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GAO Views on Monitored Retrievable Storage of Nuclear Waste

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Before the
Monitored Retrievable Storage Review
Commission

Mr. Chairman and Members of the Commission:

We are pleased to be here today to discuss our reports on the Department of Energy's (DOE) plans and proposal to construct and operate a monitored retrievable storage (MRS) facility for nuclear waste. The Nuclear Waste Policy Act of 1982 (NWPA) established a program for the permanent disposal of highly radioactive wastes in mined geologic repositories. The act also directed DOE to submit to the Congress a proposal for constructing an MRS facility for long-term storage, continuous monitoring, and easy access to the wastes. DOE submitted its proposal to the Congress on March 31, 1987.

Since 1985, we have issued four reports on various aspects of DOE's MRS plans and have testified before both House and Senate subcommittees on the most recent of these reports. These reports are:

-- The Nuclear Waste Policy Act: 1984 Implementation Status, Progress, and Problems (GAO/RCED-85-100, September 30, 1985). In our second annual report on DOE's implementation of the NWPA, we said that developing both the MRS program and a permanent nuclear waste repository in a timely manner will be difficult for DOE because both programs will be competing for limited personnel and financial resources. We noted examples of waste program delays because of limited staff resources and a shift of funds from the repository to the MRS program. We recommended that DOE determine how it will ensure that the MRS program would operate so as not to impede progress on the repository program.

-- Nuclear Waste: Monitored Retrievable Storage of Spent Nuclear Fuel (GAO/RCED-86-104FS, May 8, 1986). This report describes (1) the purpose of the MRS and its potential

advantages and disadvantages as identified by DOE, (2) the state of Tennessee's role in the development of DOE's MRS proposal and DOE's plans for the state's subsequent involvement in the program, and (3) the effects on the state and the local community of siting an MRS facility in Tennessee. The report also discusses the results of a questionnaire we sent to 74 utilities requesting information on their spent fuel storage plans and their views on the MRS.

-- Nuclear Waste: Cost of DOE's Proposed Monitored Retrievable Storage Facility (GAO/RCED-86-198FS, August 15, 1986). This report discusses DOE's MRS facility cost estimates. At that time, DOE estimated that the facility would increase waste system costs by $1.6 billion to $2.6 billion (1985 dollars). DOE identified additional MRS costs, however, that were not included in these estimates but which could be substantial. They included payment of revenues equivalent to state and local taxes and aid to affected localities to mitigate the impacts of the facility.

-- Nuclear Waste: DOE Should Provide More Information on Monitored Retrievable Storage (GAO/RCED-87-92, June 1, 1987). This report presented three basic findings from our evaluation of DOE's March 1987 proposal. First, the MRS concept outlined in NWPA emphasizes long-term storage, but the principal role of the MRS facility in DOE's proposal would be waste preparation. Second, the proposal did not fully explore other alternatives for improving the waste management system authorized in that act. Third, DOE's proposal did not include the full costs of an MRS facility. We recommended that (1) DOE identify the best configuration of the waste system without an MRS facility and (2) present the Congress with the benefits and costs of

that system, including an estimate of all MRS-related costs.

I am providing copies of all of these reports and testimonies to the MRS Review Commission for its use.

Since we issued our June 1987 report, we have closely followed developments in DOE's waste program, including those relating to the MRS facility. The major event, of course, occurred in December 1987 when the Congress passed the Nuclear Waste Policy Amendments Act. As you know, this legislation authorized construction of an MRS facility, subject to a number of restrictions, but also created the MRS Review Commission to evaluate the need for the facility. DOE is reevaluating the role and functions of the facility in view of the amendments. At this time, however, the most definitive description of an MRS facility is contained in its earlier proposal.

As a part of our fourth annual report on the nuclear waste program to be released soon, we will discuss the effects of the 1987 amendments on DOE's proposed MRS facility. Further, even though our June 1987 report addressed issues important to the status of the facility before the amendments to the act, we believe that it addresses issues important to determining the need for an MRS facility. Consequently, the report may be of use to this commission in addressing this important question. Therefore, my testimony today is based primarily on our June 1987 report and that part of our upcoming fourth annual report discussing how the Nuclear Waste Policy Amendments Act limits achievement of the benefits of the MRS facility proposed by DOE.

