

MRS SITING

BACKGROUND

This briefing paper is a component of the comprehensive briefing package developed for the Negotiator, and describes previous DOE experience in its attempt to site an MRS facility. The Background section highlights, in chronological order, significant events in DOE's MRS siting history from enactment of the Nuclear Waste Policy Act of 1982 to the issuance of the "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program" in November 1989. The Topic Sensitivity section notes several lessons learned to date in the siting process, as well as pointing out other concerns the Negotiator needs to be aware of. Finally, the Current Status section describes activities currently under development to facilitate the process of locating an MRS site.

1. Nuclear Waste Policy Act of 1982 (NWPA)

When the NWPA (Pub.L. 97-425) was passed in 1982, the repository was considered the primary element in the nation's integrated nuclear waste management system. With emphasis on the monitored retrievable storage (MRS) facility subordinate to the repository, legislative guidance pertaining to the MRS was outlined in a single section.

However, Congress did recognize, and note in §141, that "long-term storage of high-level radioactive waste or spent nuclear fuel in monitored retrievable storage facilities is an option for providing safe and reliable management of such waste or spent fuel" (§141(a)(1)). In addition, DOE was mandated to provide "a detailed study of the need for, and feasibility of, and [to] submit to Congress a proposal for, the construction of one or more monitored retrievable storage facilities for high-level radioactive waste and spent nuclear fuel," by June 1985 (§141(b)).

The proposal was to include: 1) a Federal program for siting, development, construction and operation of one or more MRSs; 2) a plan for funding construction and operation; and 3) site-specific designs. The proposal was also to include at least three alternative sites, and at least five alternative combinations of proposed sites and facilities.

2. Oak Ridge MRS Siting Experience

DOE announced in April 1985 that three sites in Tennessee (Clinch River Breeder Reactor, Oak Ridge Federal Reservation, Hartsville Nuclear Plant) were to be considered as potential sites for an MRS facility.

Clinch River Task Force (see "Report of the Clinch River Task Force")

The Clinch River Task Force, a 31-member committee composed of appointees from Roane County and the City of Oak Ridge, TN, was formed to provide the opportunity for a local evaluation of the proposed Oak Ridge sites. Their main objective was "to determine whether the proposed Monitored Retrievable Storage facility should be accepted by the local governments, and if so, under what conditions."

The efforts of the Task Force led to four broad based conclusions: 1) spent fuel and high-level radioactive waste can be safely stored; 2) both Oak Ridge sites (Clinch River Breeder Reactor and Oak Ridge Federal Reservation) could accommodate the proposed facility from an environmental viewpoint; 3) the proposed MRS facility can be safely constructed and operated; and 4) the proposed MRS facility could benefit the economies of the local communities, the region, and the State. The Report made it clear that these conclusions were contingent on numerous underlying constraints and conditions, and emphasized that these conclusions were only valid if Congress and the State adopted its stated conditions, which were spelled out in detail in the Report.

The Task Force also outlined several areas of concern and proposed mitigative actions to address them. Their concerns included: 1) without diligent adherence to safety procedures, the MRS could adversely impact the local environment and surrounding population; 2) the proposed MRS facility could delay construction of the repository and become a de facto repository; 3) the MRS could hinder the communities' efforts to diversify their industrial base; and 4) public trust in DOE was seriously eroded.

While the Task Force proposed several mitigative solutions to address these concerns, of particular interest are the recommendations concerning the potential for the MRS to become a de facto repository. In order to allay these concerns, the Task Force recommended that the MRS-authorizing legislation include limitations concerning the timing, amount, and duration of time for receiving and storing spent fuel at the facility.

Specifically, the provisions would:

- limit the amount of fuel received before a construction license is granted for the repository;
- limit the amount of spent fuel received before out-shipments to the repository are initiated;
- subject to review and disapproval any proposed extension to the MRS storage capacity of 15,000 metric tons; and

- make spent fuel stored for more than 15 years subject to a penalty levied by the state.

These particular recommendations are of interest because the proposed limitation and constraints, or some variation thereof, subsequently appeared in the DOE MRS Proposal to Congress in March 1987.

The Clinch River MRS Task Force passed a resolution in October 1985 which stated that "the Task Force has determined that the facility could be safely built and operated in the Roane County portion of Oak Ridge, provided that certain concerns were addressed and impacts mitigated." The Task Force urged the local governments to adopt and support the recommendations in the report summary as their official position. The City of Oak Ridge and the County Commission for Roane County adopted resolutions supporting these recommendations in October 1985.

