

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

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

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

In the Matter of:)	December 7, 2009
)	
U.S. Department of Energy)	
)	Docket No. 63-001
(High Level Waste Repository)	
Construction Authorization Application))	

**U.S. DEPARTMENT OF ENERGY BRIEF ON
CONSOLIDATED CONTENTIONS NEV-SAFETY-146 / NEV-SAFETY-201**

I. Introduction

In their May 11, 2009 “Memorandum and Order (Identifying Participants and Admitted Contentions),” Construction Authorization Boards (CAB) 01, 02 and 03 admitted for hearing Nevada Safety Contentions 146 and 201, in which Nevada contends that the Department of Energy’s (DOE) license application (LA) is legally insufficient because the repository design referenced therein is “preliminary” or “conceptual.”¹ The CABs also identified these as “legal” contentions to be briefed, and stated their expectation that these two contentions be consolidated.²

In response to the September 30, 2009 Case Management Order #2 (issued by CAB 04), DOE and the State of Nevada agreed that these contentions involve the following legal issue:

¹ See *U.S. Dep’t of Energy* (High Level Waste Repository), LBP-09-06, 69 NRC __ (slip op. at 138) (May 11, 2009).

² See *id.*

Whether, under 10 C.F.R. Part 63, DOE is required to provide and rely upon final design information in the LA.³

Nevada also proposed that the two contentions be consolidated and referred to as Consolidated Contentions NEV-SAFETY-146/NEV-SAFETY-201.⁴

As discussed below, Part 63 does not require “final” design information to be included in the LA. A number of provisions in Part 63 explicitly acknowledge that the “final” repository design will not be included in the LA. Among these are provisions that: (1) require that DOE identify items in the LA that “might affect design” or “may significantly influence the final design;”⁵ (2) specify that the LA will be “as complete as possible in light of ... reasonably available” information;⁶ (3) require updating the LA;⁷ and (4) recognize that there will be “gaps in knowledge.”⁸ Furthermore, the relevant regulatory history also makes it clear that final design is not required for the LA. Finally, the absence of a requirement that the LA include final design information is consistent with years of NRC licensing practice. Therefore, this contention should be dismissed as a matter of law.

³ U.S. Department of Energy, State of Nevada and Nuclear Energy Institute Joint Proposal Identifying Phase 1 Legal Issues for Briefing, Attachment 1 at 3 (Oct. 6, 2009).

⁴ See State of Nevada’s Identification of Contentions for Consolidation at 2 (Oct. 13, 2009).

⁵ 10 C.F.R. § 63.21(c)(1) and (c)(18).

⁶ *Id.* § 63.21(a).

⁷ *Id.* § 63.24.

⁸ See *infra* pp. 4-7.

II. Argument

A. *The Plain Language of Part 63 Does Not Require Final Design Information in the LA.*

The agreed-upon legal issue is whether 10 C.F.R. Part 63 requires DOE to provide and rely upon final design information in the LA. 10 C.F.R. § 63.21(c)(1) sets forth requirements for the description of the Yucca Mountain site in the LA, including “appropriate attention to those features, events, and processes of the site that *might affect design* of the geologic repository operations area and the performance of the repository.”⁹ Use of the phrase “might affect design” is telling since it acknowledges that the submitted design is not final and may change.

The only reference to final design is in 10 C.F.R. § 63.21(c)(18). That paragraph requires that the SAR include:

An identification and justification for the selection of those variables, conditions, or other items that are determined to be probable subjects of license specifications. Special attention must be given to those items that *may significantly influence the final design*.¹⁰

It would make no sense for the NRC to require that DOE specify items that “may significantly influence the final design” if DOE were required to provide that final design in the LA. This is consistent with the multi-staged licensing process established by the NRC for the Yucca Mountain repository, which is discussed in more detail below.

Furthermore, if the word “final” were intended to modify “design” when the term “design” is used elsewhere in 10 C.F.R. Part 63,” then the term “final” would have been inserted

⁹ Emphasis added.

¹⁰ 10 C.F.R. § 63.21(c)(18) (emphasis added).

before the term “design” as it was in 10 C.F.R. § 63.21(c)(18). Thus, the plain language of Part 63 does not require that the LA contain and be based on “final” design information.¹¹

Paragraph 63.21(c)(3), which relates specifically to facility design, requires that the SAR contain:

A description and discussion of the design of the various components of the geologic repository operations area [(GROA)] and the engineered barrier system [(EBS)] including: (i) Dimensions, material properties, specifications, analytical and design methods used along with any applicable codes and standards; (ii) The design criteria used and their relationships to the preclosure and postclosure performance objectives specified at § 63.111(b), § 63.113(b), and § 63.113(c); and (iii) The design bases and their relation to the design criteria.¹²

At no point, does 10 C.F.R. § 63.21(c)(3) require that the facility design be *final*, nor do any of the 23 other paragraphs within § 63.21(c), which set out the specific requirements for the LA.

