appeal (May 29, 2009)(Nevada Opposition); California's Opposition to NRC Staff Appeal of LBP-09-06 (May 31, 2009)(California Opposition); The Nuclear Energy Institute Brief in Opposition to NRC Staff's Appeal of LBP-09-06 (May 29, 2009)(NEI Opposition); Nye County Reply to the NRC Staff Appeal of LBP-09-06 (June 1, 2009)(Ne County Reply); Native Community Action Council's Brief in Opposition to NRC Staff Appeal (May 29, 2009)(NCAC Opposition).

<sup>&</sup>lt;sup>13</sup> See Baltimore Gas & Electric Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 343 n.3 (1998)(citations omitted)(noting that unreviewed Board rulings carry (continued...)

As a general matter, we defer to Board rulings on contention admissibility in the absence

of clear error or abuse of discretion.<sup>14</sup> Our review is appropriately informed by the unique

circumstances and issues presented. We consider the appeals of Clark County and the Staff in

turn.

# A. <u>Clark County</u>

In its intervention petition, Clark County submitted fifteen proposed contentions.<sup>15</sup> CAB-

01 admitted all but two of Clark County's contentions, designated CLK-SAFETY- 1 and

CLK-SAFETY-12.<sup>16</sup> Clark County has appealed only CAB-01's ruling rejecting CLK-SAFETY-1.

Clark County summarizes CLK-SAFETY-1 as follows:

Treatment of uncertainty in the Safety Analysis Report ([SAR]) is neither complete, integrated, nor unbiased. Three sources of uncertainty that impact the SAR results – data assumptions, model assumptions, and methods assumptions – appear in the SAR primarily as assumptions, screening "analyses," and claims of conservatism, presented without associated technical bases. As a result, risk could be much higher than calculated. The DOE's evaluation of risk is therefore unreliable and fails to comply with the safety requirements of 10 [C.F.R.] Part 63.<sup>17</sup>

To support its contention, Clark County relied on an Independent Performance

Assessment Review report, which stated that "[a]n overarching requirement is that the

<sup>15</sup> Clark County, Nevada's Request for Hearing, Petition to Intervene, and Filing of Contentions (Dec. 22, 2008) (Clark County Petition).

<sup>16</sup> LBP-09-6, 69 NRC (slip op. at 128-29).

<sup>17</sup> Clark County Petition at 3.

<sup>(...</sup> continued)

no precedential weight).

<sup>&</sup>lt;sup>14</sup> Crow Butte Resources, Inc. (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 NRC (May 18, 2009)(slip op. at 4) (citing, *inter alia*, *Dominion Nuclear Connecticut*, Inc. (Millstone Power Station, Unit No. 3), CLI-08-17, 68 NRC 231, 234 (2008)); Progress Energy Carolinas, Inc. (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-09-8, 69 NRC (May 18, 2009)(slip op. at 7); AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 121 (2006).

uncertainties associated with the future performance of the repository be understood and quantified . . . .<sup>\*18</sup> Based on that assessment, Clark County contended that "the treatment of uncertainty must be held to a high standard.<sup>\*19</sup> Building on that assertion, Clark County further concluded that DOE had failed to adhere to that "very high standard," rendering the results of the Total System Performance Assessment (TSPA) and SAR unreliable.<sup>20</sup> As an example, Clark County referred to DOE's human reliability analysis in the pre-closure probabilistic risk assessment, and took exception to its interrelatedness with other analyses,<sup>21</sup> which underscored, according to Clark County, the difficulty of "unraveling the analysis throughout the [application]" in order to evaluate DOE's risk assessment.<sup>22</sup> In addition, Clark County provided a summary table (consisting of a laundry list of examples) of uncertainties in the application due to: "unjustified assumptions," "inappropriate screening 'analyses," or "unsubstantiated claims of conservatism.<sup>\*23</sup>

Both DOE and the Staff opposed the admissibility of this contention for failing to provide the required facts or expert opinion in support of Clark County's position, or otherwise failing to demonstrate that a genuine dispute exists on a material issue of law or fact.<sup>24</sup> DOE also

<sup>20</sup> *Id.* at 8.

<sup>21</sup> See id.

<sup>22</sup> Id.

<sup>23</sup> *Id.* at 12-21 ("Table 1. Potential Impacts of Uncertainty").

<sup>&</sup>lt;sup>18</sup> *Id.* at 7 (quoting Report of the Independent Performance Assessment Review (IPAR) Panel (LSN DEN001598189)).

<sup>&</sup>lt;sup>19</sup> Clark County Petition at 7-8.

<sup>&</sup>lt;sup>24</sup> Answer of the U.S. Department of Energy to Clark County, Nevada's Request for Hearing, Petition to Intervene and Filing of Contentions (Jan. 15, 2009), at 46 (DOE Answer); NRC Staff Answer to Intervention Petitions (Feb. 9, 2009), at 43, 45 (NRC Staff Answer).

argued that the issue raised in the contention was not material to the findings NRC must make relating to the construction authorization request.<sup>25</sup>

The Board found CLK-SAFETY-1 to be inadmissible because Clark County "[did] not provide the necessary facts or expert opinion required by 10 C.F.R. § 2.309(f)(1)(v)" nor "provide sufficient information to show that there is a genuine dispute of material issue of fact or law as required by 10 C.F.R. § 2.309(f)(1)(v)."<sup>26</sup>

Clark County contends on appeal that the Board erred in failing to admit CLK-SAFETY-1 and offers three supporting reasons.<sup>27</sup> First, Clark County argues that LBP-09-6 is internally inconsistent. Clark County contends, citing an excerpt from the Order, that the Boards referred to CLK-SAFETY-1 as an example of an admissible contention (in effect finding it to be admissible), even though CAB-01 ultimately ruled that the contention was inadmissible.<sup>28</sup> In essence, Clark County argues that the rejection of CLK-SAFETY-1 was the result of a clerical error. We disagree, and find that Clark County misinterprets the Order.

The Boards included the following discussion in their analysis of DOE's and the Staff's overarching arguments relating to application of the admissibility standards to contentions

pertaining to the TSPA:

[S]ome TSPA-related contentions do assert, explicitly or by implication, that alleged defects in the TSPA will increase the likelihood that dose standards might not be achieved. *Clark, for example, contends that alleged errors "could mean that the risk is greater than reported in TSPA" and that the "TSPA could underestimate the consequences and likelihood of post-closure radioactive releases." Separate and apart from alleged violation of other specific regulatory requirements that apply to the TSPA, such qualitative predictions – when adequately supported by reasoned affidavits from competent experts – are by* 

<sup>&</sup>lt;sup>25</sup> DOE Answer at 42.

<sup>&</sup>lt;sup>26</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 128).

<sup>&</sup>lt;sup>27</sup> Clark County Appeal at 4.

<sup>&</sup>lt;sup>28</sup> *Id.* at 5 (citing LBP-09-6, 69 NRC at \_\_\_ (slip op. at 53)).

*themselves sufficient to admit contentions.* During a discussion of TSPA-related contentions before the APAPO [Advisory Pre-license Application Presiding Officer] Board in May 2008, counsel for DOE appeared to agree:

JUDGE BOLLWERK: So what you're saying is if they have an affidavit from an expert that says, "this [*sic*] is material", that would suffice?

MR. SILVERMAN: With a sufficient – reasonable explanation that ... would be appropriate at this stage of the proceeding, yes.<sup>29</sup>

Reviewing the referenced excerpt in the context of the discussion, we find that the Boards were not expressing an opinion regarding the admissibility of CLK-SAFETY-1. Rather, the purpose of this discussion was to note generally that one type of challenge to the TSPA could take the form of a qualitative prediction that a defect in the TSPA might increase the likelihood of violating the post-closure dose standards. However, as the Boards stated, this type of "TSPA model-based" contention must still be adequately supported, as required by our contention admissibility rules. Later in the decision, CAB-01 went on to discuss CLK-SAFETY-1, and stated a separate rationale for finding it to be inadmissible.<sup>30</sup> We do not find LBP-09-6 to be internally inconsistent on this point.

Second, Clark County contends that the Board "[m]erely stating the conclusion that CLK-SAFETY-1 is not in compliance with Commission regulations does not substitute for the reasoned decision-making required by the Administrative Procedure Act."<sup>31</sup> Clark County points to the Appeal Board's *Waterford* decision to bolster its argument that CAB-01 erred by virtue of its brief discussion of CLK-SAFETY-1.<sup>32</sup> In that case, the Appeal Board reiterated that

<sup>&</sup>lt;sup>29</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 53)(emphasis added)(footnote omitted) (citing Clark County Petition at 6, 22; APAPO Board Conference Transcript (May 21, 2008)).

 $<sup>^{30}</sup>$  LBP-09-6, 69 NRC at \_\_\_ (slip op. at 128)(citing the contention's failure to comply with 10 C.F.R. § 2.309(f)(1)(v) and (vi)).

<sup>&</sup>lt;sup>31</sup> Clark County Appeal at 6.

<sup>&</sup>lt;sup>32</sup> Louisiana Power & Light Co. (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC (continued. . .)

a board "had a duty not only to resolve contested issues, but 'to articulate in reasonable detail the basis' for the course of action chosen . . . A board must do more than reach conclusions; it must confront the facts."<sup>33</sup> The circumstances of the *Waterford* case are distinguishable from those at issue here. The Appeal Board in *Waterford* considered a merits ruling that followed an evidentiary hearing, whereas CAB-01 addressed only threshold contention admissibility issues. Accordingly, CAB-01 was not tasked with detailed fact-finding. Although it may have been preferable for CAB-01 to provide a more fulsome discussion, in our view the Board has articulated a sufficient, if brief, basis for its decision to reject CLK-SAFETY-1.<sup>34</sup> In any event, however, we are entitled to review the record ourselves and amplify CAB-01's findings.<sup>35</sup> We take the opportunity to do so here, in response to Clark County's third argument.