Tennessee's Rejection of Draft Proposal (see "NUCLEAR WASTE: Institutional Relations Under the Nuclear Waste Policy Act of 1982")

The success with Oak Ridge, however, did not carry through to the State of Tennessee. After announcing the proposed Tennessee sites in April 1985, the state was granted \$1.4 million by DOE to assist in determining the impact of an MRS on the state, and to develop an opinion on its acceptability. However, in August 1985, Tennessee filed a lawsuit against the DOE challenging the site selection process on the grounds that DOE failed to consult and cooperate with the State as required by the NWPA. The state noted its concern over the potential for the facility to become the de facto repository, given the difficulties that may be encountered in siting a repository.

The state of Tennessee formally rejected DOE's draft proposal and environmental assessment in January 1986. The governor of Tennessee told the Secretary of Energy he would disapprove any proposal for a Tennessee based facility, and urged Congress not to override his disapproval. The state's primary objections to the Oak Ridge site were:

- the facility is unnecessary and a waste of money;
- the negative socioeconomic impacts of placing an MRS in the Oak Ridge area far outweigh any benefits to the area.

A lengthy legal battle that ultimately reached the Supreme Court ensued. In February 1986, a federal district court ruled that DOE had violated the "consultation and cooperation" provision of the NWPA when it selected the sites without consulting with the state, and granted an injunction prohibiting DOE from submitting its proposal to Congress. In November 1986, the U.S. Court of Appeals for the Sixth Circuit reversed

the district court's decision. On March 31, 1987, the Supreme Court let stand without review the U.S. Court of Appeals decision that NWPA did not require DOE to consult with any state before DOE submits the proposal to Congress.

DOE 1987 MRS Proposal (see "Monitored Retrievable Storage Submission to Congress: Volume 1; The Proposal")

DOE, in response to §141 of the NWPA, submitted a proposal for the development of an MRS, in March 1987. As noted, the proposal included suggestions forwarded by State and local governments, including capacity restrictions and construction linkages to the first repository. This established an important precedent for DOE, suggesting that interactions with potential host communities could establish conditions that satisfy the needs and concerns of both the host and DOE.

In the proposal, DOE notes that the "MRS has an early opportunity to demonstrate the safety of facilities developed under the Act and to establish that in developing and operating these facilities the DOE is a responsible corporate citizen and neighbor. To make the most of this opportunity, the DOE is proposing measures that include (1) the provision of opportunities for State and local governments to participate in the project, (2) assurances about safety and environmental quality, and (3) financial assistance. These measures are based in part on comments submitted by the State of Tennessee and the Clinch River MRS Task Force."

3. Nuclear Waste Policy Amendments Act of 1987 (NWPAA)

The NWPAA (Title V of P.L. 100-203; The Budget Reconciliation Act For Fiscal Year 1988) provides greater statutory guidance on the MRS element of the waste management system, including: 1) revocation of the Oak Ridge siting proposal; 2) establishment of an MRS Review Commission; 3) provisions for a DOE directed siting process; 4) development of linkages between the repository and the MRS, and capacity restrictions on any MRS facility; and 5) the establishment of the Nuclear Waste Negotiator.

Section 142(a) states that the "proposal of the Secretary (EC-1022, 100th Congress) to locate a monitored retrievable storage facility at...[the three proposed Tennessee sites]...is annulled and revoked."

Section 143 established the MRS Review Commission, and mandated that the Commission "...prepare a report on the need for a monitored retrievable storage facility as a part of a national nuclear waste management system that achieves the purposes of this Act." In preparing the report, the Commission was required to:

- review the Secretary's evaluation of the advantages and disadvantages of bringing an MRS into the national nuclear waste disposal system;
- obtain comment and available data on monitored retrievable storage from affected parties;
- evaluate the technical utility of an MRS; and
- make a recommendation to Congress as to whether an MRS should be included in the national waste system.

The MRS Review Commission completed its task, and reported to Congress in November 1989 (see below).