The plain language of subsection 63.21(a) further demonstrates that § 63.21 does not require that the LA include “final design” information. Before setting forth the information that must be provided in the LA, 10 C.F.R. § 63.21 first requires in paragraph (a) that the LA be “as complete as possible in light of the information that is reasonably available at the time of docketing.” This regulation could not be plainer. It explicitly recognizes that there will be limitations on the completeness of information submitted in the LA.¹³

¹¹ As the agreed-upon legal issue statement makes clear, the issue before the Board is whether “final” design information is required. It is *not* what level, quantity, or degree of non-final information is sufficient. Thus the Board is not required to determine what the “right” level of design is in order to resolve this contention. Indeed, the “right” level of design is a factual issue that necessarily must be considered in light of the matter under consideration and the stage of the proceeding.

¹² 10 C.F.R. § 63.21(c)(3).

¹³ Nevada argues, in its Reply, that the literal construction of Paragraph 63.21(a), that “[t]he application must be as complete as possible in light of information that is reasonably available at the time of docketing,” would allow DOE to submit a “one-paragraph” license application “decades ago,” and claim that no other information was reasonably available. Nevada Reply to DOE at 639. Apart from the fact that DOE did no such thing, but rather submitted an LA that is thousands of pages long and that references thousands more pages of supporting

Part 63 allows DOE to submit an LA that provides sufficient information to demonstrate compliance with the performance objectives and other requirements of Part 63, while retaining the flexibility to further refine the design based on new information. In this manner, the regulations contemplate an application that is complete in all material respects, but does not require a “final design,” at the Construction Authorization licensing stage.

Where the plain language of a regulation is clear (as it is on this issue), a Board need not look at the regulatory history. The Pre-Application Presiding Officer (PAPO) Board in this proceeding has explained that, when the meaning of a regulation is in question, the Board should look first at its plain meaning, then at the structure of the regulation, and “then, if appropriate, the regulatory history.”¹⁴ Elsewhere, Boards have stated that where the regulation is unambiguous, a Board *cannot* look to regulatory history but must enforce the regulation as written.¹⁵ Because the plain language of Part 63 clearly does not require that DOE submit “final” design information in its LA, the Board need not explore the matter further. Nonetheless, the relevant regulatory history, which is provided below, also makes it clear that final design information is not required in the LA.

B. The Regulatory History of Part 63 Also Makes Clear that Final Design Information is Not Required in the LA.

In publishing the final version of Part 63 in 2001, the Commission responded to certain comments inquiring about the level of information required in the LA and asking whether *all*

material available on the LSN, there is a more fundamental point. The agreed upon legal issue focuses only on whether the regulations require DOE to provide “final” design information in the LA.

¹⁴ See *U.S. Dep’t of Energy (High-Level Waste Repository)*, LBP-05-27, 62 NRC 478, 506 (2005).

¹⁵ See *Cleveland Elec. Illuminating Co. (Perry Nuclear Power Plant, Unit 1)*, LBP-95-17, 42 NRC 137, 145 (1995).

information had to be available at the construction authorization stage.¹⁶ One comment noted that “at the time of construction authorization, details of the repository design will not, in some cases, be sufficient to support development of operating procedures.”¹⁷

In its response, the Commission did not state any expectation that the design be finalized at the time of the construction authorization.¹⁸ Rather, it clarified that final design information was not required at the construction authorization stage, adding language to Part 63 that the application be only “*as complete as possible* at the time of docketing.”¹⁹

Indeed, the Commission explained that “part 63 provides for a multi-staged licensing process that affords the Commission the flexibility to make decisions in a logical time sequence that accounts for DOE collecting and analyzing additional information over the construction and operational phases of the repository.”²⁰ It explained that the multi-stage process involved four major decisions by the Commission: “(1) Construction authorization; (2) license to receive and emplace waste; (3) license amendment for permanent closure; and (4) termination of license.”²¹

With respect to the information required at the first stage, the Commission explained:

Clearly, the knowledge available at the time of construction authorization will be less than at subsequent stages. However, at each stage, DOE must provide sufficient information to support that stage. DOE has stated its intent to submit, and NRC expects to receive, a reasonably complete application at the time of

¹⁶ Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, NV, 66 Fed. Reg. 55,732, 55,738 (Nov. 2, 2001).

¹⁷ *Id.* at 55,738.

¹⁸ *See id.* at 55,738-38.

¹⁹ *See id.* at 55,739 (emphasis added).

²⁰ *Id.* at 55,738.

²¹ *Id.*

construction authorization to allow the Commission to make a construction authorization decision.²²

In order to clarify the amount of information required in the LA in response to these comments, the Commission added language to § 63.21(a) from § 63.24, which sets forth the terms under which the applicant may supplement its application with information, data, and research results it develops.²³ Specifically, the Commission took the language from 10 C.F.R. § 63.24(a) that the Application “be as complete as possible in light of the information that is reasonably available,” and added it to § 63.21(a), thereby extending the flexibility from its section regarding updates to the application, to the section covering the initial application generally.²⁴ The Commission believed that the regulations, as revised, “provide the necessary flexibility for making licensing decisions consistent with the amount and level of detail of information appropriate to each licensing stage.”²⁵

C. The Absence of a Requirement for a Final Design at the Construction Authorization Stage is Consistent with Commission Practice.