Clark County reiterates that it satisfied the contention admissibility standards of 10 C.F.R. § 2.309(f)(1)(v) and (vi) because the contention is supported by expert testimony that articulates a genuine dispute of material fact.<sup>36</sup> We disagree. We do not second-guess Clark County's representation that CLK-SAFETY-1 is the culmination of opinions and statements of Clark County's expert witness, Mr. Dennis Bley.<sup>37</sup> However, our rules for contention

<sup>35</sup> See Waterford, ALAB-732, 17 NRC at 1087 n.12.

<sup>36</sup> Clark County Appeal at 7.

<sup>(. . .</sup>continued) 1076 (1983).

<sup>&</sup>lt;sup>33</sup> Clark County Appeal at 6-7 (quoting *Waterford*, ALAB-732, 17 NRC at 1087 n.12 (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-422, 6 NRC 33, 41 (1977) *aff'd*, CLI-78-1, 7 NRC 1 (1978))).

<sup>&</sup>lt;sup>34</sup> Understanding that the schedule for this adjudicatory proceeding is an ambitious one, we still encourage the Boards, in future rulings, to articulate thoroughly the rationale behind their decisions.

<sup>&</sup>lt;sup>37</sup> See Clark County Petition, Attachment 4.

admissibility require more than what Clark County has offered here. Clark County's "unjustified

assumption" 1.1.1 is a case in point:

1.1.1 <u>Database Not Reviewed</u>. [The] IPAR [Independent Performance Assessment Review Panel] pointed out that they [*sic*] had not reviewed the database used in the analysis. It is not clear that any thorough outside review of the databases used in the SAR was performed.<sup>38</sup>

Given that Clark County neither challenges DOE's database analysis nor discusses why the

suspected failure to have a thorough review of the databases by an independent entity fails to

satisfy our regulations, it is unclear to us how this assertion, even assuming its accuracy,

articulates a particularized challenge to the application. We are left with the same dilemma with

regard to Clark County's other examples. For instance, "inappropriate screening 'analysis'"

3.2.1 states:

3.2.1 <u>Optimistic Assumption</u>. Analysis supporting SAR 1.6.3.4.1 in BSC 2007c assumes that, for flights outside the restricted zone, pilots will eject outside the zone. There is no allowance for entry into the zone as the pilot tries to control or uncertainty [*sic*] and no convincing technical basis.<sup>39</sup>

As an "unsubstantiated claim of conservatism," Clark County lists:

2.3.2 <u>Limited Range of Conservatism</u>. SAR p. 2.1-40 states naval SNF [Spent Nuclear Fuel] are [*sic*] conservatively modeled as commercial SNF, without demonstrating that this is always conservative.<sup>40</sup>

These, and the other 27 examples Clark County cites in its petition, amount merely to

generalized assertions, without specific ties to NRC regulatory requirements, or to safety in

general. Such assertions do not provide adequate support demonstrating the existence of a

genuine dispute of fact or law with respect to the construction authorization application.<sup>41</sup>

<sup>&</sup>lt;sup>38</sup> Clark County Petition at 12.

<sup>&</sup>lt;sup>39</sup> *Id.* at 19 (citations omitted).

<sup>&</sup>lt;sup>40</sup> *Id.* at 16.

<sup>&</sup>lt;sup>41</sup> See id. at 12-21. We also note that Clark County lists 30 asserted uncertainties for (continued...)

Finally, we note that in its reply brief responding to the DOE and Staff objections before the Boards,<sup>42</sup> and again on appeal, Clark County attempts to rehabilitate this contention by providing supplemental information. However, Clark County is confined to the contention as initially filed and may not rectify its deficiencies through its reply brief or on appeal.<sup>43</sup> For all these reasons, we deny Clark County's appeal, and affirm the Board's ruling rejecting Contention CLK-SAFETY-1.

### B. <u>NRC Staff</u>

#### 1. Legal Contentions

The Boards admitted a set of contentions identified as legal contentions, or as contentions in part appropriate for legal resolution, and recognized that some factual contentions were admitted contingent upon the resolution of a related legal contention. The Boards indicated their intention to decide legal issue contentions on the basis of briefs or oral argument and stated that briefing schedules would be set out in a subsequent order.<sup>44</sup> On appeal, the Staff challenges this decision, arguing that the legal contentions should be addressed at the outset and dismissed. Specifically, the Staff challenges the Boards' decision to admit legal contentions NEV-SAFETY-4, NEV-SAFETY-5, NEV-SAFETY-6, NEV-SAFETY-9, NEV-SAFETY-10, NEV-SAFETY-11, NEV-SAFETY-12, NEV-SAFETY-13, NEV-SAFETY-19, NEV-SAFETY-139, NEV-SAFETY-146, NEV-SAFETY-149, NEV-SAFETY-161,

(... continued)

CLK-SAFETY-1 in the Clark County Petition whereas on appeal, it lists 27 uncertainties.

<sup>44</sup> LBP-09-6, 69 NRC at \_\_\_\_ (slip op. at 62).

<sup>&</sup>lt;sup>42</sup> See generally Reply of Clark County, Nevada to the Answers of the U.S. Department of Energy and the Nuclear Regulatory Commission Staff (Feb. 24, 2009); Clark County Appeal.

<sup>&</sup>lt;sup>43</sup> Louisiana Energy Services, L.P. (National Enrichment Facility), CLI-04-25, 60 NRC 223 (2004).

NEV-SAFETY-169, NEV-SAFETY-171, NEV-SAFETY-184 through NEV-SAFETY-194, NEV-SAFETY-201, NEV-MISC-2, CAL-NEPA-5, NCA-MISC-1, and NYE-SAFETY-4.<sup>45</sup>

The Staff argues that the Boards erred in admitting these contentions because the Boards did not apply all six of the 10 C.F.R. § 2.309(f)(1) contention admissibility criteria to each legal contention and because, for some of the admitted legal contentions, "the legal issue to be briefed is a contention admissibility criterion itself."<sup>46</sup> According to the Staff, although the Boards did not provide a contention-by-contention rationale, the Boards apparently admitted the legal contentions even though not all of the admissibility criteria were met in each instance.<sup>47</sup> The Staff maintains that if consideration of a legal issue results in a finding that a contention is outside the scope of this proceeding, or is not material to the Commission's licensing decision, then the contention should not have been admitted in the first place based on its failure to satisfy all six of the admissibility criteria, including § 2.309(f)(1)(iii) and (iv).<sup>48</sup>

In reply, Nevada argues preliminarily that the Staff's general failure to make contentionspecific arguments in support of dismissing admitted legal contentions means that the Staff's brief supports, at most, remand to the Boards for additional findings.<sup>49</sup> But even a remand is unnecessary, according to Nevada, because the Staff's argument that contentions raising

<sup>48</sup> See *id*. at 9.

<sup>&</sup>lt;sup>45</sup> NRC Staff Appeal at 8.

<sup>&</sup>lt;sup>46</sup> *Id.* at 10. The Staff lists in this category the following contentions: NYE-SAFETY-4, NEV-SAFETY-4, NEV-SAFETY-5, NEV-SAFETY-6, NEV-SAFETY-146, NEV-SAFETY-201, NEV-SAFETY-161, NEV-SAFETY-169, NEV-SAFETY-171, and CAL-NEPA-5. *See id.* 

<sup>&</sup>lt;sup>47</sup> See *id.* at 8. For its part, the Staff also declines to discuss the asserted deficiencies of the contentions individually, with the exception of CAL-NEPA-5 and NEV-SAFETY-161, which are discussed *infra*. See *id.* at 11-12, 27-28.

<sup>&</sup>lt;sup>49</sup> Nevada Opposition at 1. According to Nevada, the Staff only provided specific support for dismissing NEV-SAFETY-161. *See id.* 

purely legal issues must be supported by facts and expert opinion makes no sense.<sup>50</sup> Nevada argues that the materiality of a legal contention is apparent from the nature of the legal issue without factual allegations.<sup>51</sup> In Nevada's view, because only facts and expert opinion "on which the petitioner intends to rely"<sup>52</sup> at evidentiary hearing must be stated in the petition, and because petitioners do not rely on facts or expert opinion in connection with legal contentions, none must be provided.<sup>53</sup> Nevada maintains that the Staff's additional argument – that for some of the legal contentions the legal issue is itself an admissibility criterion – confuses admissibility with the merits determination that will be made after the legal issues are briefed.<sup>54</sup>

In its reply, Nye County argues that the Staff's assertion that the Boards failed to apply all six admissibility criteria ignores the Boards' clear statement that the admitted legal contentions met all of the admissibility criteria and ignores the Boards' rejection of specific arguments raised in opposition to particular contentions.<sup>55</sup> According to Nye County, the Staff, in its appeal, fails to discuss any specific deficiencies in NYE-SAFETY-4 that warrant overturning the decision to admit the contention.<sup>56</sup> From Nye County's perspective, the Staff's argument that the Board resolved the issue to be briefed by virtue of admitting NYE-SAFETY-4 is erroneous. Nye County argues that the Board did not resolve the merits of NYE-SAFETY-4,

<sup>50</sup> See id.

<sup>&</sup>lt;sup>51</sup> See *id*. at 2.