The NWPAA provides for DOE to develop an MRS facility. However, in its efforts to assure that an operational MRS would not become the de facto repository, Congress established linkages between the siting, construction, and operation phases of the MRS and the repository. These are summarized as follows:

- The Secretary is authorized to site, construct, and operate one MRS facility (NWPAA §142(b));
- The siting process (survey and evaluation of potentially suitable sites) cannot begin until after the MRS Commission reports to Congress (the report was submitted in November 1989) (NWPAA §144);
- The Secretary can conduct site specific activities at each site surveyed (NWPAA §144, §145(c));
- The Secretary cannot select a site for the MRS until he recommends the approval of a site for the development of a repository (NWPAA §145(b));
- No MRS facility may be constructed in the State of Nevada (NWPAA §145(G));
- After site selection, the Secretary may submit an application to the Nuclear Regulatory Commission (NRC) for a license to construct the facility, however, construction of the MRS cannot begin until the NRC has issued a license for the construction of a repository (NWPAA §148(b),(d)(1));
- Construction of the MRS or acceptance of spent fuel or high level radioactive waste must stop if the repository license is revoked or construction at the repository ceases (NWPAA §148(d)(2));

- Until such time as the repository begins accepting spent fuel or high level radioactive waste, the MRS cannot accept greater than 10,000 metric tons of heavy metals (NWPAA §148(d)(3));
- Even after the repository begins accepting spent fuel or high level radioactive waste, the MRS cannot have greater than 15,000 metric tons of heavy metals at the facility at any one time (NWPAA §148(d)(4)).

Part D, "Nuclear Waste Negotiator," of the NWPAA establishes and provides guidance for the Office of the Nuclear Waste Negotiator. "The Negotiator shall attempt to find a State or Indian Tribe willing to host a repository or monitored retrievable storage facility at a technically qualified site on reasonable terms and shall negotiate with any State or Indian Tribe which expresses an interest in hosting a repository or monitored retrievable storage facility" (§402(b)(2)).

4. DOE Position on the MRS (see "The DOE Position on the MRS Facility,")

DOE testified before the MRS Review Commission on May 25, 1989. Its position "can be summarized as follows:

- The DOE supports the development of an MRS facility as an integral part of the waste-management system because an MRS facility would allow the DOE to better meet its strategic objectives of timely disposal, timely and adequate waste acceptance, schedule confidence, and system flexibility. This facility would receive, store, and stage shipments of intact spent fuel to the repository and could be later expanded to perform additional functions that may be determined to be beneficial or required as the system design matures.
- Recognizing the difficulty of DOE-directed siting through national or regional screening, the DOE prefers an MRS facility that is sited through the efforts of the Nuclear Waste Negotiator, especially if the siting negotiations lead to linkages that allow the advantages of an MRS facility to be more fully realized. Even if such revised linkages are not achieved, however, the DOE supports the development of the MRS facility."

5. MRS Review Commission Report (see "Nuclear Waste: Is There A Need For Federal Interim Storage?")

The MRS Review Commission submitted its report to Congress in November 1989. The conclusions and recommendations outlined in the report are summarized below.

Conclusions:

- the MRS and No-MRS options are both safe from a technical perspective;
- the net cost of the MRS would be lower than previously estimated due to current and projected delays in the repository schedule;
- there is no single factor making either the MRS or the NO-MRS option more attractive;
- an MRS linked to the repository as provided by current law would not be justified (the Commission does state, however, that although they do "not believe that there is a technical basis for the linkages, ...[they agree that]... in light of congressional and other concerns about a de facto repository, some linkages are justified.");
- some interim storage facilities, with smaller capacity and built under different conditions than the DOE-proposed MRS, are in the national interest.

Recommendations:

- Congress should authorize the construction a Federal Emergency Storage (FES) facility with a 2,000 MTU capacity limit, to be used primarily for "emergency" situations; and funded by the Nuclear Waste Fund,
- Congress should authorize construction of a User-Funded Interim Storage (UFIS) facility, with a capacity of 5,000 MTU;
- Congress should reconsider the question of interim storage in the year 2000.

6. 60-Day Report (see "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program")

The House Committee on Appropriations, through language in the Energy and Water Appropriations Act, 1990, directed the DOE "...to submit a report within 60 days of enactment...which describes in detail how the department plans to respond to the Committee's...concerns dealing with endemic schedule slips, problems in management structure, and the lack of integrated contractor efforts." DOE submitted its 60-Day Report in November 1989.

DOE addressed the MRS in the 60-Day Report, noting: the current statutory provisions for an MRS; the MRS Review Commission's Report; and DOE's stated

position in May 1989. The report also addressed DOE's initiatives for the MRS facility. These include: interactions with the Congress to revise the current linkages; supporting the Negotiator; and being prepared to proceed with a DOE-directed siting effort in the event this is necessary.

