

## MONITORED RETRIEVABLE STORAGE - A CONGRESSIONAL PERSPECTIVE

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### ABSTRACT

The evolving role of MRS - monitored, retrievable storage - in Federal nuclear waste policy is reviewed and discussed in this paper. A decision by the Department of Energy to seek Congressional authorization for an MRS-like facility as an integral part of the Federal program to dispose of spent fuel and high-level radioactive waste seems both justified and likely. However, such a decision could bring other aspects of the DOE nuclear waste program before Congress for review and possible amendment. This is a colorful prospect, but it is a risk that must be taken if the Federal government seriously intends to assume by a date certain the long-standing Federal responsibility to finally do something about the management of nuclear waste.

### INTRODUCTION

A year ago, there was very little discussion at this meeting of the monitored, retrievable storage (MRS) option for the long term isolation of spent nuclear fuel and high-level radioactive waste. The lack of interest in MRS at the 1984 Waste Management meeting reflected the lack of interest in MRS in the Department of Energy in Washington, D.C.

This year Waste Management '85 may or may not devote time to discussion of MRS issues. In Washington, D.C. the DOE's new interest in MRS is a main event in the nuclear waste policy debate, and it appears that a long, difficult fight has begun over the role MRS facilities will play in the U.S. nuclear waste management system. This fight is scheduled to take on legislative dimensions next year when DOE submits a site-specific proposal for MRS construction to Congress as part of its Fiscal Year 1987 budget.

This proposal will formally place before Congress the most controversial element of the DOE's newly-articulated "integrated" nuclear waste management system. The process of reviewing and acting on the MRS proposal will place this integrated system itself under Congressional review and scrutiny. Affirmative Congressional action will be required to implement the MRS element of the system. The need for additional Congressional review and scrutiny. Affirmative Congressional action will be required to implement the MRS element of the system. The need for additional Congressional authorization is a significant limitation on the Department's authority that must be addressed before a comprehensive nuclear waste management system containing an MRS facility can be established. This limitation did not exist for the U.S. nuclear waste program before MRS became a part of it. Yet DOE has no choice but to seek Congressional approval of an MRS component for its waste management system if the public benefits promised in the Nuclear Waste Policy Act of 1982 are to be realized in the time frame set forth in the Act.

### MRS vs. REPOSITORIES

As defined in section 141 of the Nuclear Waste Policy Act of 1982 (42 UCS 10161) any monitored retrievable storage facility for spent fuel and high-level radioactive nuclear waste must:

- permit continuous monitoring, management, and maintenance of such spent fuel and waste for the foreseeable future;
- provide for the ready retrieval of spent fuel and waste for further processing or disposal; and
- safely store spent fuel and waste as long as may be necessary by maintaining the MRS facility through appropriate means, including any required replacement of the facility.

The sponsors of section 141 of the NEPA envisioned a system of MRS facilities as an alternative to the system of irreversible disposal of spent fuel and waste in deep geologic repositories. The advantages they saw in MRS over geologic disposal are several.

There are no technical difficulties to overcome. The engineering of an MRS facility is straightforward. For over 20 years, facilities essentially identical to an MRS facility have been built, licensed and operated.

The siting of an MRS facility is not limited to the small number of locations where the sub-surface geology and the above-surface politics are simultaneously favorable. MRS facilities are relatively independent of the physical characteristics of the site. An MRS facility could be built and licensed at numerous sites in any State in the United States.

A system of waste isolation based on monitored, retrievable storage is clearly feasible and achievable. More importantly, a choice for MRS is not an irreversible

choice. Options are preserved. Because the waste is retrievable, any preferred management technology that comes along in the future can be adopted without difficulty. Moreover any such new approach can be applied to all the waste generated in the past. MRS technology is quite considerate of future generations: it protects the public health and safety while leaving them more choices.

On the other hand, the disadvantages of MRS are few, but in the eyes of its opponents, they are important. There is a view of in nuclear waste policy that holds that the nuclear waste problem is not "solved" until nuclear waste is put where no one can get to it. The facility envisioned as essential to the achievement of this goal is a geologic repository. A system of MRS facilities represents a feasible alternative to the more difficult task of siting a geologic repository. Because of this MRS has to be opposed as a diversion from the true task. Strong opposition to MRS based on this view nearly eliminated the MRS provisions from the NWPA in 1982, and, now that DOE is beginning to see advantages to MRS, opposition is evident again.

To a very real extent, the debate that is coming is about the purpose of Federal nuclear waste policy. Is that purpose the safe isolation under Federal control of spent fuel and high-level radioactive waste with the eventual disposal of the material in a repository, or is it the siting and construction of the repository itself? That is, is a geologic repository the end in itself or only a means to an end?