<sup>&</sup>lt;sup>52</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>&</sup>lt;sup>53</sup> See Nevada Opposition at 2.

<sup>&</sup>lt;sup>54</sup> See *id*. at 3-4.

<sup>&</sup>lt;sup>55</sup> See Nye County Reply at 8.

<sup>&</sup>lt;sup>56</sup> See *id*. at 9.

but simply set it for briefing. Moreover, according to Nye County, the "NRC Staff's argument, taken to its logical conclusion, would render all 'legal' contentions inadmissible."<sup>57</sup>

As the Boards point out in their decision,<sup>58</sup> our rules permit contentions that raise issues of law as well as contentions that raise issues of fact.<sup>59</sup> It is true that our contention admissibility "requirements are deliberately strict, and that we will reject any contention that does not satisfy the requirements."<sup>60</sup> But this does not require an analysis that disregards reason. We agree, for example, with the Boards' view in this proceeding that requiring a petitioner to allege "facts" under section 2.309(f)(1)(v) or to provide an affidavit that sets out the "factual and/or technical bases" under section 51.109(a)(2) in support of a *legal* contention – as opposed to a *factual* contention – is not necessary. Thus, we find the Boards' interpretation and application of our section 2.309(f)(1) contention admissibility requirements and our section 51.109(a)(2) affidavit requirement reasonable in this proceeding.

Moreover, as the Boards understood, while the differentiation between the treatment of legal and factual contentions was highlighted under our former procedural rules – which *mandated* resolution of legal contentions on the basis of briefs or oral argument<sup>61</sup> – our new rules preserve the distinction. Consistent with our effort to simplify and to improve the effectiveness and efficiency of our procedural rules,<sup>62</sup> our rules accord presiding officers

<sup>&</sup>lt;sup>57</sup> *Id*. at 10.

<sup>&</sup>lt;sup>58</sup> LBP-09-6, 69 NRC at \_\_\_\_ (slip op. at 61).

<sup>&</sup>lt;sup>59</sup> See 10 C.F.R. § 2.309(f)(1)(i).

<sup>&</sup>lt;sup>60</sup> USEC, Inc. (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 437 (2006)(citations omitted).

<sup>&</sup>lt;sup>61</sup> See 10 C.F.R. § 2.714(e) (2003) (rescinded) (providing that admitted contentions determined by the Commission or presiding officer to constitute pure issues of law must be decided on the basis of briefs or oral argument).

<sup>&</sup>lt;sup>62</sup> See Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2181 (Jan. 14, 2004).

considering proposed legal contentions the flexibility to request briefs or oral argument on a discretionary basis; a request for briefs on legal issues now simply is one of the many tools available to a presiding officer generally in the conduct of a proceeding.<sup>63</sup> Particularly in this exceptionally complex proceeding, we find the Boards' request for briefs on legal contentions to be a reasonable exercise of authority and a prudent case management decision.

Consequently, we deny this aspect of the Staff's appeal and affirm the Boards' decision to admit the identified legal contentions.<sup>64</sup> In the interest of moving forward expeditiously where possible in this proceeding, we emphasize that the Boards should be prompt in issuing an appropriately efficient briefing schedule for these contentions.<sup>65</sup> We also expect the Boards to provide a thorough and meaningful discussion of the legal issues and the bases for resolving them. The Boards' cursory treatment of legal contentions at the admissibility phase of this proceeding, which is governed by tight deadlines, is understandable. But when considering the merits of such contentions, a full explanation is in order.

# 2. CAL-NEPA-5 (Project Description)

Contention CAL-NEPA-5 challenges the NRC's adoption determination, with respect to DOE's environmental impact statements, based on the description of the proposed repository capacity. The contention states as follows:

It is not practicable for NRC to adopt DOE's Yucca Mountain FEIS [Final Environmental Impact Statement],[<sup>66</sup>] the Repository SEIS [Supplemental

<sup>63</sup> See, e.g., 10 C.F.R. §§ 2.319, 2.331, 2.332, and 2.333.

<sup>&</sup>lt;sup>64</sup> The Staff also challenged the Boards' decisions to admit CAL-NEPA-5 and NEV-SAFETY-161, listed here, on separate grounds. We address those arguments *infra*.

<sup>&</sup>lt;sup>65</sup> In some cases, the appropriate vehicle for resolution of a legal contention may be through motions for summary disposition. *See, e.g.,* 10 C.F.R. § 2.1025 (describing the authority of the presiding officer to dispose of certain issues on the pleadings).

<sup>&</sup>lt;sup>66</sup> U.S. Department of Energy, Office of Civilian Radioactive Waste Management, "Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear (continued...)

Environmental Impact Statement],[<sup>67</sup>] or the Nevada Rail Corridor SEIS,[<sup>68</sup>] as is required by 10 C.F.R. § 51.109(c), because they are incomplete and inadequate pursuant to NEPA [the National Environmental Policy Act<sup>69</sup>] and NRC regulations at 10 C.F.R. part 51, in that they present an incomplete and inaccurate project description that describes Yucca Mountain as having only a capacity of 70,000 metric tons heavy metal being stored and/or disposed of at Yucca Mountain . . ., with only that amount being transported (including transportation through California), while it is now reasonably foreseeable that Congress, at DOE's request and upon DOE's recommendation, may authorize the storage and/or disposal of up to four times that total, or even more; in the alternative, the NEPA documents impermissibly segment the project if DOE plans to issue a supplement to the NEPA documents addressing this reasonably foreseeable capacity increase, either during or after the completion of the [I]icensing [p]roceeding.<sup>70</sup>

Section 114(d) of the Nuclear Waste Policy Act of 1982, as amended, (NWPA) sets a

capacity limit on the amount of commercial and government-owned spent nuclear fuel and high-

level waste that may be emplaced in the proposed repository which, if approved, would be the

first such repository in the United States.<sup>71</sup> California argues that DOE's NEPA documents,

(... continued)

Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada" (Feb. 2002)(ADAMS package ML0326690321).

<sup>67</sup> U.S. Department of Energy, Office of Civilian Radioactive Waste Management, "Final 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" (June 2008)(ADAMS package ML081750191)(Repository SEIS).

<sup>68</sup> U.S. Department of Energy, Office of Civilian Radioactive Waste Management, "Final 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 – Nevada Rail Transportation Corridor, DOE/EIS-0250F-S2," and "Final Environmental Impact Statement for a Rail Alignment for the Construction and Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada, DOE/EIS-0369" (June 2008)(ADAMS package ML082460227).

<sup>69</sup> 42 U.S.C. §§ 4320 et seq.

<sup>70</sup> State of California's Petition for Leave to Intervene in the Hearing (Dec. 20, 2008), at 37 (citations omitted)(California Petition).

<sup>71</sup> NWPA § 114(d), 42 U.S.C. § 10134(d)("The Commission decision approving the first [construction authorization] application shall prohibit the emplacement in the first repository of a quantity of spent fuel containing in excess of 70,000 metric tons of heavy metal [MTHM] or a (continued...)

particularly the Repository SEIS,<sup>72</sup> are incomplete and inadequate because the project description in those documents considers a repository with a capacity consistent with that statutory limit.

In support of its contention, California cites a DOE report recommending that Congress remove the statutory limit for the Yucca Mountain repository, which could allow the repository to be expanded to accommodate "three times, or more, the current statutory limit of 70,000 MTHM."<sup>73</sup> California contends that such an increase in capacity is at least reasonably foreseeable, and that NEPA, therefore, requires DOE to include in its environmental analyses the environmental impacts associated with such a capacity increase. If such an analysis is performed at a future time, California complains that DOE would be impermissibly segmenting the project.

CAB-02 admitted CAL-NEPA-5, with little discussion, noting that "because the

significance of the current capacity limitation is unclear, CAL-NEPA-5 is admitted as a legal

issue contention."74

The Staff appeals this ruling, arguing that CAB-02 erred because the NRC may not, by

law, authorize a capacity limit larger than that set by the statute. Therefore, the Staff argues,

the associated NEPA documents need only analyze the impacts of the project described in the

<sup>72</sup> California Petition at 41 (citing challenged sections of the Repository SEIS).

<sup>73</sup> *Id.* at 39 (citing "The Report to the President and the Congress by the Secretary of Energy on the Need for a Second Repository" (Dec. 2008), at 1 (LSN CEC000000613)). DOE submitted this report pursuant to section 161(b) of the NWPA, which required DOE to report to the President and to Congress on the need for a second repository between January 1, 2007 and January 1, 2010. *See* 42 U.S.C. § 10172a(b).

<sup>74</sup> LBP-09-6, 69 NRC \_\_\_ (slip op. at 136).

