UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 6 2002

OFFICE OF
AIR AND RADIATION

Dr. Inés Triay, Manager
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U.S. Department of Energy
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Carlsbad, NM 88221-3090

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Dear Dr. Triay:

In light of a series of recent discussions between my staff and representatives of the Department of Energy (DOE) and Sandia National Laboratories (SNL), I would like to provide additional guidance to clarify the Environmental Protection Agency's (EPA's) expectations for the Waste Isolation Pilot Plant (WIPP) Compliance Recertification Application (CRA). This letter expands upon my April 24, 2002, letter to you regarding the CRA. I would like to also address certain recent and pending proposals from DOE for changes in activities covered by EPA's May 1998 Certification Decision.

Schedule for Recertification

The direction we provide in this letter is based on the timing for recertification that we first proposed to DOE in our December 2000 recertification guidance. In November 2003, DOE intends to submit to EPA the CRA, which will include a new performance assessment (PA). According to DOE planners, in order to complete the new PA in time for inclusion in the CRA, the DOE Carlsbad Field Office (CBFO) must have all the inputs by May 2003. DOE has deemed the time between May and November 2003 as a blackout period during which no changes to the CRA PA will be made.

EPA's review of several PA-related changes will be necessary prior to the blackout period. Some of the changes involve complex technical issues on which EPA may decide to consider public comment. For these items, we anticipate needing six to nine months to complete our review. Therefore, DOE should submit these items as soon as possible.

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DOE is considering other changes that will lead EPA to conduct a modification rulemaking. A modification rulemaking will likely take a minimum of 12 months to complete from receipt of complete information. It is our intention to refrain from conducting modification rulemakings during the period in which we are considering the WIPP recertification application. In the event that we begin a rulemaking that will not be completed before we receive the WIPP CRA, we will defer further work on the rulemaking until after we have issued our recertification decision. DOE may choose to submit proposals for EPA's consideration over the coming year, but we plan to focus our efforts and resources on those issues that we believe must be addressed prior to the submission of the CRA.

EPA's Expectations for Recertification

The enclosure to this letter identifies items that EPA expects DOE to consider (or reconsider) in the CRA. Many of the items involve information that EPA will review through the normal course of evaluating the CRA after it is submitted. In a few instances, we believe that some preliminary review on EPA's part will be necessary in advance of May 2003, when CBFO expects to run the CRA PA. We have identified five items that require preliminary review by EPA: actinide solubility, new gas generation rate parameter values, MgO experimental results, incorporation of the Option D panel closure, and the ongoing development of the spallings conceptual model. These items are addressed further in the enclosure.

Changes Proposed by DOE

There are a number of proposals for which DOE has recently requested or will soon request EPA review. At the last technical meeting on June 4-5, 2002, CBFO informed EPA of several proposals that we can expect this summer. Given what we know of these proposals, we are able to offer some initial guidance on the course of action we will follow in addressing the proposals.

On the topic of the Central Characterization Facility (CCF), we have determined that characterization of transuranic waste at the WIPP site is a significant deviation from our Certification Decision and will require a modification to 40 CFR 194, Appendix A. The change will require a rulemaking that we expect will take one year or more to complete after the receipt of complete information. If CBFO submits this proposal prior to recertification, EPA may not be able to begin or complete its evaluation prior to initiating the recertification period.

We are evaluating CBFO's request of May 16, 2002, to change the schedule for the submission of details relating to the design of passive institutional controls (PICs). We intend to reply to your request in August.

We have received your request of June 28, 2002, to use radiography in lieu of visual examination for newly generated and repackaged retrievably stored waste. Based on a preliminary review, we may elect to request public comment on this proposal. We will notify you soon about our intended course of action. We also received your request of June 28 to dispose of classified waste at WIPP. We are considering this proposal in relation to our Certification Decision and will address this issue via future correspondence with CBFO.

Technical Baseline Migration and Panel Closure Design Change

CBFO intends to submit in 2002 the Technical Baseline Migration (TBM) and a proposed change in the panel closure system. The TBM constitutes changes to the modeling of the repository using the BRAGFLO computer code. Based on presentations by SNL on June 4-5, 2002, our initial determination is that the combination of changes in the TBM is substantial, including: changes to the dimensions of the computational grid; removal of the shaft from the modeling grid; and changes to modeling of the behavior of the repository outside the one panel that is assumed to be intercepted by a borehole. We expect that the TBM, as presented in June, would require thorough review by EPA and would involve some level of public input, and possibly a modification rulemaking. Given the present status of the TBM, it does not appear that there is enough time to accomplish the TBM work and the necessary EPA review before next spring, when all inputs to the recertification performance assessment must be in place.

EPA's primary concern is to ensure that all required aspects of recertification are adequately addressed. For this reason we suggest that DOE pursue a modification of the baseline performance assessment that incorporates the Option D panel closure system. Other necessary changes to the baseline performance assessment are discussed in the enclosure. In addition, it is possible that some elements of the proposed TBM that would not constitute substantial changes could be developed and reviewed by Spring 2003. Although EPA's review during the coming year will be necessary for this approach, it would not constitute a significant change from the Certification Decision, and the public will be able to comment in connection with the CRA review period.