Moreover, what is the Department's obligation to the utilities whose ratepayers have paid fees to the Nuclear Waste Fund? Is it an obligation to begin to take charge of the utilities' spent fuel by a date certain, or is it only to provide a repository for disposal of the fuel as soon as that can be accomplished?

The authors of the NEPA are not in agreement on these matters, and there is no statement of purposes for the Act as a whole that would resolve the issue. The next Congressional statement on these matters will occur in connection with the coming review of the MRS proposal as contemplated under the Act.

#### CONTRASTING PROCEDURES

The approach to decisionmaking for the MRS is fundamentally different from the approach the Act takes towards geologic repositories.

The geologic repository program is self-executing. That is, the Department of Energy is authorized and directed to survey available sites for a geologic repository, to select one, to obtain the required permits and licenses, and to construct the necessary facilities. The only Congressional actions required are annual appropriations from the Nuclear Waste Fund.

The conduct of the repository program is, of course, highly constrained by the procedures set forth in the Act, and, should any of the affected interests feel that DOE is not following these procedures, a lawsuit is the remedy. In fact, the Department is now being sued in at least five separate actions for failure to comply with the Act.

Ultimately there is also the likelihood - some say the certainty - that a State - probably one without much of a stake in the benefits of nuclear energy - will object to assumption of the nuclear energy's burden of waste. Formal objection by a State or an Indian tribe would trigger a totally unprecedented confrontation in American politics, the outcome of which must be considered highly uncertain.

Thus, while Congress made the repository program self-executing, it established procedural constraints on the implementation of the program that are quite severe and that offer substantial opportunity for delay - perhaps indefinite delay - in siting the repository.

The MRS provisions of the Act take an entirely different procedural approach to decisionmaking. The Act does not authorize MRS facilities. Instead, the MRS program is taken through a process that involves two iterations with Congress before a facility could be built. In the first step, contained in section 141 of the NWPA, Congress directs the Department of Energy to develop a detailed, site-specific proposal of the construction of the first facility in a nuclear waste management system with the broad general characteristics of an MRS system. The proposal is to be accompanied by an environmental assessment based on available information, but not an environmental impact statement, which might subject the proposal to litigation before Congress reviews it. The proposal is to be site-specific and definitive; it must contain designs, specifications, and cost estimates at a level of detail sufficient to permit construction bids to be solicited if the proposal is approved.

The provisions of section 141 are designed to cause a reasonably complete proposal to be submitted within a reasonably certain time. The proposal would consist of a few well-considered and clearly-described options from which Congress could choose. The Department has a great deal of flexibility in designing the proposal. Because the proposal will ultimately be acted on by Congress, there is little chance that any court would accept a challenge to the procedures under which the report is prepared or the process of selecting alternative sites. Congress can be reasonably sure that external challenges will not prevent the presentation of the proposal.

Once submitted, Congressional debate may lead to further refinements of the proposal, outright changes or conditions on its implementation. It may lead to rejection, for example, of the siting options presented with

instructions to return with a new proposal with new sites. Congress may simply decline to act to authorize the facility, in which case there would be no MRS.

If the proposal is adopted, the Department would proceed to apply for a license from the Nuclear Regulatory Commission and prepare an environmental impact statement. However, in these processes, the need for the authorized facility may not be questioned. Presumably Congress has declared that the facility is needed by authorizing it.

This process reserves the difficult decisions for Congress, and, if Congress is willing to make these decisions once faced with the site-specific details, the path to construction of the facility should be relatively trouble free. A detailed proposal having been debated and adopted, the intent of Congress should not be in doubt. Once the proposal is adopted there should be little question that the facility will open on time.

The essence of this approach is the notion that when Congress is ready to decide a difficult issue of public policy, it should decide it in as definitive a way as possible. If Congress is not ready to decide the issue, it is probably not going to get solved very soon by anyone.

#### AN INTEGRATED MRS-REPOSITORY SYSTEM

The authors of section 141 viewed the MRS as a "parallel" track leading to the safe isolation of nuclear waste under Federal auspices. The track was parallel, but distinct from the repository program. The Department of Energy initially regarded this parallel track as a dead end. It is no secret that DOE's priority for development of the required MRS proposal was close to zero in first two years after passage of the Act.

That has all changed. Recent testimony and speeches of DOE waste program officials indicate that DOE is seriously attempting to define a role for an MRS-like facility in an integrated nuclear waste management system.