<sup>(...</sup> continued)

quantity of solidified high-level radioactive waste resulting from the reprocessing of such a quantity of spent fuel until such time as a second repository is in operation.") See 10 C.F.R. § 63.42(d).

application – here, a construction authorization for a facility with a 70,000 MTHM capacity limit, and not the impacts of proposed legislation.<sup>75</sup> The crux of California's argument in opposition continues to be that it is reasonably foreseeable that the law may change to allow expanded capacity at the proposed Yucca Mountain repository.<sup>76</sup>

We do not disturb CAB-02's ruling on the admissibility of this contention, particularly given the brevity of the Board's ruling. As is the case with the other legal contentions admitted in this proceeding, the consideration of CAL-NEPA-5 will benefit from briefing by the parties, and, as discussed above, a Board ruling explaining its rationale for its ultimate determination either to reject or move forward with the contention. We suggest that the Boards, in their further review of CAL-NEPA-5, consider the applicability of the proposition that merely contemplating a certain action – even if accompanied by research or study – does not necessarily constitute a proposal for a major federal action requiring NEPA review.<sup>77</sup>

3. NEI-SAFETY-1 (Direct Disposal of Spent Nuclear Fuel)

NEI-SAFETY-1 states as follows:

The License Application ("LA") fails to permit direct disposal of dual purpose canisters ("DPCs") containing commercial spent nuclear fuel and is therefore inconsistent with "as low as is reasonably achievable" ("ALARA") principles, unnecessarily generates additional low-level radioactive waste ("LLRW"), and wastes limited resources.<sup>78</sup>

In its SAR, DOE proposes to use Transportation, Aging and Disposal (TAD) canisters for

disposal of commercial spent nuclear fuel instead of DPCs because, according to DOE, DPCs

<sup>77</sup> See, e.g., *Kleppe v. Sierra Club*, 427 U.S. 390, 404-06 (1976). *Cf. Wilderness Workshop v. U.S. Bureau of Land Mgmt.*, 531 F.3d 1220, 1229 (10<sup>th</sup> Cir. 2008)("'[P]rojects', for the purposes of NEPA, are described as 'proposed actions,' or proposals *in which action is imminent.*") (emphasis added).

<sup>78</sup> See The Nuclear Energy Institute's Petition to Intervene (Dec. 19, 2008), at 9 (NEI Petition).

<sup>&</sup>lt;sup>75</sup> NRC Staff Appeal at 11-12.

<sup>&</sup>lt;sup>76</sup> California Opposition at 2.

are not suitable for disposal purposes.<sup>79</sup> In its intervention petition, NEI asserted that "at least 1,029 DPCs . . . will be loaded with commercial spent nuclear fuel at reactor sites by the time Yucca Mountain is expected to open."<sup>80</sup> As a consequence of using TAD canisters and not DPCs, NEI argued that workers at the GROA and at individual nuclear power plant sites "will be unnecessarily exposed to increased radiation as a result of unloading and reloading these DPCs."<sup>81</sup> In addition, NEI argued that the use of TAD canisters would create unnecessary low-level radioactive waste, and increase resource use and costs.<sup>82</sup> CAB-03 admitted NEI-SAFETY-1 without discussion.<sup>83</sup>

On appeal, the Staff reiterates its opposition to the admissibility of NEI-SAFETY-1 based principally on the same grounds articulated in its answer to NEI's intervention petition. The Staff first argues that NEI seeks to apply ALARA principles to a design parameter important to post-closure performance, and that, because ALARA considerations do not apply to post-closure activities, NEI-SAFETY-1 poses an issue not material to the findings the NRC must make.<sup>84</sup> The Staff objects that the contention necessarily involves balancing of pre-closure benefits and any post-closure performance reductions, which the Commission sought to avoid by eliminating

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<sup>&</sup>lt;sup>79</sup> Yucca Mountain Repository License Application Safety Analysis Report (2008) at § 1.5.1.1.1.2.1.2.

<sup>&</sup>lt;sup>80</sup> NEI Petition at 11.

<sup>&</sup>lt;sup>81</sup> *Id.* at 9.

<sup>&</sup>lt;sup>82</sup> See id.

<sup>&</sup>lt;sup>83</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op., Attachment A).

<sup>&</sup>lt;sup>84</sup> NRC Staff Appeal at 12-13.

ALARA considerations from the post-closure period.<sup>85</sup> NEI counters that its ALARA contention concerns doses during pre-closure operations.<sup>86</sup>

The Staff further argues that NEI-SAFETY-1 does not satisfy the contention admissibility requirements because the issue raised is, in part, beyond the scope of this proceeding.<sup>87</sup> To the extent NEI based its contention on the application of ALARA<sup>88</sup> considerations at nuclear power plant locations, the Staff argues, NEI "does not raise a safety issue within the scope of this proceeding because reactor licensee's compliance with Part 20, pursuant to 10 C.F.R. § 50.40 is not an issue in this proceeding ....<sup>89</sup> In other words, the Staff contends that ALARA at nuclear power plants is not a consideration under Part 63. In response, NEI argues that limiting the consideration of ALARA to the geographic limits of the GROA is arbitrary and without support.<sup>90</sup> NEI points to the Statements of Consideration for Part 63, which, in its view, treat "the general public and workers" and "present-day populations and workers" as including populations and workers at any facility, including nuclear power plants.<sup>91</sup> NEI argues that "[h]ad

<sup>&</sup>lt;sup>85</sup> *Id.* at 13.

<sup>&</sup>lt;sup>86</sup> NEI Opposition at 17-18.

<sup>&</sup>lt;sup>87</sup> NRC Staff Appeal at 14-15.

<sup>&</sup>lt;sup>88</sup> "As Low As Is Reasonably Achievable," defined in 10 C.F.R. § 20.1003, is an operating philosophy based on good radiation protection practices and expert licensee judgment in "making every reasonable effort to maintain exposures to radiation as far below ... dose limits as is practical" taking into account certain prescribed factors as set therein. *See also* Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act, 61 Fed. Reg. 65,120, 65,122 (Dec. 10, 1996).

<sup>&</sup>lt;sup>89</sup> NRC Staff Appeal at 14.

<sup>&</sup>lt;sup>90</sup> NEI Opposition at 19.

<sup>&</sup>lt;sup>91</sup> *Id.* at 13 (quoting 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)).

the Commission wanted to limit its consideration only to populations near, and workers at, the repository, it could have and presumably would have so stated."<sup>92</sup>

We decline to disturb CAB-03's admissibility ruling, again (as with other contentions) to give the Boards and ultimately the Commission the benefit of full briefs and a fully developed adjudicatory record. However, Contention NEI-SAFETY-1 presents an issue that merits close consideration. In particular, the Boards should consider whether ALARA considerations at individual plant sites are appropriately part of this proceeding.<sup>93</sup>

4. NEI-SAFETY-2 (Non-TAD Shipments to Yucca Mountain)

NEI-SAFETY-2 states as follows:

Yucca Mountain's surface facility design capability to receive not less than 90% of commercial spent nuclear fuel ("SNF") in Transportation, Aging, and Disposal ("TAD") canisters is inconsistent with "as low as is reasonably achievable" ("ALARA") principles.<sup>94</sup>

In brief, NEI contends that the minimum 90% threshold for receipt of spent nuclear fuel

in TADs at the GROA should be reduced to 75% because the radiological exposure of workers

who transfer spent nuclear fuel from DPCs to TADs at nuclear power plant locations will be

lessened because fewer canisters will need to be unloaded and loaded.<sup>95</sup> According to NEI, to

do otherwise would be inconsistent with ALARA principles.

<sup>94</sup> NEI Petition at 13.

<sup>95</sup> *Id.* 

<sup>&</sup>lt;sup>92</sup> NEI Opposition at 13.

<sup>&</sup>lt;sup>93</sup> See, e.g., 10 C.F.R. § 63.111(a)(1) (requiring that the GROA meet the requirements of 10 C.F.R. Part 20); § 63.111(c) (requiring the performance of a pre-closure safety analysis that must demonstrate, among other things, that the requirements of section 63.111(a) are met). See also Disposal of High-Level Radioactive Wastes, 66 Fed. Reg. at 55,751 (regarding application of ALARA principles at the repository). We note that, in context of NEI's standing, CAB-03 found unpersuasive DOE's argument that "health and safety impacts felt at distant nuclear plant sites caused by the delay in completion of its proposed repository are outside the scope of the proceeding." LBP-09-6, 69 NRC (slip op. at 79).

On appeal, the Staff again rehashes its arguments before the Boards. The Staff argues that NEI-SAFETY-2 is outside the scope of this proceeding for its failure to "allege any potential failure to meet the requirements of Part 63."<sup>96</sup> The Staff further restates its argument that ALARA considerations under Part 63 are limited to the GROA and do not encompass individual nuclear power reactor sites.<sup>97</sup>

Consistent with our ruling on NEI-SAFETY-1, we decline to reverse the Board's

threshold admissibility ruling relating to NEI-SAFETY-2. However, also as noted with respect to

NEI-SAFETY-1, the Board should consider whether ALARA considerations at locations other

than the GROA are appropriately considered in conjunction with this contention.

5. NEI-SAFETY-3 (Excessive Seismic Design of Aging Facility)

The Staff objects to the Board's admission (without discussion) of NEI-SAFETY-3, which

argues that DOE has set an overly conservative seismic design basis for the facility where fuel

will be aged during the operations period. NEI argues that:

The design requirement stated in Section 1.2.7.1.3.2.1 of the License Application (LA) Safety Analysis Report (SAR) specifying that the vertical aging overpack system "must withstand a seismic event characterized by horizontal and vertical peak ground accelerations of 96.52 ft/s<sup>2</sup> (3g) without tipover and without exceeding canister leakage rates" is excessively conservative, goes beyond the necessary safety margin, and is not consistent with ALARA principles.<sup>98</sup>

NEI argues that various miscalculations in predicting the likelihood and strength of

potential seismic activity led DOE to set excessive design requirements for the vertical aging

overpack system to be used before the spent fuel casks are placed in the underground

<sup>&</sup>lt;sup>96</sup> NRC Staff Appeal at 15.

<sup>&</sup>lt;sup>97</sup> See id.

