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Mr. Leo Duffy, Director  
Office of Environmental Restoration  
and Waste Management  
Department of Energy, Forrestal Bldg.  
1000 Independence Avenue, S.W  
Washington, D.C. 20585

Dear Mr. Duffy:

On December 20, 1990, you briefed the Commission on the U.S. Department of Energy's (DOE's) restructured program and revised schedules described in DOE's November 30, 1989, "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program." The Chairman commented on the revised schedules in a January 25, 1990, letter to Secretary Watkins. In this letter, the Chairman emphasized that the U.S. Nuclear Regulatory Commission (NRC) is committed to supporting DOE's activities by conducting reviews and interacting with DOE as soon and as often as needed. To accomplish this, early interactions with DOE are needed to understand DOE's detailed schedules, the basis for them, and where NRC involvement might be needed. Then, as the Chairman suggested, DOE and NRC can develop consistent, detailed 1990 and 1991 milestones and schedules for those activities where the NRC staff's involvement will be necessary.

The primary purpose of this letter is to identify the areas, including milestone and schedule information, which should be the subject of early interactions between NRC and DOE (see Enclosure). These interactions should be discussed at the March 20, 1990, NRC-DOE meeting to schedule future interactions. The first four areas listed in the Enclosure (i.e., quality assurance, regulatory requirements and guidance, surface-based testing and ongoing testing, and exploratory shaft facility construction) are considered particularly important and were mentioned in the Chairman's January 25, 1990, letter to DOE.

In addition, supporting information is needed concerning your statements in the December 20, 1989, Commission presentation about the volumes and characteristics of greater-than-class-C (GTCC) low-level radioactive waste. A February 16, 1990, letter from John Linehan (NRC) to Ralph Stein (DOE) requested specific GTCC information and interaction that are needed soon, to determine the need and scope for a potential rulemaking in this area.

Finally, during the December 20, 1989, Commission presentation, you mentioned that the general reference schedule given in the November 30, 1989, report to Congress would be updated periodically. These updates are important to our planning, and we would appreciate receiving them when they are available.

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If you have any questions about this request, please call me (492-3352) or John Linehan, Director of the Repository Licensing and Quality Assurance Project Directorate (492-3387).

(Signed) Robert M. Bernero

Robert M. Bernero, Director  
Division of Nuclear Material Safety  
and Safeguards

Enclosure: As stated

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Enclosure

## AREAS NEEDING FURTHER INFORMATION AND INTERACTION

### 1. Quality Assurance (QA)

The U.S. Department of Energy's (DOE's) report to Congress shows the U.S. Nuclear Regulatory Commission's (NRC's) acceptance of DOE's Office of Civilian Radioactive Waste Management QA program in September 1990. NRC acceptance of the QA program is based on a review of plans and procedures and observation of DOE audits, to make a determination of DOE's ability to implement the QA plans and procedures. During a February 15, 1990, meeting, DOE and NRC essentially agreed upon the steps needed for NRC to accept the DOE QA plans and procedures by September 1990. However, DOE and NRC also need to reach agreement on the specific actions needed, many of which may occur after September 1990, to determine implementation of the QA plans and procedures, to completely resolve NRC's Site Characterization Analysis (SCA) QA objection and to complete NRC's acceptance of DOE's QA program. Continued close coordination through frequent meetings between NRC and DOE is needed to help ensure that all NRC concerns are satisfactorily addressed, that additional changes in the DOE program are factored into the NRC review, and that any new problems are identified and promptly addressed.

### 2. Regulatory Requirements and Guidance

DOE's presentation to the Commission on December 20, 1989, suggested many changes to the "Regulatory Strategy and Schedules for the High-Level Repository Program" (SECY-88-285), including eliminating the subsystem requirements of 10 CFR Part 60, using collaborative interactions to prepare regulatory requirements, and using DOE topical reports to address important topics. DOE's presentation also summarized its concerns about some of NRC's specific potential rulemakings. One interaction should be scheduled to discuss DOE's general suggestions and comments. Other interactions should be scheduled for potential rulemakings where DOE has specific concerns or suggestions that need to be discussed with NRC.

### 3. Surface-Based Testing and On-Going Testing

The schedules in DOE's report to Congress show that DOE plans to start new surface-based testing in January 1991. To do this, DOE's schedule indicates that all prerequisites for new surface-based testing will be completed in October 1990. Furthermore, the schedules show completion of study plans for major ongoing field activities in September 1990.