DOE SHOULD PROVIDE MORE INFORMATION ON MONITORED RETRIEVABLE STORAGE

In our June 1987 report, as mentioned earlier, we assessed whether DOE's March 1987 proposal provided the Congress with enough information to make an informed decision on whether to authorize construction and operation of an MRS facility. We did not attempt to determine whether or not building and operating the proposed facility would be in the nation's best interest. Therefore, while we reported our views on the adequacy of DOE's MRS proposal, we did not, and we do not now, have a position on whether an MRS facility should be developed.

Let me now discuss each of our three basic findings from the report, as well as DOE's response to our findings and recommendations.

Differing Concepts for the MRS

NWPA authorized DOE to develop a geologic repository for waste disposal, take title to spent fuel at commercial reactors, and transport it to the repository. The act also discusses an alternative option for managing nuclear wastes--monitored retrievable storage--encompassing long-term storage in a facility that would allow continuous monitoring and easy access. The act states that the Congress and the executive branch should consider a proposal for building one or more facilities for this purpose. It required DOE to study the need for and feasibility of monitored retrievable storage, and to submit to the Congress a proposal for constructing and operating an MRS facility.

In March 1987, DOE submitted its proposal recommending that an MRS facility be constructed in Oak Ridge, Tennessee, and used for waste preparation, packaging, and temporary storage of spent fuel. The proposed facility would be capable of storing spent fuel for

long periods, but under normal operations the fuel would be stored at the MRS only until DOE could ship it to a repository. We stated in our report that, in judging the merits of DOE's proposal, it should be recognized that DOE's proposal and the MRS concepts embodied in the act differ significantly. Although the act envisions that an MRS be used for long-term storage, DOE proposed an MRS for waste handling and temporary storage purposes.

DOE's Analysis of MRS Alternatives Was Incomplete

In our view, to determine the need for and value of the proposed MRS facility, comparable information is needed on the benefits and costs of other waste system improvements. This information would provide a better basis for weighing the costs and benefits of the waste system with an MRS, and comparing it to an improved version of the waste system without an MRS. DOE's proposal identified various alternatives to MRS for improving the waste system, including measures to expand spent fuel storage capabilities at nuclear plant sites and at a repository site, and to improve waste transportation. DOE concluded that, although these alternatives could improve the waste system, none of them, either alone or in combination, could provide the benefits achievable with an MRS.

In our judgment, DOE's conclusion was premature. Its assessment of individual alternatives was limited, and it did not analyze the effects of combinations of these alternatives on the waste system as a basis for its conclusion. For example, DOE did not analyze some alternatives in detail because of a lack of operating experience with them. In these cases, DOE relied primarily on existing information and engineering judgment. Consequently, it did not develop designs and plans for many of these potential improvements in as much detail as for the proposed MRS facility. For example, DOE did not provide information on

storage at reactors and transportation technologies that would allow a more thorough evaluation of these alternatives for improving the waste system.

In the area of storage at reactor sites, DOE's proposal did not contain plant-specific information on (1) utilities' need for an MRS, (2) whether individual utilities would be willing or able to implement improvement alternatives in lieu of an MRS, or (3) how individual utility operations might be affected without the MRS facility. In addition, DOE had not determined if utilities have identified preferable alternatives to an MRS facility.

Likewise, DOE did not analyze the costs of alternative transportation improvements or determine the effects of each alternative on the current waste system because it had not designed these alternatives in detail. Although DOE's proposal described the advantages and disadvantages of many potential transportation improvements, it did not compare the benefits and costs of each alternative with the potential benefits and costs of an MRS. Furthermore, although DOE had separately evaluated other concepts for storing and transporting spent fuel--as a part of waste system integration studies--it did not incorporate the final results of these separate studies into the MRS proposal.

Finally, DOE did not determine the net effect that various combinations of transportation, reactor storage, and repository improvement alternatives might have on the current waste system, nor did it determine the most effective combinations of these improvements and how they would affect waste system costs. As I discussed earlier, DOE analyzed the various potential system improvements in terms of how each option, standing alone, might improve the waste system. But DOE's proposal did not demonstrate the basis for its judgment that no combination of improvements will provide benefits comparable to an MRS and that the benefits of the MRS are worth its additional cost.