<sup>&</sup>lt;sup>98</sup> NEI Petition at 17.

repository.<sup>99</sup> According to one of NEI's experts, existing storage overpack systems, although designed to withstand seismic events, could not meet DOE's design standard.<sup>100</sup> This expert states that DOE's dual requirement that the overpack be free-standing and able to withstand a "3g" earthquake would mean that the "aging casks will likely be designed differently from current dry storage systems, possibly with some structural element or design apparatus to prevent overturning."<sup>101</sup> NEI argues that workers at the Yucca Mountain site would be exposed to increased radiation as they install this "structural element or apparatus," and that this increased dosage is inconsistent with ALARA principles.<sup>102</sup> In addition, NEI argues that the "excessive" seismic design will lead to unnecessary costs and delays of the Yucca Mountain project.<sup>103</sup>

The Staff argues on appeal that whether DOE's design will impose "licensing uncertainty," unnecessary costs, and delays are not questions material to this proceeding.<sup>104</sup> We agree that "licensing uncertainty" and delay are not material questions. The Staff further complains, and we agree, that NEI cites no legal requirement that, before the Staff can make the safety findings associated with the seismic review of the construction authorization application, the Staff must first find both that the design is not "too conservative" and that the associated costs are not excessive.<sup>105</sup>

<sup>&</sup>lt;sup>99</sup> See *id.* at 17, Attachment 9, Affidavit of Christopher W. Fuller, Michael G. Gray, and Daniel R.H. O'Connell in Support of Proposed Contention NEI-SAFETY-03.

<sup>&</sup>lt;sup>100</sup> See *id.*, Attachment 10, Affidavit of Brian Gutherman in Support of Proposed Contention NEI-SAFETY-3, at 2-3.

<sup>&</sup>lt;sup>101</sup> See *id.*, Attachment 10.

<sup>&</sup>lt;sup>102</sup> See *id.* at 21.

<sup>&</sup>lt;sup>103</sup> See *id.* at 18.

<sup>&</sup>lt;sup>104</sup> NRC Staff Answer at 17-18.

<sup>&</sup>lt;sup>105</sup> With respect to seismic activity, as with other event sequences, the Staff must determine whether the potential event sequence falls into either Category 1 or Category 2. See 10 C.F.R. (continued...)

The Staff's appeal does not address NEI's third claim that the assertedly "excessive" design standard would effectively cause workers at the aging facility to incur unnecessary doses of radiation as they attempt to modify the overpacks, and that this violates ALARA principles.<sup>106</sup> The Staff does not dispute that operations at the aging facility during the pre-closure period are subject to the requirement that doses to workers should be ALARA.<sup>107</sup> NEI-SAFETY-3, therefore, raises an issue whether the design of the aging facility will increase doses to workers in violation of ALARA principles.

Although, as stated above, we agree that licensing uncertainty and delay are not issues material to and within the scope of this proceeding, the issue whether alleged "excessive" conservatism could lead to violation of ALARA during the operations period is within the scope of and material to this proceeding. We affirm the Board's admission of this contention as so limited.

### 6. NEI-SAFETY-4 (Low Igneous Event Impact on TSPA)

The Staff appeals the Board's admission (albeit without discussion or explanation) of

NEI-SAFETY-4, because it raises claims of "excessive conservatism" - which, the Staff argues,

are immaterial to and outside the scope of the licensing proceeding. Here again, NEI claims

<sup>107</sup> The Commission's Part 63 regulations provide that the geologic repository operations area must meet the requirements of Part 20. *See* 10 C.F.R. § 63.111(a). Part 20, in turn, requires licensees to "use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses that are as low as reasonably achievable (ALARA)." 10 C.F.R. § 20.1101(b).

<sup>(...</sup> continued)

<sup>§ 63.2 (</sup>definition of "event sequence"). The pre-closure safety analysis must demonstrate that in the event of Category 1 or Category 2 event sequences, prescribed dose limits will be met. See 10 C.F.R. § 63.111(c).

<sup>&</sup>lt;sup>106</sup> In its answer to NEI's initial pleading, though not in its appeal, the Staff argued that NEI's claim that the overpack would have to be modified on site in some manner causing increased doses to workers is "speculative" and ignores contrary statements in the SAR. *See* NRC Staff Answer at 128.

that excessive conservatism will lead to "licensing uncertainty" and delay in building the

repository:

The Department of Energy (DOE) in the License Application (LA) has modeled the scenario of a volcano at the Yucca Mountain site in the Total System Performance Assessment (TSPA). Based on an unreasonable set of assumptions that postulate the complete failure of every waste package in the repository, DOE conservatively concludes that intrusive igneous events that intersect the repository account for approximately 40% of the total dose over a 10,000 year period. Based on an analysis and calculation by the Electric Power Research Institute (EPRI), DOE has been excessively conservative in its treatment in the LA TSPA of the consequences of a potential igneous event. NEI contends that in fact substantial additional safety margin exists in this area. NEI contends that if DOE considered a reasonably expected intrusive igneous scenario, the related consequences would show no significant release of radionuclides. DOE's conservative treatment and results could contribute to licensing uncertainty and could delay the development of the repository.<sup>108</sup>

In short, NEI claims that DOE's "unreasonably pessimistic" assumptions about magma behavior

and of storage cask failure "lead[] to a perception of reduced licensing margin."<sup>109</sup>

In contrast to NEI-SAFETY-3, NEI-SAFETY-4 does not argue that DOE's

"excessive" conservatism with respect to future igneous activity will lead to a

corresponding safety violation, either during the period of operations or beyond. Instead,

NEI seeks to prosecute this contention in order to demonstrate that there is a "margin" of

safety, which, NEI hopes, will speed the licensing and development of the repository.<sup>110</sup>

NEI explains, in opposing the Staff's appeal, that it proposes to "alter the licensing basis

for the project" in order to "increase DOE's flexibility in the future in developing,

constructing, and operating the facility."111

<sup>&</sup>lt;sup>108</sup> NEI Petition at 23.

<sup>&</sup>lt;sup>109</sup> *Id.* at 24-25.

<sup>&</sup>lt;sup>110</sup> See NEI Opposition at 14-15.

<sup>&</sup>lt;sup>111</sup> *Id.* at 15.

We agree with the Staff that "licensing uncertainty and possible delay do not fall within the safety, security, and technical or environmental standards that the NRC considers."<sup>112</sup> The Hearing Notice specified that the matters to be considered in this proceeding are "whether the application satisfies the applicable safety, security and technical standards of the Atomic Energy Act of 1954, as amended (AEA) and NWPA, and the NRC's standards in 10 C.F.R. Part 63 for construction authorization for a high-level waste geologic repository."<sup>113</sup> NEI has failed to raise an issue material to the findings the NRC must make in order to approve this license application. While NEI explains its position and supports its argument with expert opinion, it does not explain how its concerns – costs and delay – are material. Our regulations set a minimum standard for safety, not a maximum. We therefore reverse CAB-03's ruling admitting this contention.

<sup>&</sup>lt;sup>112</sup> NRC Staff Appeal at 19.

<sup>&</sup>lt;sup>113</sup> Notice of Hearing, 73 Fed. Reg. at 63,029.

# 7. NEI-SAFETY-5 (Conservatism in the Post-Closure Analysis)

### NEI-SAFETY-5 states as follows:

The postclosure criticality analysis described in Section 2.2.4.1.1 of the License Application ("LA") Safety Analysis Report ("SAR") provides a substantial safety margin, is excessively conservative, and will unnecessarily lead to the expectation that disposal control rod assemblies be inserted in some fuel assemblies at nuclear power plants prior to shipment to disposal.<sup>114</sup>

NEI challenges the asserted over-conservatism of DOE's post-closure criticality

analysis.<sup>115</sup> Overall, NEI argues that DOE's "excessively conservative" post-closure criticality analysis will effectively require licensees to unnecessarily insert control rod assemblies into some fuel assemblies prior to transportation of the spent fuel to the repository.<sup>116</sup> According to NEI, such a practice will (a) increase occupational doses to workers at nuclear power plant sites, (b) require unnecessary design and operational costs to be paid out of the Nuclear Waste Fund, and (c) cause delays in licensing new TAD canister designs.<sup>117</sup>

Here again, the crux of the Staff's argument is that ALARA considerations in connection with an increase of worker exposures at nuclear power plant sites are beyond the scope of this construction authorization proceeding. For its part, NEI reiterates its argument that the Staff is unable to point to any support for its assertedly narrow interpretation of Part 63, limiting ALARA considerations to the boundaries of the GROA.<sup>118</sup>

<sup>117</sup> *Id.* at 31-33.

<sup>118</sup> See NEI Opposition; Reply of the Nuclear Energy Institute to the Answers to its Petition to Intervene by the Department of Energy, the NRC Staff, and the State of Nevada (Feb. 24, 2009).

<sup>&</sup>lt;sup>114</sup> NEI Petition at 31.

<sup>&</sup>lt;sup>115</sup> *Id.* at 33.

<sup>&</sup>lt;sup>116</sup> *Id.* at 32. We reiterate that, in and of itself, the assertion that DOE's analysis is overly conservative does not rise to the level of an admissible contention because "over-conservatism" is not an issue material to a finding that NRC must make in this proceeding.