NRC acceptance and start-work reviews of study plans would need to be completed before new studies begin. Therefore, for NRC to plan its reviews and allow for potential interactions to support DOE's study plan and testing schedules, specific milestones and schedules (e.g., DOE study plan issuance and start of testing) need to be developed for each study plan that DOE plans on issuing to support the aforementioned general milestones. NRC also understands that DOE will be conducting a study to prioritize surface-based testing in 1990. NRC would like to know DOE's specific schedule for this activity and if DOE plans to request NRC review or interaction.

#### 4. Exploratory Shaft Facility (ESF) Construction

DOE's report to Congress indicates that DOE will begin ESF construction in November 1992, and before this, DOE will conduct an ESF design alternatives study and complete the ESF design. DOE should give the specific schedule of activities to support the revised date, including points for NRC reviews and interactions. DOE should include how it specifically plans to interact with NRC early to assure that the points raised in NRC's SCA objection on the ESF are adequately considered in the evaluation of ESF design alternatives. Such early interactions will help resolve NRC's objection and thereby avoid additional work like the Design Acceptability Analysis, which could cause delays in DOE's schedule to begin ESF construction.

#### 5. Repository and Waste Package Design

DOE's report to Congress indicates the deferral of major site-specific repository design activities until October 1992. Detailed plans to reevaluate the repository conceptual design or to integrate it with the ESF design and surface-based testing, were beyond the general level of detail in DOE's report to Congress. In a meeting with the Nuclear Waste Technical Review Board on January 31 and February 1, 1990, DOE indicated that many repository design alternatives are also being considered in conjunction with the ESF alternatives. Therefore, NRC would like to know what repository design activities, in addition to preparing a Repository Program Plan, will be conducted and when. Also, DOE's detailed plan and schedule for integrating ESF design and early surface-based testing with repository design activities is needed.

DOE also has deferred major waste package design activities until October 1992. NRC would like to know what waste package design and materials testing activities in addition to preparing a Waste Package Program Plan will be conducted, and when.

#### 6. Performance Assessment

In its report to Congress, DOE states that it will follow an iterative scientific approach, using both surface-based and underground testing, combined with continuing evaluation of the data, to address site

suitability. This approach is generally consistent with NRC's SCA recommendation that DOE conduct early and iterative performance assessments to guide its site characterization activities. DOE's schedules in the report to Congress, however, do not show any schedules for performance assessments. NRC would like to know DOE's schedule for conducting early and iterative performance assessments including when DOE plans to issue its Performance Assessment Plan.

#### 7. Alternative License Application Strategies

DOE's schedule indicates that alternative license application strategies will be prepared in 1990. NRC needs to know what these strategies are and discuss with DOE points for NRC review and interaction.

#### 8. Glass-Making Activities

DOE's schedules do not include the glass-making activities at the West Valley Demonstration Project and the Defense Waste Production Facility (Savannah River), including when the QA programs for these activities will be in place. Moreover, the schedules do not show how activities at these two operations will be integrated into DOE's overall repository program. NRC would like to have this schedule information and discuss with DOE points for NRC review and interaction.

Items 9 and 10 are not important to NRC's near-term planning, but they are schedule concerns needing further DOE attention, possibly in amending the Mission Plan.

#### 9. Performance Confirmation

DOE's schedule in its report to Congress does not show either surface-based or underground testing after submittal of the license application. Such performance confirmation testing is required by 10 CFR Part 60. This appears to be a change from the DOE schedule given in the Site Characterization Plan (SCP). DOE should clarify this apparent inconsistency with the SCP and provide its current performance confirmation schedules.

#### 10. Review Period for License to Receive and Possess Waste

In DOE's reference schedule, approximately 21 months have been allotted for NRC's review and decision on DOE's application for a license to receive and possess waste at the repository. DOE scheduled NRC's review to begin approximately 18 months before completion of construction, and end about 3 months after construction is completed. This 21-month total period is longer than the 9 months provided in the June 1987 Mission Plan Amendment; however, the 3 months after construction is completed are less than the 9 months originally planned. NRC is concerned that this 3-month period is not enough unless the overall 21-month review period starts when DOE's

construction is substantially complete (see 10 CFR 60.41). Therefore, NRC would like to discuss the basis for DOE's change.