In our view, it is important to be aware of the consequences of not having, as well as having, the MRS facility as a part of the waste system. Therefore, information is needed on the safest, most effective and efficient configuration of the waste system without an MRS as a basis for comparison with the benefits of an MRS facility. Consequently, we recommended in our report that DOE identify the best configuration of the waste system without MRS and provide information on the benefits and costs of this system along with those of the MRS. To do this, we said that DOE should collect reliable information from utilities on their need for an MRS and their willingness to implement reactor storage and transportation alternatives to the MRS. DOE should also include the results of completed and ongoing studies of spent fuel storage and transportation concepts.

As I will discuss later, DOE did not agree with our conclusions and recommendations; nevertheless, it addressed them in a supplement to its original proposal. First, however, I would like to discuss DOE's MRS cost estimates.

DOE Has Not Fully Developed MRS Cost Estimates

In its proposal, DOE estimated that building and operating an MRS facility would add about $1.5 billion (1986 dollars) to the cost of the waste management system. DOE noted that this estimate did not include costs for (1) site acquisition, (2) aid to affected localities for mitigating the impacts of constructing and operating the MRS facility, (3) grants equal to taxes, (4) consultation and cooperation agreements, and (5) federal, state, and local permitting and licensing fees.

In December 1985, DOE's Independent Cost Estimating staff, which is a separate group from the waste office that prepared the

original estimates, also assessed the costs to construct and operate the MRS facility. The group concluded that DOE may have underestimated the operating costs of the MRS by 10 to 15 percent. It also stated that waste office cost estimates did not include all construction and operating costs, some of which could be of "substantial magnitude". In addition to the cost elements listed above, these items included (1) royalties, (2) initial spare parts inventory, and (3) upgrading roads, railroads, and bridges for transport of heavy spent fuel shipping casks.

In our report, we recommended that DOE provide reasonable estimates of all costs associated with an MRS so that there would be some basis for weighing the full costs and benefits of the facility and comparing them with the costs and benefits of the waste system without MRS. Without a complete cost estimate, it is difficult to judge whether the MRS is worth the price that utilities and, in turn, ratepayers will be asked to pay.

In commenting on our report, DOE stated that some of these cost elements, such as royalties, permit and license fees, and consultation and cooperation agreements will not be significant and are included in a construction contingency factor. DOE also commented that the MRS cost estimate includes costs for connecting the facility to highway and rail lines and that it is not appropriate to include in the estimate additional costs for upgrading roads, railroads, and bridges for heavy transport. In response, we stated that DOE should include estimates of these costs in view of the fact that they could be "substantial."

Finally, DOE said it expects costs for taxes and impact assistance to be small and that it had not included specific amounts in the proposal so they would not be interpreted as a lower limit for purposes of beginning negotiations with state and local governments. In this regard, DOE stated that the Congress should determine some of these costs as a matter of national policy and

its judgment on the value of the MRS to the waste system. We agreed in principle, and stated that, in lieu of specific estimates, DOE could estimate the effects of a range of potential state and local payments on total system costs until more exact costs could be established through congressional action or negotiations. I would like to note, in this regard, that in the 1987 Amendments Act, the Congress established provisions for benefit payments to states willing to host an MRS facility or repository.

Additional Information on MRS Provided by DOE

In commenting on our report, DOE stated that it disagreed with many of our conclusions and, consequently, did not concur with our recommendations. Nevertheless, in November 1987, DOE issued a report that responded to our recommendations.[1] In that report, DOE stated that since the MRS proposal was developed, questions had been raised by various parties--including GAO--concerning the need for the MRS facility and the feasibility of alternatives. DOE prepared the November 1987 report to provide additional information to address these questions.

DOE's report (1) discusses potential modifications or improvements to the waste system other than an MRS facility, (2) compares alternative systems including some of these potential improvements, and (3) compares a system incorporating some of these improvements with a system including MRS. The report also includes information on some utilities' views on the need for the MRS facility and preliminary estimates of institutional costs identified but not quantified in the MRS proposal. DOE stated that its analysis indicated that there was no need for any substantive

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[1]Additional Information on Monitored Retrievable Storage, DOE/RW-0166, U. S. Department of Energy, November 1987.

changes in its conclusions on the system benefits and costs of an MRS presented in the proposal.