Consistent with our rulings relating to NEI-SAFETY-1 and -2, we decline to disturb the

Board's admissibility ruling here.<sup>119</sup>

# 8. NEI-SAFETY-6 (Necessity of Drip Shields)

NEI-SAFETY-6 states as follows:

The drip shields that the Department of Energy ("DOE") proposes as part of the Engineered Barrier system ("EBS") are not necessary because the repository is capable of meeting regulatory requirements with significant performance margin and defense in depth without drip shields. Installation of the drip shields will result in significant and unnecessary radiation exposures, resource use, and costs, and is therefore inconsistent with "as low as is reasonably achievable" ("ALARA") principles.<sup>120</sup>

In its intervention petition, NEI argued that DOE made several overly conservative

assumptions in its post-closure performance analyses. According to NEI, these assumptions

led DOE to include unnecessary drip shields in the proposed repository design.<sup>121</sup>

NEI-SAFETY-6 argues that drip shields are not necessary for compliance with our

requirements. Therefore, NEI maintains, their installation would be inconsistent with ALARA

principles because installation of the drip shields would result in significant and unnecessary

radiation exposures to workers at the GROA.<sup>122</sup>

The Staff argues on appeal that DOE's decision to install drip shields is a design

decision affecting post-closure repository performance; because it does not pertain to pre-

closure repository operations, the Staff argues, the contention raises no issue material to a

finding the NRC must make. According to the Staff, this is so because ALARA principles do not

<sup>121</sup> See id.

<sup>122</sup> See *id.* at 35-36.

<sup>&</sup>lt;sup>119</sup> The Staff does not challenge NEI's arguments in connection with increased operational costs or licensing delays. We observe, however, consistent with our finding on NEI-SAFETY-3, that it does not appear to us that NEI has articulated a basis for finding that either of these matters is material to a finding NRC must make in this proceeding.

<sup>&</sup>lt;sup>120</sup> NEI Petition at 35.

apply to the achievement of post-closure performance objectives.<sup>123</sup> NEI counters that the Staff misunderstands the contention, which, NEI claims, addresses more than the ALARA implications of drip shield installation.<sup>124</sup> Rather, NEI states that the contention questions the need for drip shields as part of the design, and addresses the post-closure safety analysis and related performance standards and objectives.<sup>125</sup> Further, NEI articulates a disagreement with the Staff with respect to the interpretation of the rules governing the use of ALARA principles in this proceeding.<sup>126</sup>

NEI-SAFETY-6 presents, in some ways, the converse of the issue presented in Contention NEV-SAFETY-161, which we discuss *infra*, and other admitted contentions regarding the proposed drip shields.<sup>127</sup> We decline to disturb CAB-03's ruling admitting this contention, and find that the consideration of NEI-SAFETY-6 in tandem with other admitted contentions relating to the proposed drip shields, including NEV-SAFETY-161, would benefit from the development of a more complete adjudicatory record.

9. NEV-MISC-3 (License Application References)

NEV-MISC-3 states as follows:

Error of Omission: The LA SAR is insufficient on its face because it cannot be determined whether its safety conclusions are correct without also considering about 196 references listed therein, but as provided in LA General Information

<sup>126</sup> *Id.* at 32-33.

<sup>127</sup> See, e.g., State of Nevada's Petition to Intervene as a Full Party (Dec. 19, 2008), at 757 (NEV-SAFETY-143), 765 (NEV-SAFETY-145)(Nevada Petition).

<sup>&</sup>lt;sup>123</sup> NRC Staff Appeal at 22.

<sup>&</sup>lt;sup>124</sup> NEI Opposition at 31.

<sup>&</sup>lt;sup>125</sup> *Id.* at 31-32 ("NEI is arguing that, due to other conservatisms and oversimplifications in the analysis, drip shields are not necessary to meet the *established* performance standards.")(emphasis in original).

Subsection 1.4.1 at 1-21, DOE refuses to incorporate these references into the LA.  $^{\ensuremath{^{128}}}$ 

NEV-MISC-3 claims that DOE's SAR is "incomplete and inadequate" because 196 documents DOE provided with its application are identified in the SAR as "General References," but were not formally incorporated by reference in the license application, pursuant to 10 C.F.R. § 63.23.<sup>129</sup> These general references include "environmental studies, technical reports, system description documents, facility description documents, or selected calculations," and also "codes and standards."<sup>130</sup> DOE's application states that these references "provide background information or additional detail that will facilitate review of the application," but are not "part of the license application."<sup>131</sup> For "informational purposes," DOE provided copies of reference documents in electronic format when it submitted the license application.<sup>132</sup>

In NEV-MISC-3, Nevada argues that because its experts "usually found it impossible" to review safety conclusions in the SAR without also "considering scientific facts and analyses in the referenced documents," the SAR is "deficient on its face," at least with respect to the SAR subsections addressed in Nevada's contentions.<sup>133</sup> Nevada argues that NEV-MISC-3 is material to the findings that the NRC must make because "10 C.F.R. § 63.31 provides that

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<sup>&</sup>lt;sup>128</sup> Nevada Petition at 1149.

<sup>&</sup>lt;sup>129</sup> *Id.* at 1150. See generally *id.* at 1149-51.

<sup>&</sup>lt;sup>130</sup> Yucca Mountain Repository License Application, Rev. 0 (June 2008), General Information, § 1.4.1 at 1-21 (ML081560408).

<sup>&</sup>lt;sup>131</sup> *Id.* 

<sup>&</sup>lt;sup>132</sup> See Yucca Mountain Repository License Application for Construction Authorization Transmittal Letter, Edward F. Sproat, III (DOE), to Michael F. Weber (NRC)(June 3, 2008) (ML081550567).

<sup>&</sup>lt;sup>133</sup> See Nevada Petition at 1150.

safety findings are to be made 'on review and consideration of an application.<sup>17134</sup> Nevada therefore concludes that the application itself – excluding referenced documents not expressly incorporated by reference – "must be sufficiently complete to support all of the necessary *Commission* compliance and safety findings.<sup>135</sup> NEV-MISC-3 "raises the issue whether the safety findings required by 10 C.F.R. § 63.31(a) can be made on the basis of the information in the [DOE] SAR itself.<sup>136</sup>

The Staff appeals CAB-02's decision to admit NEV-MISC-03, arguing that Nevada failed to establish a genuine dispute on a material issue of fact or law as the NRC contention admissibility standards require. Specifically, the Staff argues that Nevada failed to cite "any provision in the Commission's regulations that requires the LA to be a 'stand-alone' document" in terms of the Staff's "assessment of the safety conclusions in the SAR."<sup>137</sup>

We do not disturb CAB-02's threshold judgment on contention admissibility, given that

this is one of numerous other admitted contentions raising legal questions that the Board can

resolve on the basis of additional briefing. But while we do not second-guess CAB-02's

contention admissibility ruling, the contention appears problematic in several respects.

<sup>137</sup> NRC Staff Appeal at 23-24.

<sup>&</sup>lt;sup>134</sup> *Id.* at 1149 (quoting 10 C.F.R. § 63.31). Section 63.31 states, "On review and consideration of an application and environmental impact statement submitted under this part, the Commission may authorize construction of a geologic repository operations area at the Yucca Mountain site if it determines" that the required safety, common defense and security, and environmental findings in 10 C.F.R. § 63.31(a)-(c) are satisfied.

<sup>&</sup>lt;sup>135</sup> State of Nevada's Reply to NRC Staff's Answer to Nevada's Petition to Intervene As a Full Party (Feb. 24, 2009)(Nevada Reply) at 781 (emphasis in original); Nevada Opposition at 5 (emphasis in original).

<sup>&</sup>lt;sup>136</sup> Nevada Petition at 1149. Nevada also claims that 10 C.F.R. § 63.24 "reinforces the concept" that only the license application "is the basis for the NRC's safety review." See Nevada Petition at 1149. Section 63.24(a) states that an "application must be as complete as possible in light of the information that is reasonably available at the time of docketing." See 10 C.F.R. § 63.24. NEV-MISC-3 additionally challenges whether "DOE has complied with § 63.24." Nevada Petition at 1149.

First, it is not clear to us what *meaningful* difference formal "incorporation by reference" ultimately would make in this proceeding – in either the adjudicatory hearing or the Staff's technical review – given that the application cites all reference documents and those documents appear to be as available and subject to verification and challenge as they would have been had DOE "incorporated" them. Second, section 63.31 does not appear to preclude citing (as opposed to incorporating) references in the application. Third, to the extent that the contention may question the Staff's review, such claims are improper;<sup>138</sup> moreover, the Staff has not yet issued its Safety Evaluation Report, and it would be premature to speculate about any Staff safety findings or the specific grounds for them.

These matters should be addressed by the Board after it has the benefit of full briefing and argument.

# 10. NEV-SAFETY-1 and NEV-SAFETY-2 (Management Integrity and Competence)

Nevada, in Contentions NEV-SAFETY-1 and NEV-SAFETY-2, seeks to litigate the management integrity and management ability of DOE, respectively. Nevada stated the contentions as follows:

NEV-SAFETY-1: The LA cannot be granted because DOE lacks the requisite integrity to be an NRC licensee.

NEV-SAFETY-2: The LA cannot be granted because DOE lacks the requisite management ability to construct and operate a safe repository.<sup>139</sup>

CAB-01 admitted both contentions for hearing.<sup>140</sup> But CAB-01 specifically directed our attention

to the "apparent incongruity of one federal agency - even though an independent regulatory

<sup>140</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 114-24).

<sup>&</sup>lt;sup>138</sup> See Curators of the University of Missouri, CLI-95-1, 41 NRC 71, 121-22 (1995).

<sup>&</sup>lt;sup>139</sup> Nevada Petition at 16, 28.

commission – presiding over and ultimately reaching a decision about the integrity and management competence of another federal department."<sup>141</sup> As discussed below, we reverse CAB-01's rulings on these two contentions.

a. Selection of DOE under the NWPA

We find that NEV-SAFETY-1 and NEV-SAFETY-2 amount to impermissible challenges to the NWPA, and to actions by the President and the Congress under the statutory scheme established by the NWPA, and are therefore beyond the scope of this proceeding. In the NWPA, Congress designated DOE, an executive agency, as the body solely responsible for constructing and operating the Yucca Mountain repository.<sup>142</sup> Subsequently, the President and Congress found the Yucca Mountain site suitable, based on DOE's site characterization, and directed DOE to file the Yucca Mountain repository application that is now before us.<sup>143</sup> In these circumstances, we lack authority to consider questions of DOE's overall management integrity and competence. Congress did not believe DOE had the necessary competence and integrity to plan, construct, and operate the facility. DOE's institutional capability to take on that task undergirds the NWPA statutory scheme.