TOPIC SENSITIVITY

Scheduling Concerns

Recent scheduling activities designed to illustrate what activity durations are required to meet the 1998 date for waste acceptance with a single phase facility highlight the need to obtain a candidate site by March 1991.

Lessons Learned

- MRS siting experience at Oak Ridge illustrates the need for any discussions with a potential host to include both the local community (or Tribe) and the State, as well as other affected stakeholders;
- The MRS Review Commission noted that due to concerns about the MRS becoming a de facto repository, some type of linkage (or capacity constraints) may be justified. These conditions could be spelled out in a negotiated agreement with the potential host community;
- Increased public involvement in many phases of the project may lead to less opposition from the public, and enhance DOE's credibility, thereby increasing public confidence in DOE's ability to successfully develop and operate an MRS.

Other Concerns

- Legislative efforts by DOE to modify the existing linkages are underway; such efforts could be of significant interest to affected potential volunteers;
- The "licensability" of any potential sites is the most basic concern, i.e., has it previously been licensed, does environmental data exist, does it meet specified minimum requirements.

CURRENT STATUS

DOE has initiated various steps and accomplished numerous activities designed to facilitate progress in development of an MRS facility. An MRS Management Team

has been designated within OCRWM to coordinate all activities relative to the MRS program. The Management Team is organized under the Office of Facilities and Siting Development (OFSD), and reports to the Associate Director of OFSD. The Management Team's responsibilities range from the development of an overall MRS Strategy to assigning the specific individual tasks required to carry out that strategy.

MRS siting activities currently under development include:

Developing Minimum Siting Criteria and Considerations

- DOE will develop both minimum requirements and siting considerations as they would apply to a volunteer or DOE MRS site;
- DOE will develop an analysis of potential institutional barriers which might exist in siting an MRS, based primarily on "lessons learned" from other siting experiences;
- DOE will analyze the impact of different siting strategies on the potential institutional barriers.

Developing a Database of Existing and Closed Sites

- As background for the MRS Strategy, DOE is compiling information on existing and closed sites. This list of sites includes: docketed sites, both those that never received a construction permit and those that received a construction permit but were cancelled before construction was completed; existing commercial nuclear facilities; DOE nuclear installations; military installations which have been closed or are expected to be closed; existing NRC-licensed storage facilities; and closed reactor sites operated by utility companies.

Information on each site, where available, will include: name of facility; docket number; ownership; if a private facility, will indicate status of permit or application; if a DOE facility, will indicate current use; total acreage of the sites; and the status of all permits and construction.

Options for Attracting Volunteer Host

- In anticipation of the need to attract a host, DOE is developing approaches and options that would be available for the Negotiator's consideration, if desired.

MRS Financial Assistance Guidelines

- In Part D, "Nuclear Waste Negotiator," of the NWPAA, Congress provided for financial assistance to be made available to eligible applicants for the purpose of performing studies to determine the feasibility of hosting an MRS in their jurisdiction. DOE is developing guidelines for administering these financial assistance grants provided for in §402(b). These guideline will address eligibility, scope of allowable activities, and evaluation criteria.

Environmental Activities

- Upon request of the Negotiator, the Secretary must prepare an environmental assessment (EA) of a potential site that the Negotiator can submit to Congress along with a proposed agreement developed with a potential host. DOE is preparing an annotated outline for an EA, and is completing, as much as possible, those portions of the EA which will not require site-specific information. This also addresses the concern about the 1998 acceptance date.

Discussions with Congress

- As noted in the 60-Day Report, DOE will initiate discussions with Congress concerning modification of existing linkages and capacity restrictions on the MRS.

REFERENCES

1. Nuclear Waste Policy Act, Pub. L. 97-425.
2. Nuclear Waste Policy Amendments Act, Title V of Pub. L. 100-203.
3. "Report of the Clinch River Task Force: A citizens review of the U.S. Department of Energy's proposed Monitored Retrievable Storage (MRS) facility."
4. "NUCLEAR WASTE: Institutional Relations Under the Nuclear Waste Policy Act of 1982," February 1987, GAO/RCED-87-14.
5. Monitored Retrievable Storage Submission to Congress: Volume 1; The Proposal," March 1987, DOE/RW-0035/1-Rev 1.
6. "The DOE Position on the MRS Facility," June 1989, DOE/RW-0239.
7. "Nuclear Waste: Is There A Need For Federal Interim Storage?: Report of the Monitored Retrievable Storage Review Commission," November 1, 1989.
8. "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program," November 1989, DOE/RW-0247.