We reviewed DOE's report and concluded that it addresses most of the concerns raised in our June 1987 report. However, DOE did not obtain the "reactor-specific" information that we believe is necessary to determine whether an MRS facility is needed. This would include information on (1) individual utilities' need for an MRS, (2) their willingness or ability to implement improvement alternatives in lieu of an MRS, or (3) how individual utility operations might be affected without the MRS facility. Thus, to the extent that DOE has not obtained and incorporated reactor-specific information in its MRS analyses, as we had recommended, we continue to believe that the analyses are incomplete.

I would now like to discuss how the 1987 amendments to NWPA affect DOE's earlier MRS proposal.

EFFECTS OF NUCLEAR WASTE POLICY AMENDMENTS ACT ON MRS PROGRAM

Before the NWPA was amended in December 1987, DOE expected to construct and begin operating the MRS facility about 5 years before beginning repository operations. In DOE's view, this would allow it to plan and implement the waste system earlier and meet its contractual commitment to begin accepting waste for disposal in 1998. DOE also identified other benefits--such as an improved waste transportation system--that did not depend on early operation of the MRS facility.

As you know, the recent NWPA amendments authorize DOE to construct and operate an MRS facility but provide that construction may not begin until construction of the repository has commenced. As a result, many of the benefits of early development and operation of an MRS facility may not be achievable. The

amendments do not appear to affect some other facility benefits, such as reducing the distances that waste has to be transported, because these benefits are unrelated to the timing of the MRS facility. The value of these other benefits, however, appears questionable in view of the added cost of the facility and the restrictions on its early development.

DOE recognizes that the 1987 amendments impose restrictions on an MRS facility, including the facility that it originally proposed. Therefore, it plans to conduct studies to optimize the performance and effectiveness of the total waste system. For example, DOE is evaluating the possibility of accepting waste at the MRS facility earlier by constructing the waste storage area in advance of the waste packaging and shipping facilities.

Before discussing the constraints imposed on the MRS facility by the recent amendments, I would like to describe the benefits that DOE perceived in the facility as originally proposed.

MRS Benefits Cited by DOE

Some of the benefits described in DOE's proposal would have resulted from the development of the MRS facility 5 years ahead of the first repository. According to DOE's proposal, operating an MRS facility early would

-- allow DOE to plan and implement waste acceptance, transportation, consolidation,[2] and packaging functions 5 to 8 years before the planned opening of the repository in 2003;

[2]Waste consolidation involves extracting spent fuel rods from their assemblies and consolidating them into a more compact configuration to provide greater efficiency in handling, storage, transportation, and disposal.

-- reduce the need for new storage capacity at nuclear plant sites and enhance utility waste storage planning by beginning to accept waste from utilities in 1998 rather than in 2003; and

-- gain experience for DOE, through negotiations and interactions with the state of Tennessee, that would be useful in dealing with other potential waste facility hosts.

DOE identified other advantages of adding an MRS facility to the waste system that did not depend on the early operation of the MRS facility. These benefits were related to the geographical separation of temporary storage and permanent disposal facilities. They included

-- transportation improvements from reducing the number of waste shipments to the repository and minimizing the distances of waste shipments by truck from nuclear plants;

-- improvements in waste system reliability and flexibility from separating the functions of accepting waste (at the MRS facility) and disposing of it in a repository, and by adding significant operational storage capacity to the system; and

-- simplifying repository operations by performing waste preparation functions at the MRS facility and using the facility to control the rate at which waste would be transferred to the repository.

1987 Amendments Reduce Planned Benefits

The NWPA amendments contain a number of provisions that will delay the operation of an MRS facility beyond 1998 as DOE had proposed. Specifically,

-- DOE's proposal to develop an MRS facility in Oak Ridge, Tennessee, is annulled and revoked. DOE may not begin a new survey and evaluation of potential MRS sites until the MRS Review Commission submits its report to the Congress, and DOE may not select an MRS site until after DOE recommends a repository site to the President (expected in 1994).

-- MRS facility construction may not begin until the Nuclear Regulatory Commission (NRC) has issued DOE a construction authorization for a repository. Also, DOE may not construct an MRS facility nor accept waste at the facility during any time that the NRC revokes the repository authorization or repository construction ceases.

Because the amendments tie development and operation of the facility to progress on the repository, delays in the repository program will also delay the availability of an MRS facility. Therefore, the advantages of early operation of the facility proposed by DOE--improved waste system development, accelerated waste acceptance, and institutional benefits for the system--are essentially eliminated.