In its answer opposing NEV-SAFETY-1 before the Board, DOE pointed out that, in designating DOE as the sole construction authorization applicant, "Congress concluded that

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<sup>&</sup>lt;sup>141</sup> *Id.*, 69 NRC at \_\_\_ (slip op. at 125).

<sup>&</sup>lt;sup>142</sup> See NWPA § 114(b), 42 U.S.C. § 10141(b)("If the President recommends to Congress the Yucca Mountain Site . . . the Secretary shall submit to the Commission an application for a construction authorization for a repository . . . .").

<sup>&</sup>lt;sup>143</sup> See Nuclear Waste Policy Amendments Act of 1987, Pub. L. No. 100-203, § 5011, 101 Stat. 1330; Act of July 23, 2002, Pub. L. No. 107-200, 116 Stat. 735 (2002)(enacting a joint resolution approving the development of a repository at Yucca Mountain). See also Nuclear Energy Institute v. EPA, 373 F.3d 1251, 1260-61 (D.C. Cir. 2004).

DOE, as an agency of the federal government, not only possesses the requisite attributes of an applicant, but is the *only* appropriate applicant for this license."<sup>144</sup> We fully agree with DOE on this point. By assigning DOE the sole high-level waste disposal function by statute, Congress foreclosed litigation in this proceeding over whether DOE is an appropriate applicant for the proposed repository. A petitioner may not challenge applicable statutory requirements as part of an administrative adjudication.<sup>145</sup> For this reason, NEV-SAFETY-1 and NEV-SAFETY-2 fundamentally constitute collateral attacks on the NWPA, and are beyond the scope of this proceeding.

The circumstances of this case are quite different from cases in which the NRC considers the "character" and "competence" of a private enterprise, not under the government's control.<sup>146</sup> The consideration of management integrity involving private applicants or licensees is grounded in section 182a. of the Atomic Energy Act of 1954, as amended (AEA), which provides that a license application shall provide information "as the Commission may deem necessary" to decide, among other things, "the character of the applicant."<sup>147</sup> As DOE observes, the legislative history underlying the AEA suggests that this provision originally was intended "to

<sup>147</sup> AEA § 182a., 42 U.S.C. § 2232(a).

<sup>&</sup>lt;sup>144</sup> Answer of the U.S. Department of Energy to the State of Nevada's Petition to Intervene (Jan. 16, 2009), at 78 (emphasis in original) (DOE Answer).

<sup>&</sup>lt;sup>145</sup> *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974) (citing *Florida Power and Light Co.* (Turkey Point Units 3 and 4), 4 AEC 787, 788 (1972)); *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Unit 1), LBP-07-11, 65 NRC 41, 57-58 (2007).

<sup>&</sup>lt;sup>146</sup> See, e.g., Georgia Power Co. (Vogtle Electric Generating Plant, Units 1 and 2), CLI-93-16, 38 NRC 25 (1993); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), CLI-85-9, 21 NRC 1118, 1136-40, aff'd, In re Three Mile Island Alert, Inc., 771 F.2d 720 (3d Cir. 1985), cert. denied, 475 U.S. 1082 (1986); *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-812, 22 NRC 5, 48-51 (1985).

provide the Atomic Energy Commission with the authority to ensure that otherwise unknown *private* applicants possessed the requisite character to be licensed under the AEA."<sup>148</sup>

Here, however, while Congress has instructed NRC to review the adequacy of DOE's application, Congress has already determined DOE as the appropriate license applicant, indeed the only appropriate applicant. There is no justification for NRC to inquire again into the same issue. DOE (unlike a private applicant) is politically accountable. Thus, institutional "integrity" or "competence" issues, of the kind Nevada would like to litigate at NRC, are reparable through the political process. For example, the President must nominate and the Senate must confirm the appointment of DOE's senior management. The Department is subject to the continuing oversight of Congress, constrained to comply with various statutes that address the integrity and accountability of federal programs, and is subject to the audit and investigatory powers of an Inspector General. Under these circumstances, the purposes of section 182a. would not be served by NRC's assessing claimed DOE failures that occurred under different administrations and different conditions. Moreover, as a practical matter, it is not sensible for us to divert scarce licensing resources to potentially complex mini-trials on alleged past DOE misdeeds – some entirely unrelated to the construction authorization application. It is far from clear how such mini-trials would accurately forecast DOE's ability to manage the Yucca Mountain project under current and future leadership.<sup>149</sup>

Finally, we observe that our decision not to entertain Nevada's integrity and competence contentions is consistent with our practice of extending comity to other governmental entities –

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<sup>&</sup>lt;sup>148</sup> DOE Answer at 76 (quoting S. Rep. No. [83-]1699, at 7, 9 (1954)).

<sup>&</sup>lt;sup>149</sup> See, e.g., *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 365-67 (2001) (historical actions by an applicant or licensee are not relevant to its current fitness unless there is some "direct and obvious" relationship between the asserted character issues and the licensing action in dispute).

federal, state, local, and tribal.<sup>150</sup> Our decision also is consistent with the longstanding "presumption of regularity," under which adjudicatory bodies presume, absent strong and concrete evidence otherwise, that government agencies and their employees will do their jobs honestly and properly.<sup>151</sup> We do not mean to suggest, of course, that the NRC will not scrutinize DOE's construction authorization application with care, or that the NRC would hesitate to reject that application if it is fatally flawed. In that way, we will fulfill our responsibility to protect public health and safety and the environment at Yucca Mountain, just as we fulfill it in connection with all of our duties.<sup>152</sup> But that responsibility does not require us to go beyond the application itself and inquire broadly into DOE's institutional honesty and capability.

For all of these reasons, we reverse CAB-01's rulings admitting Contentions NEV-

SAFETY-1 and NEV-SAFETY-2.

b. The Board's Interpretation of AEA Section 11s.

<sup>151</sup> See U.S. Department of Energy (High-Level Waste Repository: Pre-Application Matters), CLI-08-11, 67 NRC 379, 384 (2008) (citing cases). See generally Nat'l Archives & Records Admin. v. Favish, 541 U.S. 157, 174 (2004); Withrow v. Larkin, 421 U.S. 35, 55 (1975).

<sup>&</sup>lt;sup>150</sup> See, e.g., Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-83-61, 18 NRC 700, 702 (1983) (exempting the Federal Emergency Management Agency from discovery, due to its "unique position' in our adjudicatory proceedings"). *Cf. Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-25, 6 NRC 535, 537 (1977) (permitting the Commonwealth of Massachusetts to participate in the appellate portion of a proceeding despite the fact that procedural rules would have barred its participation); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-862, 25 NRC 144, 150 & n.18 (1987) (referring to a Commission determination to permit the participation of state governors and members of Congress with respect to a staff proposal, in advance of rulemaking); *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), LBP-83-26, 17 NRC 945, 946-47 (1983) (granting, "as a matter of comity," the State of Texas' motion for an extension of time within which to conduct discovery, and in so doing, implying that it was applying a less stringent standard to the State than it would apply to other litigants).

<sup>&</sup>lt;sup>152</sup> In addition, of course, the NRC retains the authority under the NWPA and the Energy Reorganization Act to take appropriate action to remedy DOE misconduct.

In concluding that it had statutory authority to consider DOE's competence and character, CAB-01 relied in part on its threshold finding that DOE is a "person" under AEA section 11s., which defines "person" to include all federal agencies "other than the Commission."<sup>153</sup> CAB-01 concluded from this that the NRC has authority to consider DOE's character and competence under section 182a. of the AEA, just as it would any other "person's." On appeal, the Staff challenges the Board's conclusion that DOE is a "person" under section 11s. The Staff asserts that, to the extent "personhood" under section 11s. is a prerequisite for our consideration of those two issues, we lack statutory authority to do so.<sup>154</sup> We agree with the Staff that the Board erred in determining that DOE was a "person" under section 11s., although as we explain above, there are also other reasons for reversing the Board's rulings on Contentions NEV-SAFETY-1 and NEV-SAFETY-2.

As the Staff argues, and contrary to CAB-01's view, DOE is not a "person" for purposes of AEA section 11s. In the Energy Reorganization Act of 1974 (ERA),<sup>155</sup> Congress abolished the Atomic Energy Commission (AEC),<sup>156</sup> assigning the defunct agency's regulatory authority to the new NRC<sup>157</sup> and its promotional authority to the new Energy Research and Development Administration (ERDA).<sup>158</sup> Both new organizations thereby inherited the AEC's status as "the Commission" for purposes of section 11s. When Congress created DOE several years later

<sup>156</sup> ERA § 104(a), 42 U.S.C. § 5814(a).

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<sup>&</sup>lt;sup>153</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 116). See 42 U.S.C. § 2014(s)(1) (defining "person" as including, *inter alia*, "any . . . Government agency other than the Commission. . . .").

<sup>&</sup>lt;sup>154</sup> NRC Staff Appeal at 26.

<sup>&</sup>lt;sup>155</sup> 42 U.S.C. §§ 5801 *et seq.* 

<sup>&</sup>lt;sup>157</sup> See id. § 201, 42 U.S.C. § 5841.

