

SEP 2 1994

MEMORANDUM TO: Michael J. Bell, Chief
Engineering and Geosciences Branch
Division of Waste Management, NMSS

FROM: Margaret V. Federline, Chief
Performance Assessment and Hydrology Branch
Division of Waste Management, NMSS

SUBJECT : COMMENTS REGARDING CDM 4.3 - ASSESSMENT OF COMPLIANCE WITH
DESIGN CRITERIA FOR SHAFTS AND RAMPS

We have reviewed the Compliance Determination Method (CDM) for review plan 4.3 - Assessment of Compliance with Design Criteria for Shafts and Ramps, and have the following comments:

GENERAL COMMENTS:

1. The contents of this CDM may require modification if the proposed rulemaking on design basis events is approved for publication by the Commission (e.g. the language used in line 1 of Section 3.2.6).
2. We recommend that the CDS for this topic be revised and finalized simultaneously with the CDM. This is the time to unite the past CDS work with the CDM efforts to avoid any discrepancies and repetition. That would also save the extra step of having to go back and merge the CDS and CDM after the CDM has been approved. Staff should now be thinking about completing LARP sections, not just the CDM parts.
3. The procedure for developing CDMs refers to three essential elements of the review, one of which is to specify the standard that the staff will use to determine whether the material is acceptable (TOP, page 6, item d). The CDM includes numerous acceptance criteria for which standards of acceptance are unclear. This comment refers to criteria 1 and 2 in Section 3.2.1.2 on page 3; criteria 1, 2, 4, and 5 on page 4; and all criteria shown on page 5. For example, one acceptance criterion under Section 3.2.2.2 indicates that DOE's analysis is acceptable if "(t)he orientation, geometry, ... contribute to the isolation of radionuclides." How can the reviewer determine if DOE has adequately demonstrated that this criterion has been met? Also, the first paragraph in Section 3.2.2.2 indicates that the "...acceptance criteria include, but are not limited to the following." This suggests that there are more criteria than listed.

In addition, the procedure for developing CDMs requires (page 8 and 9) that "(r)ationales for the selection of compliance review procedures and acceptance criteria be prepared." Each rationale should include a description of limitations and uncertainties for each procedure and each acceptance criterion. These rationales should be presented in Section 3.3 and need to address the review procedures and acceptance criteria in Section 3.1 and 3.2. We could not find such a description for the procedures or the acceptance criteria in Section 3.1. Further, only partial rationales for the procedures

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from Section 3.2 have been written. Missing are the limitations and uncertainties for each procedure. Also, no rationales have been provided for any of the acceptance criteria from Section 3.2. If such descriptions are difficult to provide, then the procedures and their acceptance criteria may have to be revisited.

4. The table of "Input Information" in Section 4.2.1 includes a reference to favorable and potentially adverse conditions (review plans 3.2.1-3.2.5). We feel that specific mention should be made about review plan 3.2.2.5, which addresses the potential for flooding of the underground facility. Review plan 3.2.2.5 includes a key acceptance criterion, that the portals for all shafts, tunnels, and ramps be located above the probable maximum flood (PMF). The acceptance criterion regarding the PMF should be briefly mentioned in review plan 4.3 because of the importance of portal locations with respect to design (you can get a copy of the review plan 3.2.2.5 from Neil Coleman).

SPECIFIC COMMENTS:

Comments that pertain to those sections of CDM 4.3 that concern radiation protection of workers in the preclosure phase of the repository:

1. Page 6, Section 3.2.3:

The review procedures and acceptance criteria that could be used to evaluate compliance with 60.111(a) and 60.131(a)(1-6) are still under development and an attempt to include them in CDM 4.3 might delay its publication. But, of more importance is that this action is expected to simplify the review of those sections on radiation protection.

2. Pages 10 and 11, Table 3.2.6-1, Applicable Mining Regulations:

Remove references to any of the Sections 60.131(a), 60.131(b)(3), 60.131(b)(4)(i), 60.132(b), and 60.133(g) of 10 CFR 60 from the column labeled "REGULATORY CITATION" on pages 10 and 11 for the following "TOPICS": On page 10, "Ventilation Control Measures for Fire Prevention"; and, on page 11, "Ventilation," "Ventilation-SRBS and Underground Only," and "Ventilation for Methane Presence." These references pertain to compliance with 10 CFR 60, but this table is "...focused on...MSHA regulations..." (Page 6, Section 3.2.6). We have discussed this change with Mr. Hageman by phone, and he agrees with this action.

Comment that pertains to performance assessment in the postclosure phase of the repository:

1. Pages 13 - 18, Sections 3.2.8, 3.2.9 and 3.2.11

These sections imply that a significant amount of analytical review work will be done with respect to effects on "post-closure performance." The general strategy to be followed with respect to RRT's other than the 60.111, 112, and 113 RRT's, is that they supply the input to the performance assessment (PA) CDM's to support staff analysis of DOE's PA's. These sections need to be rewritten to more clearly describe where the detailed PA analysis will be

conducted and clearly describe the more limited scope of the analysis done for this RRT. This problem may be resolved if complete rationales were to be written for each procedure and acceptance criteria (See General Comment 3).

This review was coordinated by Bob Neel. If you have any questions, please contact him directly.

Margaret V. Federline, Chief
 Performance Assessment and Hydrology Branch
 Division of Waste Management, NMSS

cc: J. Kane
 J. Holonich
 M. Lee

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