I would also like to point out, however, that the amendments also empower a Nuclear Waste Negotiator to find a state or Indian tribe willing to host an MRS facility, and to negotiate the terms and conditions, subject to approval by enactment into federal law, under which the state or tribe would host the facility. Through

this mechanism, therefore, the existing legislative constraints on the development of an MRS facility could be modified.

Early MRS Development and Operation Benefits Are Largely Not Achievable

In its MRS proposal, DOE stated that the MRS facility would accelerate transportation system development because DOE would be able to determine specific routing, logistics, and equipment requirements for waste shipments from nuclear plants several years earlier. Also, it would have more time available to work with states, Indian tribes, and the public on route-specific planning. Because the MRS facility location would be known far in advance of the repository site, DOE said shipping routes and requirements from nuclear plants could be defined up to 8 years earlier than without the facility.

The delays in the MRS program imposed by the amendments, however, preclude accelerated development of the waste transportation system. In fact, the situation regarding transportation planning is now reversed--the tentative location of the repository is known, but the MRS facility site would not be selected until 1994. Without the facility, however, DOE could begin planning for waste transportation shipments from nuclear plants to Yucca Mountain.

As noted earlier, DOE stated that early acceptance of waste at an MRS facility would (1) meet DOE's contractual obligation to begin accepting waste by January 1998, (2) significantly reduce the need for temporary capacity and the associated costs for waste storage at plant sites, and (3) enable utilities to develop firm plans for future waste storage needs. Because under the NWPA amendments DOE does not expect to obtain an authorization for both facilities until 1998 and begin operating them until 2003, DOE will have to find some other means of meeting its contractual

obligation. As noted earlier, however, DOE is investigating the possibility of accelerating the start of waste acceptance by developing the MRS facility in phases.

DOE also stated in its proposal that a number of utilities will soon fill their existing spent fuel storage pools. DOE estimated that operating the MRS facility by 1998 could eliminate the need for more than 10,000 metric tons of additional storage capability at more than 15 nuclear plant sites, with a potential savings to utilities of $1 billion. Under DOE's current plans, however, the facility would begin operating in 2003. When the repository begins operating at full capacity in 2008, the MRS facility would have 5,200 metric tons of waste in storage--9,500 metric tons less than originally planned. In fact, under DOE's current plans, the waste stored at the MRS facility would never exceed 5,200 metric tons. From 2008 on, DOE would receive only as much waste at the facility each year as it would process and ship to the repository. Therefore, DOE's MRS operating plans, revised to reflect the constraints imposed by the NWPA amendments, appear to largely eliminate the benefit of a significant decrease in future utility storage needs.

Because it will take DOE longer to develop an MRS facility, and because of the potential for further delays due to its link to repository progress, it is uncertain when the facility would begin accepting waste from utilities. Until utilities can use either of these facilities, according to DOE, they will have to find alternative storage options. The MRS facility, therefore, no longer provides utilities with a firm basis for waste storage planning. On-site storage in dry casks now appears to offer utilities a more predictable storage option than the MRS facility.

Finally, the additional time now required for DOE to develop an MRS facility would prevent DOE from using the facility to enhance public confidence in the operating schedule for the total

waste system. The MRS facility would not permit DOE to demonstrate early in the waste program, as DOE originally contemplated, that its waste facilities are safe and that DOE is a responsible corporate citizen and neighbor.

Questionable Value of Other MRS Benefits

As I noted earlier, DOE identified other advantages to the MRS facility that would not be affected by changes in the facility's timing. For example, the facility would significantly reduce the number of shipment-miles that waste must travel in less efficient truck-mounted casks. The shipment-mile reduction is due to the facility's central location to the majority of nuclear power plants and the use of large-volume shipments on dedicated trains from the facility to the repository. To illustrate this point, table 1 shows DOE's estimates of the total waste shipment distances that would be traveled in waste systems with and without an MRS facility. These estimates assume an MRS facility located in Tennessee and a repository located at Yucca Mountain. Without the facility, DOE estimated a total of almost 59 million miles, but only about 18 million miles with an MRS facility.