The license application processes for reactor licensees under Parts 50 and 52 and for materials licensees under Part 70 (as well as other portions of NRC’s licensing requirements) rarely require final design information, and explicitly state that requirement where they do.

Consider, for example, the requirements in Part 50 for licensing production and utilization facilities. Part 50 requires an applicant to submit a preliminary safety analysis report (SAR) with its application for a construction permit, and a final SAR with its application for an operating license.²⁶ Section 50.34, which specifies the content of an application, requires that the

²² *Id.* at 55,738-39.

²³ *See id.* at 55,738-39; *see generally* 10 C.F.R. § 63.24.

²⁴ *See* 66 Fed. Reg. at 55,738-39.

²⁵ *Id.* at 55,739.

²⁶ *See generally* 10 C.F.R. § 50.34.

preliminary SAR contain sufficient information to “provide reasonable assurance that the final design will conform to the design bases with adequate margin for safety.”²⁷ Section 50.34 also requires that a preliminary SAR give “special attention [] to those items which may significantly influence the final design.”²⁸ By using the future tense in both cases, the language in this section makes clear that final design information is not required at the time of submittal of the preliminary SAR. Note also that the language in the latter reference is very similar to that of § 63.21(c)(18), which, as discussed above, anticipates that final design is not available at the time of docketing the LA.²⁹

Similarly, the regulations pertaining to issuance of a combined operating license under Part 52 do not require “final” design information, even in the final SAR. Rather, the final SAR must:

describe[] the facility, present[] the design bases and the limits on its operation, and present[] a safety analysis of the structures, systems, and components [(SSCs)] of the facility as a whole. The final [SAR] shall include the following information, at a level of information sufficient to enable the Commission to reach a final conclusion on all safety matters that must be resolved by the Commission before issuance of a combined license.³⁰

Included in the list of required information that follows is information on the design of the facility.³¹ However, nowhere therein is there any requirement that the applicant provide *final* design information. To the contrary, the applicant must provide:

(i) The principal design criteria . . . ;

²⁷ See 10 C.F.R. § 50.34(a)(3)(iii).

²⁸ See *id.* § 50.34(a)(5).

²⁹ See *supra* pp. 3-4.

³⁰ 10 C.F.R. § 52.79(a).

³¹ See *id.* § 52.79(a)(4).

(ii) The design bases and the relation of the design bases to the principal design criteria;

(iii) Information relative to materials of construction, arrangement, and dimensions, sufficient to provide reasonable assurance that the design will conform to the design bases with adequate margin for safety.³²

This requirement is similar to that in § 63.21(c)(3), in that both require that the applicant provide sufficient information to allow the Commission to make the requisite safety findings, yet do not require final design information.

Consider also the multi-staged licensing process established by Part 70 for a plutonium processing and fuel fabrication facility. Section 70.23, which sets forth the determinations that must be made by the Commission in order to issue a license under that part, allows the Commission to approve construction of the principal structures, systems, and components (SSCs) of such a facility when it has determined that the design bases of the principal SSCs and the quality assurance program provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents.³³ This structure allows the applicant to provide the design bases of its *principal* SSCs at the construction authorization phase, and continue to develop and refine its design during construction of the facility.³⁴

Indeed, this bifurcated process was the subject of some dispute in the construction authorization proceeding for the MOX Fuel Fabrication Facility.³⁵ The Commission explained, in upholding the two-stage system, that the regulations require certain preliminary findings for construction authorization of the facility, and impose a more detailed safety review for a license

³² See 10 C.F.R. § 52.79(a)(4).

³³ See 10 C.F.R. § 70.23(b).

³⁴ See *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-07, 55 NRC 205, 212 (2002) (citing 66 Fed. Reg. 19,994) (stating that safety issues related to operation of the MOX facility should be resolved not at the construction authorization stage, but at the operating license stage).

³⁵ See generally *id.*

to operate the facility.³⁶ Final design information was not required at the construction authorization phase for MOX. A similar multi-stage system exists in Part 63, where § 63.31 sets forth the requirements for construction authorization, and § 63.41 sets forth the requirements for issuance of a license to receive and possess licensed material.

In sum, licensing proceedings before the NRC routinely involve a multi-stage process in which the applicant finalizes the facility design during construction. If “final” design were required at the construction authorization stage, that requirement would be explicitly stated in the regulations. Part 63 contains no such requirement.

III. Conclusion

Nowhere in Part 63 is there a requirement that DOE submit its final design in the LA prior to the construction authorization. To the contrary, these regulations acknowledge and establish a dynamic, multi-stage licensing process in which information is continually developed, the LA supplemented, and the license granted when the Commission determines, *even in light of gaps in information*, that it can make the requisite reasonable assurance and reasonable expectation determinations. This process is consistent with the regulatory history of Part 63 and years of Commission practice in other comparable NRC licensing proceedings.

³⁶ See *id.* at 216-17.

For the reasons set forth above, the CAB should dismiss Consolidated Contentions NEV-SAFETY-146/NEV-SAFETY-201 as a matter of law.

Respectfully submitted,

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