We have also been told that DOE plans to submit a new panel closure system later this summer that differs from the system specified in Condition 1 of the Certification Decision. A significant change in the panel closure system—including design, material properties, and compatibility with the host rock and disturbed rock zone (DRZ)—will be addressed through a modification rulemaking, which we expect will require at least one year to complete. EPA would not be able to make a decision on a new panel closure system before DOE undertakes the CRA PA. Without EPA's approval for a new system DOE would be required to implement the approved panel closure system (Option D) for Panel 1. Therefore, DOE should ensure that the Option D system is reflected in the CRA PA.

Summary

EPA's primary consideration during the next year is to ensure that the CRA is comprehensive in addressing DOE's current understanding of conditions at the WIPP site. The enclosure to this letter identifies the issues that we plan to consider when we evaluate the CRA, and those in which our involvement will be needed in advance of the CRA submission in November 2003. Additionally, DOE has proposed or plans to propose several changes for EPA's consideration prior to submitting the CRA. EPA will be able to address only some of these proposed changes prior to recertification. The TBM approach, as presented in June, would have to be altered substantially in order for the necessary work to be completed and thoroughly reviewed in time for the initiation of the recertification PA in Spring 2003. We will focus our efforts and resources on those essential issues that will help you achieve a timely and complete CRA submission.

If you have any questions about this guidance, please contact Betsy Forinash at (202) 564-9310.

Sincerely,

Frank Marcinowski, Director
Radiation Protection Division

Enclosure

cc: Lynne Smith, DOE/HQ
Cindy Zvonar, DOE/CBFO
Russ Patterson, DOE/CBFO
Matthew Silva, EEG
Steve Zappe, NMED

Enclosure

Information to be Included in the First WIPP Compliance Recertification Application

DOE must incorporate information in Compliance Recertification Applications that reflects new knowledge of the disposal system obtained over the preceding five-year period, experimental work, correction of mistakes not previously identified, and other areas. Consistent with previous guidance to DOE (March 1996, December 2000, and April 2002), EPA has identified the following list of topics that must be addressed in the first Compliance Recertification Application. This list is not exclusive and is subject to change at EPA's discretion.

Topic	Discussion
Reevaluation of FEPs screening	The features, events and processes considered for the original certification application must be reviewed to determine if the original screening decisions are still applicable. We expect that most FEPs have not changed, but we expect that the CRA will demonstrate that all FEPs have been reconsidered and identify which, if any, FEPs have been modified and how.
Spallings Conceptual and Computational Model	Since the Spallings Conceptual Model was never approved by the Conceptual Model Peer Review Panel, we expect that the CRA PA will implement a new spallings conceptual model that has been approved by a Conceptual Model Peer Review Panel. This peer review must be conducted in accordance with 40 CFR 194.27(a) and (b).
MgO Backfill	The efficacy of MgO as an engineered barrier has been raised by stakeholders. The CRA should reevaluate the use and performance of MgO given DOE's MgO-related experiments, changes in the MgO source, and DOE's general understanding of the expected future conditions of the repository.
Waste Emplacement	The CRA should include a comparison of the effects of random and non-random emplacement of waste on releases given current emplacement practices and projected emplacement schedules. Also, see actinide solubility comments.

Topic	Discussion
Actinide Solubility	DOE has been conducting experiments on and otherwise reviewing actinide solubilities, including updating thermodynamic databases. Any changes that result from this work should be incorporated into the CRA. The FMT code should incorporate the new experimental data. DOE must show that non-random waste emplacement does not impact solubility, due to factors such as creating large scale oxidizing environments.
Parameter Updates/Error Corrections	Computer modeling input parameters should be up-to-date. The list of parameters below are ones in which new data indicate the need for changes, or the review of existing parameters suggests that modifications are needed. The general parameter changes of which we are aware are listed below; there may be others that should be reevaluated. Culebra actinide partition coefficient (K_d) values Corrections during database migration to new software Cellulosic parameter error Drilling rate Waste inventory (actual inventory to date plus revisions to the estimated inventory as expressed in the Baseline Inventory Report) Actinide solubility Gas generation estimate MgO experiment results and MgO volume reduction Option D Panel closure (e.g., permeability) Brine pocket frequency Clay seam G changes in computational grid Panel 1 utilization
Monitoring Data	Monitoring data must be summarized and evaluated, particularly for the Culebra and Magenta.
Conceptualization of Shallow Hydrogeology (e.g., Units Above the Salado and Culebra)	Given recent hydrogeologic data from around the WIPP site, the CRA must justify continued use of the current conceptual model for the shallow geology and the conceptual model implementation in BRAGFLO, SECO and other appropriate PA codes. Alternatively, the conceptual model should be changed and undergo review by a conceptual model peer review panel.

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Model Changes	Changes in knowledge of the disposal system, updates to parameters, and updates to computer codes must be incorporated into a quality assured set of performance assessment calculations for the CRA. Changes that we are aware of that should be addressed by the CRA are identified below. • DBR code - A change to correct what is known as the "2π error." • Panel Closure - The Option D design should be appropriately incorporated. • Spallings - A new spallings model should be developed, reviewed, and implemented in the PA calculations. • DRZ Model - A fully approved model should be appropriately implemented in the PA calculations. • Clay Seam G - The conceptual model for the repository should reflect the change to raise the level of excavation to clay seam G. The conceptual change should be appropriately addressed in the modeling, if warranted.