<sup>&</sup>lt;sup>158</sup> See *id.*; *Abraham v. Hodges*, 255 F. Supp. 2d 539, 552 n.9 (D.S.C. 2002).

and incorporated ERDA into the new Department,<sup>159</sup> DOE then inherited ERDA's status as "the Commission" for purposes of section 11s. Consequently, at least insofar as the Board sought to rely on the definition of "person" in section 11s. as statutory authority to apply the provisions of section 182a., DOE's status as a "non-person" under that section precludes our examination of DOE's character and competence under section 182a.<sup>160</sup>

# 11. NEV-SAFETY-161 (Role of Drip Shield)

NEV-SAFETY-161 states as follows:

The LA violates the requirements that there be "multiple barriers," because its safety depends dispositively upon a single element of the engineered barrier system – the drip shield.<sup>161</sup>

Nevada's fundamental argument, in NEV-SAFETY-161, is that without drip shields, DOE

cannot comply with the post-closure performance requirements.<sup>162</sup> Specifically, Nevada asserts

that the construction authorization application violates the NWPA "multiple barrier" requirement

because, if the drip shields are not fabricated, assembled, transported, or installed properly, or

fail to operate as contemplated in the application, then the application cannot demonstrate that

<sup>162</sup> See id.

<sup>&</sup>lt;sup>159</sup> H.R. Rep. No. 103-888, § 2.5 (1995) ("The functions of ERDA were transferred to DOE upon its creation in 1977 by the Department of Energy Organization Act.").

<sup>&</sup>lt;sup>160</sup> However, in section 202(3) of the ERA, even though DOE is not a "person" subject to regulation under the Atomic Energy Act, Congress provided the NRC with the "licensing and related regulatory authority" found in specified chapters of the AEA that authorize it to review the Yucca Mountain application. *See* 42 U.S.C. § 5842. In explaining the division of authorities between the NRC and ERDA (now DOE), the Committee on Government Operations specified (though the text of the ERA does not) which sections of the AEA would apply to each organization after enactment of the ERA. *See* H.R. Rep. No. 93-707 (1973). The Report states that, with limited exceptions, the definitions in section 11 of the AEA apply to both successor agencies. *See id.* at 25.

<sup>&</sup>lt;sup>161</sup> Nevada Petition at 857.

there will be a "reasonable expectation" of post-closure safety.<sup>163</sup> To support its assertion, Nevada relies on a re-calculation of DOE's "Expected Annual Dose for the Drip Shield Early Failure Modeling Case," arguing that the Environmental Protection Agency's dose standards will be exceeded if the waste packages are unprotected by drip shields.<sup>164</sup>

CAB-03 admitted Contention NEV-SAFETY-161, without discussion, as one of several legal contentions, stating that "further briefing will be required."<sup>165</sup> On appeal, the Staff advances two arguments that CAB-03 admitted NEV-SAFETY-161 in error. First, the Staff argues that NEV-SAFETY-161 raises an issue that is not material to the proceeding, because the United States Court of Appeals for the District of Columbia Circuit already has ruled on the issue.<sup>166</sup> According to the Staff, Nevada advances the same argument here as that rejected by the DC Circuit.<sup>167</sup>

the DC Circuit.<sup>107</sup>

Nevada asserts in response that the issue before the D.C. Circuit was different from the argument made in NEV-SAFETY-161.<sup>168</sup> According to Nevada, the issue in NEV-SAFETY-161 is " . . . whether after exercising the design flexibility that Part 63 gave it, DOE chose a repository design that complies with Part 63,"<sup>169</sup> whereas the D.C. Circuit considered the

<sup>169</sup> *Id.* 

<sup>&</sup>lt;sup>163</sup> *Id.* (citing NWPA § 121(b)(i)(B), 42 U.S.C. § 10141(b)(1)(B), 10 C.F.R. §§ 63.113(a)-(d)(postclosure performance objectives), 63.115(a)-(c)(requirements for multiple barriers)). See 10 C.F.R. § 63.31(a)(2).

<sup>&</sup>lt;sup>164</sup> Nevada Petition at 858-59 (citing "Total System Performance Assessment Model/Analysis for the License Application," Fig. ES-46(a) at FES-460 (Jan. 2008)(LSN DEN001579005)).

<sup>&</sup>lt;sup>165</sup> LBP-09-6, 69 NRC at \_\_\_ (slip op. at 138).

<sup>&</sup>lt;sup>166</sup> *Nuclear Energy Institute v. EPA*, 373 F.3d at 1295 (holding that the NWPA "does not, as Nevada contends, require that each barrier type provide a quantified amount of protection or, indeed, independent protection").

<sup>&</sup>lt;sup>167</sup> NRC Staff Appeal at 27.

<sup>&</sup>lt;sup>168</sup> Nevada Opposition at 9.

question whether Part 63's "failure to include pre-established, quantitative subsystem performance requirements" violated NWPA section 121(b)(1)(B).<sup>170</sup>

The Staff also argues that the contention improperly relies on "speculative scenarios."<sup>171</sup> The Staff asserts that "Nevada's arguments rely on the implied premise that future events are inherently unknowable."<sup>172</sup> Nevada responds that its hypothetical scenario, in which waste packages are not protected by drip shields, considers the consequences of the drip shields' postulated absence, and is "realistic[,] if not highly likely."<sup>173</sup>

We decline to weigh these arguments here. As is the case for many of the appealed "legal issue" contentions, we recognize that, perhaps because of tight deadlines, the Boards did not provide a full legal analysis of each and every legal contention raised in this extraordinarily complex proceeding. We affirm CAB-03's admissibility ruling on the "drip shield" issue so that the parties may have an opportunity to develop their positions on these disputed issues in briefing and argument before the Boards, and the Boards will have the opportunity to make a reasoned decision.

<sup>170</sup> *Id*.

<sup>172</sup> *Id.* 

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<sup>&</sup>lt;sup>171</sup> NRC Staff Appeal at 27.

<sup>&</sup>lt;sup>173</sup> Nevada Opposition at 12.

#### III. <u>CONCLUSION</u>

This proceeding is undeniably unique. As we recently stated, "the Yucca Mountain matter is *sui generis*, in that (among other things) the duration of the Staff's review is timelimited by statute, and the adjudicatory proceeding promises to be unusually complex."<sup>174</sup> Consequently, we address here only those specific issues before us on appeal and our silence on all other matters is not to be interpreted as approval or disapproval of unreviewed rulings. Consistent with prior case law and practice, and in the absence of clear error or abuse of discretion, we have afforded the Boards our traditional deference on threshold issues, such as contention admissibility.<sup>175</sup>

While we acknowledge the schedule constraints under which the Boards worked to issue their rulings, and commend them for their timely effort, our ability to review Board rulings is only as strong as the adjudicatory record before us. Where a record is thin and the Boards' decision provides little opportunity to examine the Boards' underlying reasoning, we are challenged in our ability to conduct a thoroughgoing review on appeal. We expect that, going forward, the Boards will issue decisions that clearly, and with specificity, address the issues before them. Comprehensive, reasoned rulings will contribute directly to a fuller and more transparent record of decision, which will, in turn, benefit the parties, stakeholders, and reviewing bodies. This is the standard for all of our adjudications, and despite its unusual scope and complexity, this proceeding should be no exception.

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<sup>&</sup>lt;sup>174</sup> *U.S. Department of Energy* (High-Level Waste Repository: Pre-Application Matters, Advisory PAPO Board), CLI-08-14, 67 NRC 402, 406 (2008).

<sup>&</sup>lt;sup>175</sup> AmerGen Energy Co., LLC (License Renewal for Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC (Apr. 1, 2009)(slip op. at 6), citing AmerGen Energy Co., LLC (License Renewal for Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 121 (2006).

In conclusion, we *affirm* the Boards' admissibility rulings with respect to the following contentions: NEV-SAFETY-4, NEV-SAFETY-5, NEV-SAFETY-6, NEV-SAFETY-9, NEV-SAFETY-10, NEV-SAFETY-11, NEV-SAFETY-12, NEV-SAFETY-13, NEV-SAFETY-19, NEV-SAFETY-139, NEV-SAFETY-146, NEV-SAFETY-149, NEV-SAFETY-161, NEV-SAFETY-169, NEV-SAFETY-171, NEV-SAFETY-184, NEV-SAFETY-185, NEV-SAFETY-169, NEV-SAFETY-171, NEV-SAFETY-184, NEV-SAFETY-185, NEV-SAFETY-186, NEV-SAFETY-187, NEV-SAFETY-188, NEV-SAFETY-189, NEV-SAFETY-190, NEV-SAFETY-191, NEV-SAFETY-192, NEV-SAFETY-193, NEV-SAFETY-194, NEV-SAFETY-201, NEV-MISC-002, NEV-MISC-3, CAL-NEPA-5, NCA-MISC-1, NYE-SAFETY-4, NEI-SAFETY-1, NEI-SAFETY-2, NEI-SAFETY-5, NEI-SAFETY-6, and CLK-SAFETY-1.

We affirm in part, and reverse in part, the admissibility ruling of CAB-03 with respect to Contention NEI-SAFETY-3. We reverse the admissibility rulings of CAB-01 with respect to Contentions NEV-SAFETY-1 and NEV-SAFETY-2, and the admissibility ruling of CAB-03 with respect to Contention NEI-SAFETY-4.

IT IS SO ORDERED.

For the Commission

(NRC SEAL)

/RA/

Annette L. Vietti-Cook Secretary of the Commission

Dated at Rockville, Maryland this  $30^{\text{th}}$  day of June, 2009.