Any such system has functions for waste acceptance, consolidation, packaging, storage and scheduling. All these functions will be performed somewhere in the system. Some could be performed at utility sites; some could be performed at the repository; some or perhaps all of them could be performed at an intermediate facility. It is this last notion that is the kernel of the Department's new approach to MRS.

There are several possible advantages to locating these functions in a central facility between the utility sites and the prospective repository. The Department is just now attempting to analyze these benefits and the associated costs in preparation to a decision to submit an MRS proposal to authorize such a facility.

The functions that would be performed at the facility are implicitly authorized already in the repository program. Therefore

the Department might argue that use of the MRS proposal to obtain authorization of a facility to house these functions is unnecessary. However, in view of the history of controversy over Federal nuclear waste storage facilities and because of the preliminary estimated Federal program cost impact of deploying the MRS facility - of the order of a billion dollars - the Department is wise to seek Congressional concurrence for its ideas before attempting to implement them. The MRS proposal provision of the NWPA seems well suited for this purpose.

The benefits of the integrated MRS-repository system are fairly clear.

System flexibility and performance are improved. Waste acceptance activities would no longer be dependent of repository construction schedules. With the MRS in the system there is the ability for orderly control and scheduling of the movement of spent fuel to the repository site once the repository is open.

Transportation impacts will be significantly reduced. The necessarily large number of trips from reactor sites to Federal facilities will be made much shorter if an MRS is located near the centroid of spent fuel production and the repository is located in the Western U.S. Longer trips from the MRS facility to the repository can be scheduled by dedicated unit train in fewer, larger casks of a single type. Such trains will allow for better control, protection and emergency response in the event of an accident. Cask acceptance operations at the repository would be simplified.

Spent fuel would be received, inventoried and prepared for disposal under Federal auspices in the MRS facility independent of progress in siting or licensing the repository. Focus in repository siting would be on geology, where it belongs.

In the plausible event of a delay in opening the repository, costly at-reactor storage of spent fuel would be replaced with much less costly incremental storage at the MRS site. Incremental MRS storage costs have been estimated at 20% or less of incremental at-reactor storage costs.

At-reactor storage costs are presently assumed to be borne by the utilities involved. However it should not also be assumed that ratepayers will remain complacent about paying for a Federal waste management program through the 1.0 mil per kilowatt hour fee and also for extra at-reactor storage made necessary by delay in the Federal waste acceptance.

Finally, inclusion of an MRS component in the Federal nuclear waste management system is an entirely feasible way to insure fulfillment of the commitment implicit in the Nuclear Waste Policy Act of 1982 that the Federal government will actually begin to do something about nuclear waste management by a date certain.

## CONCLUSION

The possibility that the Department of Energy might propose an MRS-like facility in an integrated U.S. nuclear waste management system is a very interesting and hopeful development in U.S. nuclear waste policy. It is also a controversial possibility.

At this writing, the jurisdictional Committee Chairmen in the House of Representatives are blocking a small, but important, reprogramming of funds for development of the MRS proposal to be submitted to Congress. This reprogramming involves \$9 million out of the \$327 million available to the Federal civilian nuclear waste program in Fiscal Year 1985. Obstructionism at this level of detail is an indication of the intensity of the opposition that the MRS proposal will face. DOE may be beginning to appreciate the difficulty of the task ahead.

The utility and the nuclear industries assume that the Nuclear Waste Policy Act of 1982 commits the Federal government to accept spent nuclear fuel for disposal beginning in 1998. DOE reiterates this commitment at every opportunity. Whatever DOE says, this commitment is dependent on the existence of a facility that is capable of accepting spent fuel. Absent such a facility, existing contracts with the Federal government for waste acceptance are essentially worthless. There is no remedy available to enforce them.

If no facility is available to receive spent nuclear fuel, this fuel will simply remain at reactor sites. This is the alternative case - the base case in fact - for the U.S. nuclear waste management system without an MRS. By 1998, billions of dollars will have been appropriated from the Fund by Congress, and billions of dollars will have been spent by DOE and its various contractors. In 1998, if no facility is available or in immediate prospect in return for these billions, the political retribution will be substantial. No rational DOE manager would want to risk such an outcome if that risk could be avoided.

By diverting less than 5% of program resources to an intermediate MRS-like facility, DOE could buy insurance against this retribution. In fact, if the repository is delayed and the insurance is needed, the total costs of waste management to ratepayers and to the Federal government could actually be reduced with such a facility in the system, because spent fuel storage costs would be minimized.

It only seems prudent to try to obtain this insurance. Over the coming months and especially next year, we will begin to see the reaction of the political system - in its nuclear waste battle clothes - to this proposal.