Table 1: Waste Transportation Distances

Waste system with MRS facility	Millions of miles
Rail (to MRS)	4.6
Rail (to repository)	1.3
Subtotal	5.9
Truck (to MRS facility)	11.9
Total	17.8
Waste system without MRS	
Rail (to repository)	16.2
Truck (to repository)	42.5
Total	58.7

Decreasing the number of shipment-miles traveled in the system would have the clear benefit of reducing the frequency of shipping accidents. Using truck and rail accident rates developed for a study conducted for NRC by DOE's Lawrence Livermore Laboratory,[3] we estimated the number of accidents that would be expected to occur. Table 2 presents the results.

Table 2: Projected Transportation Accidents

Waste system	Projected accidents		
	Rail	Truck	Total
System with MRS facility			
To MRS facility	55	76	131
To repository	16		16
Total	71	76	147
System without MRS facility	194	272	466

The effect of reducing the number of spent fuel shipment-miles on accidental radiological releases, however, may not be significant. According to the Livermore study, the risk of radiological releases from spent fuel shipment accidents are extremely low. Livermore estimated, for example, that the radiological risk from spent fuel shipments in the number contemplated by DOE is less than one latent cancer fatality in the general population every 2,300 years. Finally, achieving this level of reduced shipment miles with an MRS facility would depend on having an MRS facility location that is central to the majority of nuclear power plants.

DOE has also stated that an MRS facility would improve the reliability and flexibility of the waste management system by (1) separating waste acceptance at nuclear plants from waste emplacement in the repository and (2) adding significant

[3] Shipping Container Response to Severe Highway and Railway Accident Conditions (NUREG/CR-4829, Feb. 1987).

operational storage capacity to the system. According to DOE, for example, accepting waste from nuclear plants independent of repository operations is important because the optimal rates for unloading individual nuclear plant storage pools will differ from the most efficient repository waste receipt and emplacement rates. Further, delays in waste emplacement at a repository would not prevent continued removal of waste from nuclear plants.

Greater flexibility in coordinating spent fuel acceptance and emplacement rates may be important to the waste management system; however, DOE has not demonstrated that the amount of storage that an MRS facility would provide--15,000 metric tons--is needed for this purpose. It is not clear that this much temporary storage capability would be needed, particularly since this storage would not now be available until about the time that utilities will begin to retire nuclear plants and because DOE's current plans call for storing only up to 5,200 metric tons of spent fuel at the facility.

Finally, DOE has stated that it could simplify facilities and operations at the repository by performing many of the major waste preparation functions at the MRS facility. DOE has not, however, demonstrated how this would benefit the entire waste management system. Although DOE appears to have assumed that the fewer activities performed at the repository site the better, DOE did not clearly demonstrate in its proposal that there are significant advantages, other than reduced transportation distances, to preparing waste for disposal at an MRS facility rather than at the repository site.

CONCLUSIONS

In conclusion, DOE's MRS proposal stated that the MRS facility would enhance the operation of the waste management system. To support this position, DOE identified a number of benefits from

developing and operating an MRS facility by January 1998. These benefits fall into two categories: (1) benefits from developing and operating the facility several years ahead of a repository and (2) benefits from including an MRS facility centrally located to the relatively large number of nuclear power plants in the East.

In December 1987, the Congress authorized DOE to develop and operate an MRS facility but also placed a number of restrictions on it. Because these restrictions tie selection of an MRS facility site and facility construction to progress on the repository, DOE can no longer achieve all of the time-dependent benefits of the proposed facility. Also, the value of other benefits identified by DOE are not readily apparent in view of the changed conditions under which the facility is to be developed. Thus, the MRS Review Commission and DOE need to address the basic question of whether the remaining advantages of an MRS facility are worth its additional cost, particularly since the facility would no longer be available in time to eliminate utilities' needs for additional on-site storage capacity.

We believe that the time-related effects of the NWPA amendments and questions about the significance of the other MRS facility benefits are appropriate issues for review by the MRS Review Commission in reviewing the need for the facility. In this regard, the MRS Review Commission needs the results of DOE's ongoing reassessment of the role of an MRS facility in the nuclear waste disposal system, as modified by the 1987 amendments to the NWPA. We will also soon provide the MRS Review Commission with our fourth annual report on the nuclear waste program, which will include our detailed analysis of the effects of the amendments on DOE's proposed MRS facility, for the Commission's consideration.

Mr. Chairman, this concludes my statement. I will be glad to respond to any questions that members of the MRS Review Commission may have.